



THE IMPACT OF PROSTITUTION ON
AUSTRALIAN TROOPS ON ACTIVE SERVICE IN
A WAR ENVIRONMENT - WITH PARTICULAR
REFERENCE TO SOCIOLOGICAL FACTORS INVOLVED
IN THE INCIDENCE AND CONTROL OF VENEREAL DISEASE

A THESIS
SUBMITTED FOR THE
DEGREE OF DOCTOR OF MEDICINE

Gavin Hart B.Sc.(Hons), M.B., B.S.

Department of Medicine

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Plate I

SON OF A PROSTITUTE

This inmate of the Catholic orphanage in Vung Tau is the son of a Vietnamese prostitute and Australian soldier.



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SUMMARY

This study, on Australian troops in Vietnam, describes the impact of prostitution on the intruding troop population. It shows that assessing the total impact by considering venereal disease alone may be inadequate, and other sequelae of sexual and social intimacy may predominate.

Such sequelae are not confined to venereal disease patients and, in this particular study, were more common in sexual participants who did not acquire infection. Furthermore, those with venereal infection were more distressed by their emotional problems than their physical illness. As the prostitutes in the war environment fulfilled a number of roles, besides a convenient source of physical stimulation, their emotional impact was both diverse and complex. Emotional sequelae of their physical role were guilt, shame and anxiety due to conflicts concerning marital infidelity or tarnished moral self images. Venereoneurosis was the most significant syndrome arising from this involvement and, being the most common single illness in this campaign, it had a telling impact both on the soldiers themselves and on the medical services.

Approximately 65% of all soldiers had intercourse in Vietnam, the majority being involved in 2 to 10 episodes. In Vietnam, fellatio made a large contribution to the sexual output of all sociological groups whereas in Australia it had been practiced predominantly by the well-educated and extraverted. Of those soldiers

having intercourse, venereal disease was acquired by 27%, of whom 72.5% were infected only once. Gonococcal (41%) and non-gonococcal (30%) urethritis were the commonest infections but chancroid (10%) was of special interest due to its resistance to therapy. Penicillin resistance of the gonococcus was countered by using tetracycline and kanamycin which proved effective in this environment.

The condom, of proven effectiveness in this environment, was used routinely by only 25% of participants. Washing of genitalia, the prophylaxis favoured by the troops, was used more commonly but proved inadequate.

Alcohol abuse was a serious problem in itself, but also had a marked influence on sexual behaviour, probably influencing about 50% of soldiers to have intercourse. Furthermore, 25% of those omitting prophylaxis did so because of drunkenness, and inebriation prevented 50% of venereal disease patients from providing a useful contact report.

Use of the Eysenck personality inventory demonstrated an association between extraversion and those aspects of behaviour related to venereal infection. Neuroticism was also associated with venereal infection but was a more prominent feature of soldiers who engaged in sexual practices of limited social acceptability, such as intercourse on the roadside or frequent masturbation.

The professional soldier is prone to venereal disease because of his characteristic sociological background - from a large

family, limited education and indulgence in intercourse at an early age. His behaviour is not markedly restricted by parental disapproval or marriage vows; he is reluctant to use masturbation as the major sexual outlet and shows little discrimination in acquiring sexual partners. He contributes disproportionately to the venereal disease problem both in his stable homeland environment and when he goes to war.

The majority of those venereally infected in wartime, however, have been drawn into this sociological group mostly by environmental pressures, oppressive living conditions and blatant prostitute seduction, and are not otherwise sociologically different from the rest of the community.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University. To the best of my knowledge and belief, it contains no material previously published or written by another person, except where due reference acknowledges this other person.

(Gavin Hart)

ADVANCE TO MEDICAL KNOWLEDGE

(i) Previous reports on the sexual behaviour of men at war have concentrated on venereal disease. This study shows that assessing the total impact on the troops from this indicator alone may be inadequate. The psychological and emotional sequelae of promiscuous behaviour may be greater than the physical consequences. Furthermore, such sequelae are not confined to those acquiring venereal infection but may be experienced by all sexual participants. The components of this psychological involvement, and venereoneurosis in particular, are described in detail and the relationship with various sociological parameters outlined.

(ii) Written records of experiences and problems in wartime or other periods of instability are often lost or destroyed before they can be collated or permanently recorded. This thesis summarizes the efforts to influence the sequelae of the sexual behaviour of Australian troops in Vietnam; and outlines some of the clinical problems, and their solutions, encountered in this field.



I. FAILURE TO CONTROL VENEREAL DISEASE

1. GENERAL FACTORS
2. PERSONAL PROPHYLAXIS
3. CONTACT TRACING

"Contact tracing is the foundation
of venereal disease control"

(Willcox, 1963)

I. 1. GENERAL FACTORS

Failure to control venereal disease has been discussed by Conger (1964), Willcox (1959, 1961a, 1962a, 1965a, 1972), Idsoe and Guthe (1967), Brown (1966), Danbolt (1967), Fleming (1966), Guthe and Willcox (1970) and King (1970). Factors related to this failure include:

1. SPURIOUS INCREASE.

With better reporting by physicians, improved contact tracing and a rising population of the sexually active, the total incidence of venereal infection may increase greatly, without any increase in the infection rate.

2. STEADILY INCREASING URBANISATION.

Particularly in developing countries, urban growth rates may be 50-100% in a decade.

3. POPULATION MOVEMENTS.

The Wall Street Journal account of a Californian prostitute with syphilis illustrates the problem created by mobility. Among her contacts, 168 long distance truck drivers were traced and these had subsequently travelled over 34 American states, Canada and Mexico (Guthe and Willcox, 1970). With modern travel, the problems once confined to the Armed Forces, seamen and commercial travellers now involve a large proportion of the total population. Willcox (1966) has highlighted this problem in relation to immigrants who contribute 50% of cases of gonorrhoea at

clinics in England and Wales.

Oller and Wood (1970) consider the mass immigration of single men is the main factor in the increased incidence of gonorrhoea in Bradford, and Verhagen and Gemert (1972) found the same phenomenon in East Africa.

4. COMPLACENCY.

Apparent control in the 1950's was followed by premature and excessive reduction of funds for venereal disease services. Since the advent of antibiotics there is a decreased fear, or even respect, for venereal infection.

5. ANTIBIOTIC USAGE.

When penicillin was widely used for most infections, many cases of venereal infection were probably aborted or cured - the happenstance phenomenon. Inappropriate penicillin regimes have contributed to the ever-increasing resistance of the gonococcus.

6. PATTERNS OF SEXUAL BEHAVIOUR.

Increasing promiscuity and the permissive society have been blamed for the increase in venereal disease. However, Morgenthau and Sokoloff (1972) conclude that sexual behaviour has not been revolutionized in the past 50 years but attitudes towards premarital sex have changed in a complex pattern. They clearly demonstrate how statistics may be used to give a misleading impression of increasing teenage promiscuity.

Venereal disease is common in the younger age groups, however, and this section of the population is increasing at a greater rate than older groups. Arya and Bennett (1967) suggest that 25% of university students in East Africa are affected yearly.

The teenagers in Schofield's (1965) study gave fear of pregnancy (24% of boys, 17% of girls) and moral or religious reasons (22% of boys, 45% of girls) as the commonest reasons for chastity, whereas fear of venereal disease (1% of boys, 2% of girls) provided negligible motivation.

Gibbens (1962) suggests promiscuity tends to occur in the excessively uninhibited (who generally begin sexual activities at 15 or 16) and in the excessively inhibited (over 40% of whom had their first sexual experience after 20), whereas Sutherland (1950) lists the following contributing factors: search for affection, revenge for unfaithfulness, curiosity and experimentation, search for enjoyment, attempt to solve conflicts concerning repressed sexual urges, and defiance of authority.

Witkower (1948) considers need for affection, anxiety and resentment foster promiscuity, and the major precipitants in wartime are lack of family relationships, lack of habitual physical comforts and the threat to life.

(1) Abstinence

Although it affords protection from venereal disease,

the major arguments in favour of abstinence are moralistic. Biegel (1961) suggests abstinence may have adverse affects, "In young people abstinence is apt to increase sexual desire and to evoke an abundance of sexual imagery". The resultant disturbance from this situation depends on the individual's drive intensity and temperament, and on the environment. Sexual frustration may produce various neuroses and become so distracting that the individual is incapable of performing his normal work. These sequelae are more likely to occur when abstinence is forced rather than voluntary, and in individuals who have a neurotic predisposition (Biegel, 1961).

(ii) Premarital Intercourse

Table I shows the incidence of premarital intercourse among various groups studied. Premarital intercourse has been common for some decades and is now almost universal for males. Premarital intercourse by 50% of older patients and by 87% of younger patients prompted Terman (1938) to predict that virginity at marriage would be virtually non-existent for males born after 1930, and that intercourse with future spouse would be universal by 1950 or 1955. But the proportion of husbands who had premarital sexual relations with other than their spouse had remained stationary (at approximately 50%) in the cohorts studied (Bell, 1966).

TABLE I. Incidence of premarital intercourse

STUDY	%
Kinsey (1948)	
Grade School	94
High School	84
College	68
Hohmann and Schaffner (1947)	
WHITE	79
Grade School	88
High School	81
College	68
<hr/>	
Low Income	82
High Income	75
<hr/>	
Jews	84
Catholics	81
Protestants	73
NEGRO	100
Burgess and Wallin (1953)	68
Landis and Landis (1953)	41
Ehrmann (1959)	
Veterans	73
Non-veterans	57
Seale (1966)	94

(iii) Age of first intercourse

Table II outlines the age of introduction to intercourse in various communities.

TABLE II. Cumulative incidence of intercourse in various studies.

AGE	Juhlin (1968)		Kohmann and Schaffner (1947) U.S.A.	Borrmann (1969) GERMANY	Schofield (1965) ENGLAND	Herteft (1969) DENMARK	Hossain (1971) ENGLAND		Ekstrom (1966) DENMARK	Kinsey (1948) U.S.A.		
	SWEDEN Uni. Stud.	Non Stud.					V.D.	Control		Grade School	H.S.	Coll.
9									3			
12					0.5					6	5	1
14	5	20										
15		50	21	13.1	6	15.5				42	45	9
16	12						30	9				
17			51	47.3	26	49			88			
18	75				34					76	74	31
19		100										
20			86	85.3			69	35				
21			93									

(iv) Intercourse with prostitutes

Table III shows the relationship of age and education to intercourse with prostitutes.

TABLE III. Relationship of age and education to intercourse with a prostitute (Cumulative incidence, Kinsey, 1948).

Age	Grade	High School	College
20	51	48	21
25	65	63	29
30	70	73	33

(v) Masturbation

"No other form of sexual activity has been more frequently discussed, more roundly condemned, and more universally practiced than masturbation." (Dearborn, 1961).

Kinsey (1948) found the highest incidence (88%) of masturbation among single men aged 16 to 20, but 54% of the single population at age 50 masturbated (approximately weekly). Among married males, 42% of those between 21 and 25, and 11% of those between 50 and 60 currently masturbated. Masturbation was related to education; 60 to 70% of college educated males, compared with 29% of grade school males masturbated after marriage. Furthermore, those with College education masturbated twice as frequently as those from grade school.

Hohmann and Schaffner (1947) found that 90% of subjects with heterosexual experience had masturbated (52% currently), whereas

87% of virgins had masturbated and 76% still did so at the time of the study.

As Broderick and Bernard (1969) indicate, masturbation may be a symptom of many non-sexual conflicts - boredom, frustration, loneliness, poor self-image, conflict with parents, pressure at school or poor social relations - but it has a very useful adaptive function. Among young people it is a component of psychosexual growth, and in all groups provides a release from sexual tension due to periods of loneliness and sexual deprivation resulting from absence, illness, death or divorce of partner. The fantasy often associated with masturbation (for 75% of males and 50% of females) offers a harmless outlet for antisocial urges which if enacted in real life would offend the moral code of the individual or society.

Despite the valuable role of masturbation as a sexual outlet which does not involve exposure to venereal disease, it has been violently opposed in the past, and even currently it has limited acceptance (Comfort, 1968). The medical profession has been prominent in the denunciation of masturbation which was claimed to produce a multitude of illnesses, including epilepsy, blindness, impotence, tabes dorsalis, pulmonary consumption, loss of memory, insanity and even death. Treatment included the application of pelvic girdles, the binding of hands and feet, blistering the penis with mercury ointment, infibulation (insertion of a metal ring through the prepuce), circumcision, sectioning the dorsal nerve of the penis, clitoridectomy and cauterisation of the spine and genitals - surgical mutilation

which persisted into the twentieth century.

Most Armed Forces are hostile to masturbation, evidence of which was considered sufficient grounds for refusing admission to the U.S. Naval Academy at Annapolis (Kinsey et. al., 1948 p. 264).

Universal acceptance of the sentiment that masturbation, "is a normal and healthy act for a person of any age" (Kellogg, 1953) might well have a favourable influence on the control of V.D.

(vi) Homosexuality

Homosexual activity was considered normal in 64% of primitive societies reviewed by Ford and Beach (1965). Kinsey (1948) found that 13% of American males had more homosexual than heterosexual activity for at least 3 years of life, 37% had at least one overt homosexual experience, and more than 50% of males who were single at 35 experienced this behaviour.

Due to the stigma attached to homosexual behaviour, the patient is often reluctant to provide adequate epidemiological data for contact tracing, of special importance due to the promiscuity of homosexuals (in one study only 6% had had less than 15 partners, Saghir et. al., 1969). The increasing tolerance of society may be responsible for the increasing numbers of patients admitting homosexual origin of their infections e.g. at one clinic, 14% of patients in 1965 compared with 8.4% in 1954 attributed their infection to homosexual behaviour (Jefferiss, 1966).

Armed Forces are traditionally intolerant to homosexual behaviour,

excluding or persecuting its proponents (Williams and Weinberg, 1970; Sanger, 1919 p.265). In the nineteenth century British Navy the penalty was death (Henriques, 1969 p.57) and, in practice, homosexuals are excluded from most, including the Australian, modern armies. For this reason homosexuality is unlikely to feature significantly in studies on military personnel (Hohmann and Schaffner, 1947).

(vii) Oro-Genital Acts

Although listed as a perversion or abnormality in many textbooks ("Oralism is an attempt to deal with sexuality in terms of breast suckling...It is therefore to be regarded as evidence of incomplete development and immaturity.", Allen, 1969 p.86), and illegal in most of the United States, oro-genital acts are used by half of all American married couples as part of pre-copulatory activity - Cunnilingus in 54% and fellatio in 49% (Morris, 1971 p.90) - and Ellis (1961) considers classification as a perversion is irrational, "it is not any given act of human sexuality that constitutes sex perversion but the psychological motive for which and the consequent inflexible or disorganized manner in which the act is performed."

Kinsey (1948) elicited a relationship between oro-genital acts and both education and marital state (Table IV).

Of 586 patients at one V.D. clinic, 138 (24%) admitted fellatio, and gonococci were cultured from the pharynx of 31 (22%) of these (Pariser, 1972). Most of these patients were white females whereas most of the patients at the clinic were black. Fellatio is probably the commonest sexual practice of homosexuals (Saghir, 1969).

TABLE IV. Relationship of oro-genital acts to education and marital state.

	BEFORE MARRIAGE %	IN MARRIAGE %
CUNNILINGUS		
Grade School	9	4
High School	10	15
College	18	45
FELLATIO		
Grade School	22	7
High School	30	15
College	39	43

(viii) Anal Intercourse

Anal intercourse while common in homosexual behaviour is not confined to this source, one study indicating that 3% of subjects practiced this behaviour with their wives (Broderick and Bernard, 1969). In one study, over 90% of males with rectal gonorrhoea admitted homosexual contact and 75% of females with rectal gonorrhoea had had some form of peno-anal contact (Pariser, 1972). In the female, infection may also occur through contamination with vaginal discharge, and Pariser obtained positive rectal cultures from 40% of females with gonorrhoea. However, 20% of those with positive

rectal cultures had no evidence of genital infection.

7. MODERN CONTRACEPTIVE METHODS

Replacement of the condom with the pill or I.U.D. is often quoted as relevant to the increase of venereal disease. However, most individuals have their initial experience of sexual intercourse without the benefit of contraception (Morgenthau and Sokoloff, 1972) and trends in premarital intercourse were already apparent before oral contraceptives became available (Thompson and Rutherford, 1972).

8. IGNORANCE

Certainly there is a great need for better teaching of venereal disease in medical schools (Webster, 1966). However, Larimore and Sternberg (1945) detected no difference between the venereal disease knowledge of those who had acquired infection and those free of infection. Stouffer (1965) reported a similar finding and suggested that the problem related to attitude rather than information. One unpublished study in St. Louis showed that infection was more common in those with knowledge of V.D. (Editorial Amer.J. Publ. Hlth., 1969).

9. TREATMENT FACILITIES

As many public clinics are often squalid, ill equipped and poorly staffed, it is not surprising that the majority of patients are treated privately, which, in practice, excludes epidemiological investigation of a high proportion.

10. PUBLIC ATTITUDES

The restraining influences of religion, family and public opinion

have diminished and promiscuity is viewed more favourably. Nevertheless, shame and guilt and consequent reluctance to acknowledge infection are still major features of the venereal diseases. This reticence hinders epidemiological investigation, particularly where non-vaginal coitus is involved.

11. PATTERNS OF INFECTION

Willcox (1962a) cites a number of studies in which a small proportion of the population provided a large proportion of venereal disease.

- (i) Over 50% of male gonorrhoea patients in a London clinic had had previous infections, and this proportion increased from 54.8% in 1953-55 to 59.2% in 1959-61. In this period the average number of previous attacks rose from 1.6 to 3.1.
- (ii) In 1959-61, 10.3% of West Indians (who had 7 or more infections) provided 48.3% of infections.
- (iii) Of 1,000 patients with gonorrhoea in the U.S.A., 80% had previous infections and 26% returned with new infection within 6 months (Brown, 1961).
- (iv) In Los Angeles, of 209 males admitted with gonorrhoea, 133 (65%) had had one or more previous infections and nearly half of these were reinfected within 30 days following treatment (Glass, 1967).
- (v) In Greenland, 49% of males and 68% of female patients

had 3 or more previous attacks (Lomholt and Berg, 1966).

- (vi) Wigfield (1971) found that 27% of men with gonorrhoea had had previous infections - 17% once, 5% twice and 5% thrice.

Among military personnel:

- (i) 86% of patients presented with their first infection, including 5% who were infected at their first intercourse, and 14% had previous infections (Wittkower and Cowan, 1944).
- (ii) Willcox (1949) found that 52.3% of British soldiers had had previous V.D.
- (iii) A survey of 3301 U.S. personnel in Korea revealed that 863 (28%) had acquired V.D. while in Korea and 75% of those had one infection, 17% two, 5% three, 2% four and 1% had between 5 and 7 infections (Greenberg, 1972).
- (iv) Among U.S. personnel in Italy, 21% of negroes (including 16% on multiple occasions) and 15% of whites (including 10% on multiple occasions), acquired V.D. overseas (Stouffer, 1965).

Whereas over 90% of infected females may be asymptomatic, recent findings suggest up to 10% of infected males are also unaware of their illness (Pariser, 1972).

12. FEMALE RESERVOIR OF INFECTION

"The primary reason for the high incidence of venereal disease

in U.S. troops is, as it has been in Korea and elsewhere, the large uncontrolled, infected prostitute reservoir" (Gilbert and Greenberg, 1967).

This is undoubtedly so in Asia where 80-90% of V.D. is acquired from prostitutes. However, this proportion is only 25-34% in France, 15-19% in Great Britain and 5-13% in the U.S.A. (Willcox, 1962b). Thus as Willcox (1963) states, "The key is not the prostitute but promiscuity in both sexes", and it is the promiscuous female pool of infection which renders control so difficult. Gonococcal infection in these females is usually asymptomatic, difficult to diagnose and is usually disclosed by contact tracing. Venereal infection becomes uncontrolled when contact tracing fails to locate and remove infected females from the pool at a greater rate than the pool is replenished by "feed-back" from previously infected males (Willcox, 1965a).

Lomholt and Berg (1966) suggest treating, on the same day, all patients with gonorrhoea in the past 6 months and all single persons between 16 and 29. This may be practicable in small, isolated, cooperative communities but is unlikely to have widespread application.

13. RESEARCH REQUIREMENTS

An efficient screening test for gonorrhoea, for eliciting asymptomatic infection in the female, and the development of

effective immunisation procedures for both gonorrhoea and syphilis would greatly facilitate control.

14. INFLUENCE OF ALCOHOL

"The association of drinking with casual promiscuity is revealed in the stories told by patients and contacts and by the behaviour observed in public houses which are most frequently named as meeting places." (Johns, 1945).

Schofield (1965) has demonstrated a strong association ($P=0.001$) between sex activity and visiting a public bar (75% with intercourse experience compared with 44% of abstainers had visited a bar in the past week) and with drunkenness (56% of i.c. compared with 14% of abstainers had been drunk 3-10 times). However, such a relationship was also found with cigarette smoking (27% of i.c. compared with 58% of abstainers were non-smokers) and delinquency (61% of i.c. compared with 89% of abstainers had never appeared in court).

Sex activity and alcohol may not be causally related, but both may be influenced by a third parameter, such as personality.

I.2. PERSONAL PROPHYLAXIS

For practical purposes, there are 3 categories of personal preventive measures: mechanical (of which the condom is the most important), local applications, and systemic chemotherapy.

1. CONDOM

In the sixteenth century Fallopio reported the first use

of the condom to protect 1100 men from syphilis. Since this time the condom has been an important element of many control programmes particularly in wartime (Cutler, 1972).

Piumara (1971) has expressed opposition to the condom, "its effectiveness makes the condom useless as a prophylactic against gonorrhoea, and even under ideal conditions against syphilis", but many would disagree with this view. Certainly condoms should be undamaged, of good quality and used at the right time in the correct manner (Lentjes, 1956), and the frequent failure of the condom to prevent V.D. (Bettley, 1949) can be attributed to deficiencies in these conditions (e.g. Hatcliffe (1947) reports that many condoms used in S.E. Asia were defective). Wittkower and Cowan (1944) reported venereal infection in 9.5% of those using a condom or early treatment but in 22% of those using inadequate prophylaxis and in 68.5% of those using none. Willcox (1946) attributes the fall in the V.D. rate from 250 to 120, over 4 months in one unit of 1200 men in Africa, to the distribution of 4000 sheaths in this period.

Dudley (1967) considers condoms probably have an insignificant effect on total venereal morbidity. Certainly there is a reluctance of sexual participants to use this prophylaxis and many use it incorrectly. Stouffer (1965) reported that 43% of American soldiers claimed to always use a rubber and pro-kits, or went to a prophylactic station, but most investigators have found a lower

rate of utilisation. Prophylaxis was infrequently used by British troops in S.E. Asia (Ratcliffe, 1947) and Willcox (1949) reported the use of protection in only 14 of 74 (18.9%) episodes of promiscuous intercourse. Bettley (1949) reported that 22% of patients from casual contacts used a condom but the proportion exceeded 50% for those using an organised brothel. The condom played an insignificant part in the sexual histories of women who attended an Aberdeen clinic in the 1960s (Thompson and Rutherford, 1972). Juhlin (1968) found condoms were used by 44% of those with only one partner but by 15% of the more promiscuous, and twice as commonly by those over 25 as by those under 20.

In a study among teenagers in Denmark, condoms were used only one quarter as frequently by infected subjects as by controls (Ekstrom, 1970).

The use of condoms is not encouraged if they are in short supply, (Towards the end of World War II supply of condoms to American troops was reduced from 7/month to 4/month; Greenberg, 1972), or if the troops are obliged to pay for them (Butler, 1943). In British troops in Italy the situation was alleviated by the capture of 5 million sheaths from the enemy (Lees, 1946).

In some countries condoms have very low acceptance among women (Bennett, 1962) who may resort to breaking them before use (Willcox, 1946) but failure to use a condom is mainly related to the initiative of the male. Table V summarizes the reasons for omission of prophylaxis in two studies.

TABLE V. Reasons for the failure to use a condom.

	Curjel (1964) %	Wittkower and Cowan (1944) %
Not available	29	10
Considered infection unlikely	23	56
Influence alcohol	16	13
Impaired pleasure	13.5	17
Knew partner	6.5	
No fear V.D.	5.5	
Ignorance	3.4	

Among American troops in World War II, impairment of pleasure was the main motivating factor (Stouffer, 1965). Among East African university students condoms are unpopular mainly due to interference with pleasure. Other factors related to its non-use are the influence of alcohol, expense, ignorance, fear that it might come off and its usefulness for only one orgasm (Arya and Bennett, 1968).

Among British sailors, 19.5% were deterred from obtaining a condom by the embarrassment of asking for it (Wheldon, 1964).

2. LOCAL APPLICATIONS

Local procedures involve urination plus liberal applications of soap and water to the genitalia and adjacent areas, or the application of permanganate or salts of silver or mercury to the urethra and external genitalia. Prior to the antibiotic era,

both therapy and prevention depended solely on these methods and there have been impressive claims for their effectiveness.

Obviously for urination or soap and water to be effective, prophylaxis must closely follow coitus and Burgess (1971) has suggested that urination should occur within 2-3 minutes of intercourse. Furthermore, suitable washing facilities are not always available at the site of intercourse (Marcondes and Edmonds, 1967).

Crede first used installation of silver nitrate to prevent gonococcal ophthalmia neonatorum in 1882, and this has been used effectively ever since. Prior to antibiotics, silver nitrate was widely used for both prevention and treatment of gonococcal genital infections. In 1904 Metchnikoff and Roux established the value of 33% calomel as a prophylactic against syphilis.

These chemical prophylactics were usually administered from prophylactic centres, which were situated in the soldiers' lines or near sites of exposure, identified by signs or coloured lighting, open continuously and sometimes manned by an attendant; or from personal prophylactic kits which the soldiers carried. Commonly used preparations in the pro-stations were 2% silver protein, 1:4000 potassium permanganate and 33% calomel cream. Douches of permanganate were sometimes used by females. Pro-kits utilised 0.25% silver nitrate jelly, or calomel ointment and argyrol.

It might be expected that the efficacy of these methods would depend largely on the thoroughness with which they were instituted

and the time lag following intercourse; and Dunham (1930) suggested that application should occur within one hour of exposure, but some benefit could be expected if application occurred within 5-6 hours.

Claims for the effectiveness of these measures include:

- (i) In World War I, reduction of the V.D. rate from 625/1000 to 110/1000 by compulsory application of prophylaxis to all men returning from leave, regardless of exposure. An infection rate of 1 in 37 exposures without prophylaxis but 1 in 274 exposures with prophylaxis (Cutler, 1972).
- (ii) Among Australian troops in Syria in World War II, for nearly eight weeks more than 400 soldiers used ablution centres daily, and a total of 18,000 treatments were given. Only 61 of these patients contracted V.D. (Walker, 1952a).
- (iii) In a controlled brothel in World War II, venereal disease was acquired by 87 of 248,593 troops using the ablutive centre (0.31/1000 exposures) whereas the estimated V.D. rate for those not using ablution was 0.72/1000 exposures (Bettley, 1949).
- (iv) Among British troops in S.E. Asia a high V.D. rate followed reduced utilisation of prophylactic packets (Ratcliffe, 1947).
- (v) Very few British soldiers in the Middle East in World War II contracted syphilis or gonorrhoea if they used a treatment

centre within 2 hours of coitus (Lees, 1946).

The limitations of local applications are supported by:

- (i) Wittkower and Cowan (1944) considered washing genitalia and flushing the urethra were inadequate, and patients using these methods had an infection rate of 22% compared with 9.5% for those using a condom.
- (ii) Willcox (1946) suggested prophylactic centres were a failure because in one unit 40% had gonorrhoea by the time they used the facilities and only attended to avoid disciplinary action. In another unit, every man had compulsory prophylaxis regardless of whether he had intercourse, and there was no reduction in the V.D. rate in 3 months.
- (iii) Prophylactic kits were phased out of the U.S. Army in 1959 (Greenberg, 1972).

Among American soldiers in Italy, the main objections to attending pro-stations were (Stouffer, 1965):

- (i) The belief that condom usage was sufficient.
- (ii) The embarrassment of queueing in public.
- (iii) Objection to sanitary conditions at the station.
- (iv) Harmful effect of chemicals on genitals.
- (v) Fear of consequences of disclosure of attendance.

3. SYSTEMIC CHEMOTHERAPY

There can be little doubt that this is the most effective form of prophylaxis (Babione et. al., 1952; Campbell et. al., 1949), and that smaller doses are effective for this purpose than are required

to cure an established infection (Eagle, 1948). However, these advantages are offset by some very significant defects:-

- (i) A large distribution of expensive antibiotics may be involved and, since these will be used for all exposures, the total amount used may greatly exceed that required if only established infections are treated.
- (ii) Improper usage may facilitate the emergency of resistant strains.
- (iii) The clinical picture may be confused, complicating adequate management.
- (iv) Associated with the above factors, there may be a great increase in venereoneurosis among those exposed to infection.

In the American forces, oral sulfathiazole was introduced for prophylaxis in 1942, was prohibited in February 1943, and reintroduced in July 1943. Systemic prophylaxis is now expressly forbidden (Greenberg, 1972). In the U.S. Navy, 250,000 units of oral penicillin within a few hours proved 90-100% effective in preventing gonorrhoea (Lentjes, 1956). Willcox (1946) reported that the prophylactic administration of sulphonamides in 3 centres was a success in one, a failure in another and inconclusive in the third.

I.3. CONTACT TRACING

Holland and Russia were the first countries to use social workers for V.D. work and a few clinics in London followed suit in the 1920s

(Wigfield, 1972). In 1947, the utility of contact interviewing as a means of casefinding was tested in Arkansas. In this study, 201 patients named 655 sex contacts, and previously undiagnosed syphilis was detected in 167 of these contacts (Syphilis Epidemiology, 10).

The U.S. Forces utilise this technique and have clearly outlined their approach in a technical manual (TB Med 243, 1967). Briefly, this consists of a CONTACT INTERVIEW, with the infected PATIENT to establish CONTACTS, the sex partners during the critical time period of infectivity, which is followed by the CONTACT INVESTIGATION to locate and bring these contacts for examination and treatment if required. This method can be expanded by examining CLUSTER SUSPECTS, persons named by the patient but not sex partners during the critical period, and CLUSTER ASSOCIATES, individuals who have a social relationship with the patient. The most sophisticated ideal of tracing is SPEED ZONE EPIDEMIOLOGY whereby an attempt is made to intercept gonococcal infection within its incubation period.

Cluster suspects are commonly mentioned by the patient because they have similar lesions to the patient (10% usually have V.D.), because they have intimate contact with friends or partners of the patient (3% usually have V.D.) or because they are sexual partners or friends of previously infected patients (4% usually have V.D.). In addition, approximately 3% of cluster associates usually have V.D. (Frye, 1964).

In one study, 204 cases of primary and secondary syphilis yielded 387 contacts, of whom 343 (88.7%) were examined and 258 (75.3%) had syphilis, which was infectious in 213 (62%) (Frye, 1964). Not all results are so impressive, however, and more commonly a much smaller

proportion of contacts can be traced, and these yield a lower return of patients. Wigfield (1972), summarized the results from the Tyneside scheme which covers an area in England with a current population of 1½ million. By 1970, 19,721 male and female contacts had been recorded but there was only sufficient information to seek 9,590 (48.5%) and, of these, 4,030 (42%) attended with V.D. In a London clinic, 119 men nominated 145 recent sexual partners, of whom 48% could be traced (Hare et. al., 1970) and in a Newcastle study (Macfarlane, 1948) only 58% of 2855 patients gave reliable information, enabling 1560 contacts to be examined to disclose 70% with V.D. Lamb (1966) had less success in locating contacts (12.1% of syphilis contacts and 19.7% of gonorrhoea contacts) although a high infection rate (77% for syphilis and 82.5% for gonorrhoea) was found among those located.

In the U.S.A., Marino and others (1972) obtained 945 male contacts, of whom 112 (11.8%) could not be located, from 799 female patients. Of those located, 23.8% had symptomatic gonorrhoea and 9.8% asymptomatic gonorrhoea. From 1,556 male patients, 2,322 female contacts were obtained and, of the 80.4% who could be located, 56% had gonorrhoea. Blount (1972) reported voluntary attendance of 95% of male patients but only 36% of females. Furthermore, 61% of the male contacts named by female patients had symptomatic gonorrhoea at the time of investigation. Consequently, contact tracing provides its greatest return in bringing to treatment the female contacts (often asymptomatic) of male patients.

Two thirds of all reported cases of primary and secondary

syphilis are brought to treatment through case finding (Brown, 1966). Of infectious syphilis patients, 75% named more than one contact and 50% named one or more suspects. Fifty three percent of first and second named contacts were treated but only 17% of third and fourth named contacts, and 30% of other contacts could be located.

Contact tracing is expensive and time consuming, however. Interviews average 15 minutes (Blount, 1972) and Wigfield (1972) considers one full time contact tracer and supporting staff is required for every 8 new registrations per day. The cost of locating each new case from a male patient was \$6.16; from a male contact was \$7.96; from a female patient was \$7.04 and from a female contact was \$13.60 (Blount, 1972).

Due to these costs, tracing visits may be replaced by telephone calls, writing or patient assistance (Buspratt and Ponting, 1967). Marino (1972) conserved time by having a 5-8 minute interview and allowing the patient to bring in contacts, having the patient consent to telephone contact and resorting to a single field visit if unsuccessful.

Among the Armed Forces, contact tracing was used by the French in the middle nineteenth century. Each soldier had to report the place of infection and name and address of the contact, but most gave false reports, allegedly because they were ashamed of the degraded women with whom they copulated (Hinrichsen, 1944).

In 1833, compulsory examination of soldiers and corporals was conducted monthly, and an attempt made to locate the contacts of those

TABLE VI. The meeting places of venereal contacts.

	Macfarlane (1948)	Beveridge (1962)	Wigfield (1972)	
	% of 1000	% of 169	Pre - 1948	1970
Pubs	65.2	38	63	49
Street	17.7	18	13	12
Railway Station	9.5		10	1
Dance Hall	6.7		8	6
Call Girl		11		
Friend's house			2	10
Night Club				10
Other		33		

infected. In 1842, punishment was introduced for those giving false contact reports but this merely encouraged concealment of infection.

More recently, Holmes and Chesney (1945) have described experience of contact tracing in American Forces. Of 3,270 contact histories, 1604 (49.1%) were "adequate" as they listed the contact's name plus two or more of the following parameters: address, telephone number, physical description, occupation, place of employment. Less than 10% of patients listed more than one partner. As with civilian studies, hotels (33.2%) were prominent meeting places but consort's home (23.5%), automobiles (14.7%) and brothels (5.3%) were also named. Although only a small proportion of these contacts were paid (5.6% were brothel prostitutes and 7.1% call girls or streetwalkers) the majority were

pick-ups or casual acquaintances (55.9%). Friends (24.4%) and wives (5.5%) provided the remainder.

Norris and others (1943) reported location of 22% of 3,173 contacts. The major types of contact were pick-ups (64%) and friends (14%) compared with streetwalkers (8%), brothels (6%) and call girls (1%). Over 50% of both clandestine and professional contacts occurred in homes or hotels, although 25% of clandestine contacts were in automobiles.

Fiumara (1957) reported success in locating 58% of 5148 contacts (50% of contacts had V.D.). Pick-ups (71.7%) and friends (19.1%) provided most contacts which mostly occurred in bars (63.3%) and the home (12.4%).

In Korea, 18,339 contact reports yielded 2984 (16.2%) adequate for tracing. Of the contacts traced, 6.1% were under treatment and 18.2% were infected. The greatest problems in tracing were language difficulties, the use of different names by the same girl or many girls with the same name, and difficulty in locating premises. To alleviate these difficulties the U.S. troops were encouraged to obtain business cards or photographs from the girls (Graham, 1952).

II. PSYCHOLOGICAL ASPECTS OF VENEREAL DISEASE

1. PERSONALITY

2. EMOTIONAL SEQUELAE

II.1. PERSONALITY AND SEXUAL BEHAVIOUR

Eysenck's (1964 and 1969) refinement of the personality inventory has provided a useful tool for quantitating certain components of personality - extraversion, neuroticism and psychoticism. According to Eysenck's (1972) theories, "extraversion constitutes a major dimension of personality which is positively related to criminal and generally anti-social behaviour:"

Specific hypotheses arise from these theories:

- "(1) extraverts will have intercourse earlier than introverts;
- (2) extraverts will have intercourse more frequently than introverts;
- (3) extraverts will have intercourse with more different persons per unit time;
- (4) extraverts will have intercourse in more diverse positions than introverts;
- (5) extraverts will indulge in more varied sexual behaviour outside intercourse (so-called perversions)."

With regards to neuroticism these predictions are: "high N scorers are characterized by a labile autonomic system, and are thus susceptible to fear and anxiety to a degree which may make them less likely to indulge in sexual behaviour, particularly outside the legal bounds of matrimony."

Using an attitude inventory in combination with the personality inventory, Eysenck (1971) found:

- (1) "The high E scorer is also characterised by the promiscuity

factor.....here apparently we have a happy philanderer, who derives satisfaction from his sexual behaviour."

- (2) "High N scorers.....are characterized by low satisfaction and high guilt feelings.....particularly prominent arethe worry about sexual activities.....Sexual behaviour is seen as both troublesome and disgusting..... Homosexuality is a problem."

Giese and Schmidt (1968) administered questionnaires on sexual behaviour and a brief scale for measuring extraversion and neuroticism to over 6000 male and female German students. The results from the males in this study indicate that:

- (1) Extraverts (i) masturbate less (currently practised by 72% of extraverts but 86% of introverts)
 (ii) practise fellatio more frequently (69% of extraverts to 53% of introverts)
 (iii) practise cunnilingus more frequently (64% of extraverts to 52% of introverts)
 (iv) smoked and drank more than introverts.
 (2) High N scorers masturbate more frequently.

Wells (1969 and 1970) used both the EPI and PEN inventories on venereal disease patients and found:

- "(1) Extraversion declines with age, and middle-class people tend to score lower on extraversion, neuroticism and psychoticism than those from lower social classes.
 (2) Scoring on the extraversion and neuroticism scales.....

suggests that useful cross comparisons may be made of findings on the EPI and PEN scales.

- (3) Psychoticism.....appears to have special relevance in view of the high scores which occur among the male defaulters and the female patients in general."

Table VII shows the values obtained by Wells compared with those from Eysenck's standardised samples.

TABLE VII. Personality scores for various groups of males.

<u>EPI</u>	<u>E</u>		<u>N</u>		<u>No.</u>
	Mean	S.D.	Mean	S.D.	
V.D.	13.46	3.65	11.82	4.06	50
Normal	12.07	4.37	9.06	4.78	1097
Army	13.18	4.03	9.09	4.88	297
Anxiety	9.45	4.04	15.80	5.06	59
<u>PEN</u>					
V.D.	13.95	3.30	7.42	4.58	161
Normal	12.75	4.12	7.33	4.37	1012
Neurotics	10.54	4.82	11.19	5.22	83

Table VIII outlines extraversion and neuroticism scores among homosexuals (Wells and Schofield, 1972). Homosexuals are significantly more introverted, and passive homosexuals significantly more neurotic, than heterosexuals.

TABLE VIII. Extraversion and Neuroticism scores for homosexuals.

	<u>E</u>		<u>N</u>	
	Mean	S.D.	Mean	S.D.
Heterosexuals	13.46	3.65	11.82	4.06
Passive Homosexuals	12.12	3.34	13.88	5.57
Total Homosexuals	12.03	3.34	13.35	5.60

II.2 THE EMOTIONAL SEQUELAE OF EXPOSURE TO VENEREAL INFECTION

Exposure to venereal infection is usually associated with psychological sequelae. The reported incidence of emotional concern has been as high as 85% (Gibbens, 1962) and 64% (Boneff, 1971) of clinic patients and, among U.S. soldiers in Germany, 30% of neuropsychiatric and 50% of urological patients had "V.D. anxiety" (Wessell and Pinck, 1947). Apathy and bravado have been noted in some patients (Sutherland, 1950) and Seth (1970) reported non-attendance for several months by 40%, and continuance of intercourse after obvious infection by 26% of patients.

Bravado may be reinforced in some microsocieties, "A man would not be regarded as being a real man until he had contracted a venereal disease.....An extreme case was that of a Swedish military club to which no officer could be elected until he furnished proof of having contracted syphilis." (Henriques, 1969 p.243), and in Jamaica venereal infection is considered a prerequisite for manhood (Henriques, 1966 p.197). At the other extreme, frank psychiatric illness (Kite and Grimble, 1963) or even hospitalisation and suicide (Faull, 1961; Thyne,

1961; Dawid, 1961) may be associated with venereal infection.

Neurotic symptoms, however, are the most common sequelae of exposure to venereal disease. Ellis (1968) suggests psycho-sexual problems may arise if the individual:

1. Refuses to accept himself as fallible

Consequently he becomes self deprecating, anxious, guilty, ashamed and feels inadequate.

2. Condemns those who don't conform to his standards

He is angry, hostile, vindictive and sadistic.

3. Blames the world or society for his problems

He is grandiose, demanding, rebellious, uncooperative and self-pitying.

Gibbens (1962) categorised his patients into:

1. Those who were overinhibited

These were guilty or depressed.

2. Those who were excessively uninhibited

These blamed the women who transmitted infection.

3. Those patients without venereal disease

(i) Hypochondriasis

Marked anxiety and constant observation of the genitals were prominent features.

(ii) Phobic

These patients were more deeply disturbed and had bizarre symptoms of long duration.

Wessell and Pinck (1947) categorised their overseas Army patients into four groups - Those who had:

1. Frequently deviated from accepted standards

This was the largest group and contained patients who had previously been treated uneventfully for venereal disease. They were overwhelmed with feelings of guilt at the prospect of reunion with their families.

2. Deviated only once

The subsequent guilt was somatized and the patient assumed he had venereal disease. Deep seated anxiety, obsessive-compulsive elements and reactive depression were features.

3. Physical signs suggestive of venereal disease

Hypochondriasis was the major feature.

4. Non-existent lesions

"Deep brooding, often provoked by anti-venereal disease campaigns, barrack conversation, or recent sexual exposure, results in alarming misconceptions."

Common physical symptoms causing concern are those referring to some form of urethral discharge - spermatorrhea, sticky meatus, threads in the urine or phosphaturia - whereas less commonly, individuals are abnormally concerned with the external appearance of the genitalia - due to warts, septic spots, sebaceous glands, hair follicles, inflammation from excessive medication or smegma glands and their contents (Rogerson, 1951). Psychical urethritis following cure may be common (Siboulet, 1960) and Kite and Grimble (1963) found anxiety, true phobia, genital pain or itching and depression accounted for almost 80% of the symptoms described by their patients.

From the foregoing and the findings of Seale (1966) and Mbanefo

(1968), the common reactions to venereal exposure may be summarized:

1. Fear of physical consequences to self or relatives

Fear of sterility, impotence, feeling of irrevocable contamination and fear of harming lover, spouse or children.

2. Moral or ethical conflicts

Belief in the sin or disgrace of V.D. produces fear of discovery by friends or family, disappointment at own tarnished image and a feeling that supernatural punishment will ensue. Pahmer (1949) suggests that neurotic reaction to venereal infection may represent a sado-masochistic wish to be punished and Meminger (1959) cites cases where a college student with gonorrhoea interrupted treatment to avoid being cured too quickly and another behaved "as if he wanted to hang on to his infection." Revenge and hostile aggressive tendencies are manifested by refusal to disclose the contact, so that others will be exposed to infection, homicidal assault on the partner and the deliberate exposure to uninfected partners.

3. Guilt

Usually due to infidelity from promiscuous intercourse, but may arise from a particular sexual practice e.g. masturbation, homosexuality or oro-genital contacts. This reaction is most common in the religious or those who have indulged in atypical behaviour.

4. Hypochondriasis

Close visual scrutiny or awareness of genital sensations produce spurious signs or symptoms of infection. Penile massage may

produce a mechanical urethritis. There is usually an obsessive-compulsive element to these manifestations.

5. Depression

6. Psychotic manifestations

Some patients are grossly disturbed with delusions, paranoia, schizophrenic reactions, anxiety melancholia or severe phobias.

MANAGEMENT

In order to be effective the therapist must be:

- (i) non-moralistic
- (ii) realistic in expectations
- (iii) prepared to apply some pressure to patients (Ellis, 1968).

1. A thorough history and examination are prerequisites for effective management. This provides a correct diagnosis, but also serves a therapeutic function in allowing the patient to ventilate his emotions and establish rapport with the physician (Giard, 1972).
2. Uncertainty and indecision by the physician must be avoided. Repeated testing of the patient and multiple placebos are to be avoided as they reinforce the suggestion of persisting physical illness (Macalpine, 1957).
3. Reassurance must be administered cautiously. While reassurance is useful in mild emotional disturbance (Wessell and Pinck, 1947), it is resisted by other patients (Gibbens, 1962) and contraindicated in the more severely disturbed (Macalpine, 1957).

III. PROSTITUTION

1. DEFINITION
2. REGULATION
3. CHARACTERISTICS OF PROSTITUTES
4. CLIENTS OF PROSTITUTES
5. MILITARY ASPECTS
6. PROSTITUTION AND VENEREAL DISEASE

III.1. DEFINITION

While prostitution is fundamentally a commercial enterprise, definition on this criterion alone is inadequate. Sexual attractiveness is a valuable negotiable commodity and is commercially exploited, at least indirectly, by a large proportion of most populations including non-humans (Scheinfeld, 1947). Probably the most appropriate definition of Prostitution is, sexual intercourse on a promiscuous and mercenary basis with emotional indifference (Clinard, 1963). With the great diversity of prostitution, emotional indifference and lack of selectivity are not inevitable concomitants, and even payment may be declined or modified for some customers (Henriques, 1966 p.198).

III.2. REGULATION OF PROSTITUTION

In practice, society is faced with two approaches to the control of prostitution - toleration or suppression (Oliven, 1965) (In view of the moralistic standards of society, full acceptance is not considered a practical possibility).

1. LIMITED TOLERATION, which assumes that prostitution is inevitable but its manifestations must be curbed in some way. When prostitution has been tolerated three classic regulation methods have emerged.

- (i) Regulation by inscription.

Registration of prostitutes is compulsory and prostitutes have regular health checks for venereal or other disease. Registration has been opposed on the grounds that it infringes the individual's civil rights and is contrary to modern conceptions of humanity (Article 6 of U.N. Charter

on Prostitution, 1950). It effectively labels a woman and may make it more difficult for the individual to become re-established in a respectable occupation (Henriques, 1969 p.180). Furthermore, registration will be notoriously incomplete in that a large proportion of clandestine prostitutes and those with influence remain unregistered (Henriques, 1961 p.120).

Compulsory medical examination of prostitutes has proven valueless in controlling venereal disease. Such examinations may be harmful in that spuriously favourable results provide a false sense of security to both clients and controllers, and they may provoke hostility and consequent decreased cooperation from the prostitutes themselves.

Willecox (1963) quotes several examples of the extremely low returns that may result from compulsory examination. In one study on 3000 Paris prostitutes in 1948, 83,400 examinations yielded 229 cases of venereal disease (0.27%). In another study 294 cases were obtained from 98,992 examinations (0.30%) and another provided 27 cases from 3,794 examinations (0.70%). On the other hand inflated yields may result from inadequate diagnostic criteria.

Bettley (1949) has given an account of a fully organised brothel which was established in an overseas country strictly for the use of military personnel. This was controlled by Military police and was stocked with

30-40 prostitutes, of various races, aged 18 to 40, each woman averaging 30 clients a day. The prostitutes were examined by a civilian doctor prior to employment and at weekly intervals. Prophylactics were provided and preventive ablution was utilised after intercourse. The V.D. rate was 0.31/1000 for those using prophylaxis but 0.72/1000 for those who did not.

In contrast, legalised prostitution for American Armed forces in Italy proved less successful (Lentino, 1955). Prostitutes were registered with the police and the houses inspected. Medically, prophylaxis was provided and prostitutes were examined every second day. Nevertheless, over 80% of new infections among troops were acquired in licenced houses. This was not surprising as infected women were allowed to continue working. Lentino explains the inadequacy of regular examination, "medical inspection of prostitutes, even when performed with the utmost scrupulousness and honesty cannot determine with even reasonable accuracy the infectivity of a prostitute."

In World War I the French government had an elaborate system of control but American Army medical officers concluded that it was ineffectual and dangerous because it created a false sense of security (Major, 1944). Dudley (1967) agrees that licenced houses under medical supervision have proved more a menace than a safeguard. This same sentiment is supported by Ballough (1970) with relation to prostitution in the United States, "Medically, the belief that a superficial fortnightly examination of the registered women would protect her patrons from venereal infection was found to be illusory; in fact, instead of curtailing infection such examination encouraged a false feeling of

safety on the part of the prostitutes' customers."

In Cairo in World War II over 90% of the prostitutes in the tolerated or "clean" brothels and over 70% of streetwalkers were infected (Lees, 1946). In India, despite complex organisation and examination of prostitutes employed by the Army, the V.D. rate rose from 166.7/1000 in 1873 to 342.7/1000 in 1885 (Henriques, 1961 p.216).

The weakness of any system of regulation is the almost inevitable corruption of both civilian and military controllers. Greenberg (1972) describes the problem confronting American forces, "a disinclination to suppress prostitution on the part of most civil authorities and actual involvement by some" and Lees (1946) observed the same obstruction to British policies, "in Greece it was almost impossible to enforce the policy, because the Government sponsored the brothel system". This corruption was countered in Hamburg by the appointment of 16 "morality police" all of whom were married and over 35. The brothels were well organised, with prophylactic facilities and twice weekly medical examinations, but venereal disease remained uncontrolled (Curtis, 1947).

(ii) Regulation by licencing.

Houses of prostitution may be licenced in the same way as liquor houses are licenced. The aim in both cases is the same - to confine the sale of the commodity to a

limited number of establishments which are subject to periodic surveillance.

(iii) Regulation by segregation.

By confining prostitution to certain localities it is kept from the public eye. It is then easier for the populace to rationalize that the practice does not exist. This policy gives rise to the red light districts and the famous streets which have been a feature of many cities in the past but are now less common due to the emergence of other forms of prostitution (Henriques, 1966 pp. 42, 48).

2. REPRESSION, SUPPRESSION OR ABOLITION.

The suppression of prostitution may involve keeping women off the streets, measures against soliciting or an effort to completely eliminate the prostitute.

In 1254, Louis IX of France attempted to eliminate prostitution by deporting all prostitutes and punishing those associated with the trade. All these measures failed completely. Subsequent efforts to eliminate prostitution have been no more successful (Hinrichsen, 1944).

Suppression may confer some benefits for the short term, at least. In 1941 when prostitution was flourishing in El Paso, Texas, the nearby Army V.D. rate was 83/1000, 78% of which was acquired in brothels. In 1942 when prostitution was repressed, the V.D. rate fell and 47.5% of infections were from pick-ups. Similarly, the abolition of prostitution in Hawaii in 1944 was followed by a drop in both military and civil V.D. rates (Willcox, 1963), and the abolition of

prostitution in France in 1946 produced a decrease in venereal disease (Willcox, 1962).

In Germany in World War II, British policy was to place brothels out of bounds for troops (Curtis, 1947) and since this time American Forces have adopted a similar policy in the Far East (Greenberg, 1972). In Cairo, this approach caused a marked reduction in the V.D. rate within 2 weeks, and in 6 months the rate was halved (Lees, 1946).

When such measures have been employed, however, prostitution has inevitably demonstrated its versatility and new patterns of the profession have emerged. Furthermore, this environment is the ideal medium in which vice can flourish and exploitation of the prostitute reaches its height. In this situation the law enforcing authority, the police, either military or civil, is placed in a strong position to illicitly profit from prostitution, and rarely does this opportunity pass unheeded. There are police forces which maintain their integrity against all other temptations but few that have untarnished reputations following significant encounters with prostitution (Henriques, 1966 pp.308, 330). This view is quoted by Henriques (1969 p.270) "The police are the brothel keeper's best friends..... They keep things snug. And the brothel keepers are the police's best friends, 'cos they pay them". In nineteenth century London this remuneration might be £3 for a small house or up to £500 a year for larger houses, plus access to the inmates.

III.3. CHARACTERISTICS OF PROSTITUTES

Researchers commonly study prostitutes who have been arrested by the police or referred for medical assessment (e.g. Lyon, 1945; Wren, 1967).

While this is convenient, it is unlikely that the findings bear close resemblance to those for prostitutes in general.

In terms of sexuality the prostitute probably differs little from the rest of populace. She is frigid with clients and may despise them, but is mostly capable of enjoying normal sexual relations in other circumstances. To a considerable extent her success depends on how well she can deceive her client regarding her own emotions, "while lavishing smiles on their customers, thoroughly detested them" (Adler, 1954). Mancini (1970) quotes a prostitute who admits this deception, 'Feigning sexual pleasure in the embrace of a paunchy perspiring police Captain is about as liberating as a hair shirt. "These guys pant and moan and I've got to pant and moan", says Lois. "They think they're giving you such a thrill. If they only knew. I could be shampooing my hair while they're working their wonders on me".'

This deception is a positive characteristic of prostitutes who tend to be deprecating and hostile to men (Oliven, 1965), "The time is brief and each partner has contempt for the other.....Prostitution is intercourse of genitals only, but not of persons" (Podolsky, 1960).

Certainly hypersexuality is rare among prostitutes as this quality in no way benefits, and may hinder, their occupation, "nymphomaniacs are rare among prostitutes" (Adler, 1954). The prostitute is interested in money not in sex.

Despite this mercenary interest, it is equally misleading to consider that women always enter prostitution because of economic necessity. In some environments increasing economic hardship influences a proportion of the population towards prostitution but, in

the same community, there will always be many women in even greater financial distress who resist prostituting themselves (Sanger, 1919 p.211). Sieff (1966) supports this view, "Promiscuity, therefore, is not related to economics. A woman may sell herself for a drink or a meal, or a drink or a car".

While in nineteenth century England married women were often forced to prostitute themselves to feed their families (Henriques, 1969 p.93), motivation from economic necessity in modern times is confined to periods of social upheaval, usually associated with war. Under the harsh living conditions in Italy in World War II, the females sold themselves and their daughters for paltry sums or a little food (Lees, 1946). A large proportion of Russian refugees in China in the 1930's were forced into prostitution because they were barred from any other employment. Of 800 Russian prostitutes in Shanghai in 1937, only 5% had been prostitutes in Russia (Henriques, 1969 p.278). In Korea, over 99% of prostitutes had only assumed their occupation after becoming refugees (Graham, 1952) and the abolition of suttee in India produced millions of Hindu widows who were forced into prostitution to survive (Henriques, 1961 p.194). Furthermore, the part-time clandestine prostitute may be earning a relatively high salary in her respectable occupation. Likewise, "the wives of petty tradesmen and other similarly situated resorted to prostitution as an extra source of income rather than from necessity" (Henriques, 1969 p.90). "The prostitute has a desire for material possessions and luxurious living" (Sanger, 1919 p.209; Henriques, 1966 p.260). Workers on the Tyneside scheme

(1945) considered laziness was a marked characteristic of the prostitutes they encountered, and concluded that craving for luxury rather than economic need was their main motivation. Desire for excitement and luxuries have been noted by other authors (Idsoe, 1967; Johns, 1945) and Tait considered that love of dress, desire of property and indolence were the major causes of prostitution (Henriques, 1969 p.113). Thus the purpose of her earnings is not to convert a life of hardship to one of comfort, but rather to replace a comfortable life by a luxurious one.

Against this background, any effort to reduce the temptation of prostitution, by making more employment available and raising salaries, is quite inappropriate. No ordinary occupation, available to the average woman, can hope to compete with prostitution in terms of economic return for work performed, "Working six good days, I can make more than \$1000, tax free. It's the easiest way I know to make that kind of money" (Mancini, 1970). As Davis (1971) comments, in view of the high income for the relatively easy work, "The interesting question is not why so many women become prostitutes, but why so few of them do."

The answer is two fold: firstly, the payment is for loss of self esteem or social standing and, secondly, for a large proportion of the population it is not easy to establish a successful prostitution business. Most societies condemn commercial prostitution on moral grounds. The prostitute faces the disrespect of her family, her peers and the rest of society. Furthermore, this loss of respect is irreversible and abandoning the profession after one or two years will not

redeem the prostitute in the eyes of the community. The puritan might express this concept by saying she has sold her soul, "All the organisations engaged in the reclamation of the prostitute report the same insuperable difficulties in obtaining society's acceptance of the reformed whore.....In Britain this was, and remains, one of the fundamental realities of the prostitutes life. The sin is irrevocable." (Henriques, 1969 p.180). Henriques makes the interesting comment that this rejection is almost entirely at the female level, and that a contemporary businessman's mistress will be accepted by his colleagues but not by their wives. In the past some prostitutes have overcome their beginnings (e.g. Nell Gwynne whose grandson became a bishop, and Celeste Mogador who married the subsequent French Consul General in Melbourne), but this is remarkably rare.

Clinard (1963) comments, "most girls of this type have lived in local communities, such as slums, where sexual promiscuity has been approved or at least condoned.....the important other factor is association with persons on the fringe of prostitution." Bryan (1965) reported that 96% of call girls had contact with prostitutes prior to entering their profession. A bad home situation where the mother may be poor and is a prostitute is an important cause of prostitution (Henriques, 1969 p.121). Adler (1954, p.35) mentions a mother and daughter working in the same brothel but gives no indication of the incidence of this phenomenon. (In nineteenth century India, prostitution was largely hereditary - Henriques, 1961 p.207). For girls without this type of background, becoming a successful prostitute, with a prosperous clientele, may be quite difficult.

A great deal has been written about the mentality of prostitutes, much with little foundation. Hijmans (1956) writes, "It has become apparent that very many of the regular prostitutes, well known to the police in a number of countries are mentally deficient", but provides no information of prostitutes not well-known to the police. His statement, "the intellectual level of prostitutes is not high, for they hail from circles of low intellectual development" is only relevant to some of the profession as higher class prostitutes may be well educated and be skilled in the arts (Henriques, 1966 p.261). Certainly Schwartz's (1949) comment, "careful investigations have proved that the genuine prostitute is not only morally but also mentally defective", cannot be substantiated. Scheinfield (1947) concluded that prostitutes probably had similar intelligence to the average population, and Polly Adler (1954) considers, "most of at least average intelligence".

In view of the unacceptability of prostitution by society, Jackman and others (1963) suggest, "that these women develop a set of beliefs which counteract the social anathema attached to their way of life". This rationalisation is achieved both by denigrating others and by disputing the degree of society's disapproval. The prostitute considers society openly condemns her, but really welcomes her existence as a means of protecting other institutions.

III.4. THE CLIENTS OF PROSTITUTES

Some men will patronise a prostitute under certain environmental conditions but not others, some will resort to prostitutes for certain sexual pleasures but not others and a few individuals rely on prostitutes for most of their sexual outlet most of the time.

Henriques (1969) has formulated a classification of the contemporary clientele of the prostitute.

1. SADO-MASOCHISTIC PERVERTS.

Many men are unwilling to indulge perverse cravings or abnormal ventures into eroticism with wives or close acquaintances. There will always be some prostitutes who, provided with sufficient monetary return, will satisfy virtually any experience that men can envisage, regardless of the depravity involved (Davis, 1937). One study cited by Henriques (1969 p.256) suggested that prostitutes' clients were divided as follows: 29% free of any perversion, 19% masochists, 14% fetishists, 11% voyeurs, 10% masochists with homosexual tendencies, 9% sadists and 9% pornolists. Fellatio is popular among some clients and is reported to be currently common in France where it can be performed quickly in the back seat of a car. Greenwald, (1958 p.163) suggests that 75-90% of call girl customers wish to have oro-genital acts. The predilection for old whores is well known in New York and this may represent a desire for self-degradation by the clients (Henriques, 1969 p.254).

Flagellation and the provision of very young girls were two practices attracting a large clientele in nineteenth century English brothels (Henriques, 1969 p.65), and Adler (1954 p.229) comments, from American experience, "whore houses always draw twisted people who are unable to satisfy their desires normally."

2. ASSOCIATED WITH OCCUPATION.

Sailors, soldiers and travellers may frequently be in a position where prostitutes are the only females to whom they have access in

their brief contact with a community.

3. THE FUNCTIONALLY IMPOTENT.

Due to upbringing or psychological problems an individual may be impotent with a close acquaintance but function normally with a prostitute (Esselstyn, 1968; Henriques, 1966 p.341).

4. THE MALFORMED, DISEASED AND LONELY.

Some men may be so physically handicapped, markedly unattractive or tethered by defective personality that they despair of success with respectable women. In all environments loneliness is a potent motivation, and some men may linger with a prostitute for her company rather than for any sexual stimulation, "in the end one has to be brutal to remind them of what they are and where they are, and that their time is up" (Henriques, 1969 p.255).

Some individuals are virtually driven to prostitution by the prejudices of society. The immigrant may face a virtual taboo on sexual relations with the women of his adopted society, and consequently patronises the prostitute (Oller and Wood, 1970).

5. THE ADOLESCENT.

This clientele is related to the Christian ideal of chastity outside marriage. With delayed marriage, the adolescent's sexual outlet depends on prostitution or promiscuity for pleasure, and the distribution between these two sources will depend on the permissiveness of society. Thus marriage, prostitution and promiscuity for pleasure are interrelated, and any change in one inevitably influences the others. This view is supported by Davis (1971), "by defining certain coital techniques as immoral and hence out of bounds for wives and sweethearts,

the moral order gives an advantage to the prostitute".

6. THE NORMAL MAN.

The normal man may have intercourse with a prostitute as a result of a fortuitous encounter, possibly in a moment of weakness or when influenced by peers or alcohol. Clinard (1963) has listed some logical reasons why a man may choose a prostitute for sexual relations.

- (i) The prostitute is cheaper than the respectable woman.

For the man who is only interested in sex it is uneconomical to plan a protracted seduction with no guarantee of success, when, for a smaller monetary outlay he is assured of the product without delay.

- (ii) Prostitution offers a convenient outlet for those wishing to avoid emotional attachment or the worry of possible pregnancy or other sequelae.

- (iii) Call-girls may be placed at the disposal of businessmen to favourably influence their business decisions, or at conventions.

- (iv) Some married men may have strong sexual drives but limited response from their wives.

III.5. MILITARY ASPECTS OF PROSTITUTION

"Prostitution, either overt or clandestine, has always flourished around military encampments". (Greenberg, 1972).

In early times such prostitutes were not excluded from the camp, and Armies were routinely accompanied by camp followers to provide sexual diversion for the soldiers (Major, 1944). All Asiatic peoples took women into war, allegedly to increase the fighting spirit of the

men, but probably to satisfy their sensual desires (Hinrichsen, 1944). At the time of Emperor Han Wu (B.C.40), prostitutes were sent to military encampments for the needs of unmarried soldiers (Henriques, 1961 p.241).

The Romans would not tolerate camp followers until the time of Septimus Severus (A.D. 200), when they gradually appeared in increasing numbers until they were accepted as part of the military establishment of all nations. In the Middle Ages the Germanic soldier took his entire family to war with him, but this practice was gradually replaced in favour of prostitutes as followers.

At the time of the first crusade (1096 to 1099), the Army of William the Carpenter took along 30,000 prostitutes and that of Godfrey of Bouillon had 20,000. In the second crusade (1147 to 1149), King Louis VII was accompanied by a horde of prostitutes, as well as his wife Eleanor, but in the third crusade (1189 to 1192) King Frederick I eliminated prostitutes from his Army. King Henry II was less successful in a similar endeavour and, at the siege of Acre, women disguised as soldiers entered his camp (1096 women dressed as men had also accompanied the first crusade). The failure of the early crusades has been attributed to the licentiousness of the crusaders (Hinrichsen, 1944).

By the fourteenth century prostitutes posed such a problem for Armies that some European countries (e.g. Germany and France) appointed a member of the army as overseer of the prostitutes accompanying it.

In many campaigns prostitutes were as numerous as soldiers and performed the additional functions of cooks and seamstresses (Garrison, 1922). The Army of Charles VIII of France contained 800 females at the

siege of Naples in 1494, and after the conquest these women were largely responsible for the epidemic of syphilis which spread throughout Europe.

In the fifteenth and sixteenth centuries measures to control army prostitution included:

- (i) In the French Army, prostitutes were restricted to following on foot rather than riding.
- (ii) The number of prostitutes was restricted.
- (iii) In Belgium, prostitutes suspected of illness were discarded.
- (iv) Prostitution was prohibited in Germany, France, Belgium and Holland.
- (v) Some armies required the soldier to marry the prostitute.
- (vi) It was suggested that women in the army should be replaced by male help.

In the 30 years war in Germany the camp followers far outnumbered the soldiers. At the siege of Nuremberg in 1632, there were 15,000 women in Wallenstein's camp. Four thousand women and their offspring were attached to a single regiment of 3,000 men, and 300 wagons were required to carry them and their plunder. At the close of the war General Grousfeld reported that the Bavarian Army contained 40,000 soldiers and 140,000 females (Major, 1944).

In 1714, the Prussian Army directed that the women must precede the Army out of sight of the following soldiers and, after 1759, only childless women were permitted to march with the Austrian Army. Further restrictions on the number of prostitutes occurred - to 10 per company in the Prussian Army and 6-12 per company in the British Army.

The French Army tolerated prostitutes in order to prevent

soldiers attacking the women of captured cities, but venereal disease had reached epidemic proportions by the time of the French Revolution. In 1793, Carnot wrote, "A terrible plague destroys our armies. It is the flock of women and girls who follow it.....The barracks and cantonments are choked with them and the destruction of morals is complete. They enervate the troops, and through the serious diseases they transmit, they destroy ten times more men than the enemy" (Hinrichsen, 1944).

In 1812 the French regulated prostitution, introduced compulsory examinations, issued health cards and isolated and treated infected prostitutes until their lesions had healed.

In India, prostitutes were provided in special areas (Chaklas) of the bazaars in the British cantonments, and these women accompanied the soldiers on the march. This system not only enabled close supervision of the prostitutes but facilitated the search for absent soldiers. The women were registered, each allotted a number and given a descriptive ticket, and numbers were placed on the brothels to assist contact tracing. The whole organisation was controlled by the military police who directed weekly medical examinations of the prostitutes who, if infected, were confined until cured. Despite this regulation the V.D. rate was high, being 342.7/1000 in 1885. Due to the great hostility in England to official Army prostitution, these prostitutes were discharged from the Army and expelled from the cantonments in 1891 (Henriques, 1961 p.207-224).

In Algiers, many prostitutes were attached to the French garrison and handed from regiment to regiment (Sanger, 1919 p.185).

In Saigon, dissatisfaction with the local women led to much homosexuality in the Europeans who apparently delighted in the Vietnamese boys. By 1900, cafes and bars were prominent in the city but the French soldiers were not impressed with the prostitutes (bamboos) who were addicted to betel nut, lacquered their teeth and shaved their pubes (Henriques, 1961 p.261). In World War I, the French Army of the Orient was forced to allow women to go to the front to curb the homosexuality which occurred (Hinrichsen, 1944).

In the American Army, after 1814, women with V.D. were discharged. Each company was restricted to 5 women and recruiting parties of less than 17 men were not permitted female accompaniment (Greenberg, 1972). During the expedition to Mexico in 1916 General Pershing's Army was followed by a horde of prostitutes. Pershing had the prostitutes barracked, surrounded by barbed wire and the infected ones removed. Soldiers were examined prior to admission to the compound and were treated prophylactically on leaving. The Army returned from Mexico remarkably free of V.D. (Major, 1944). In 1917 an Act was passed restricting brothels near military camps (Greenberg, 1972).

In World War I, however, prostitution was one of the first problems American forces encountered in France as the soldiers divided their time between the grog shops and the brothels. The V.D. rate rose from 40/1000 to 200/1000, and Medical Officers proposed the establishment of houses of prostitution, but this policy was never implemented. The prohibition of alcoholic liquors, compulsory prophylactic treatment and punitive measures reduced the official rate to 16/1000 (Major, 1944).

In general, military authorities have attempted to control

venereal disease by placing all brothels out of bounds, or by some form of brothel organisation with routine medical checks. Not all V.D. in wartime is acquired from prostitutes, however. Among allied troops in S.E. Asia in World War II, although most Indian troops contracted V.D. from prostitutes, approximately 50% of British troops acquired their infection from a "girl friend" - which was considered to be a higher level of social adjustment (Ratcliffe, 1947).

In Europe in World War II, women's villages were established adjacent to U.S. installations and the women examined weekly, but again the V.D. rate was high (470/1000) (Greenberg, 1972).

During the Korean conflict there was a tremendous upsurge of prostitution in Japan and Korea. In some parts of Japan it was estimated that 10% of the population was involved, making prostitution a valuable part of the economy. In Korea there were few prostitutes prior to the war. Thus, of 1,200 prostitutes (aged 16 to 19) interviewed, the average time in business had been 3½ months. Less than 10 had been prostitutes prior to becoming refugees. Personal hygiene was poor and few houses had douching facilities or soap and water - of great importance as chancroid was common (Graham, 1952).

Greenberg, (1972) has described the success of the unauthorised regulation of prostitutes in Korea, "in one small isolated detachment in Korea the venereal disease rate was maintained at a genuine zero for a long period of time because the girls in the neighbouring village were examined and treated regularly by the detachment surgeon. As there was no transient population.....there was almost no opportunity for the introduction of venereal disease."

6. PROSTITUTION AND VENEREAL DISEASE.

The role of prostitution in the dissemination of venereal disease has varied through the ages, and varies from one country to another. Table IX demonstrates the relationship in some countries in recent times. The role of prostitution depends largely on the extent to which it provides the promiscuous outlet and on the relative infectivity of the prostitutes. In general, prostitution is the major outlet in Eastern and developing countries, and the prostitutes are heavily infected (Prebble, 1946; Walker, 1952a; Lees, 1946; Shah, 1961) whereas in Western countries promiscuity for pleasure is becoming the major source of infection. Among merchant seamen, the pick up for no fee is the most common type of encounter in the U.S.A. and Europe, whereas the house prostitute is the most common in Mexico, Japan, West Indies, Central and South America, India and Africa (Stuart, 1956). In one study among Liverpool men, only 13% had been infected by prostitutes compared with 50% by "good time girls" and 37% by acquaintances (Ross, 1956). Prostitutes contribute little to the venereal disease problem in New Zealand (Platts, 1969).

**TABLE IX. Prostitution and Venereal Disease in various countries,
quoted from Guthe and Willcox, 1970; Willcox, 1962 a, b.**

Country		Comment
Ceylon	(1956)	46.3% V.D. from prostitutes.
Colombo	(1956)	83.4% V.D. from prostitutes.
France	(1965)	30-40% of syphilis from prostitutes.
Germany	(1964)	V.D. 50-100 times more frequent in prostitutes.
Italy	(1964)	Prostitution most important source V.D.
Japan	(1958)	Prostitutes the source of 70% V.D.
Lebanon	(1965)	57% streetwalkers had V.D.
Portugal	(1964)	26.5% prostitutes had V.D. Prostitution important source V.D.
Thailand	(1965)	Prostitutes main source infection.
United Kingdom	(1959)	2.6% prison prostitutes had V.D.
	(1954)	35.7% V.D. from prostitutes.
U.S.A.	(1967)	10-15% syphilis patients named prostitutes as source.
Holland	(1967)	42% V.D. from prostitutes.
Western Pacific	(1968)	80-90% of V.D. from prostitute.

IV. MILITARY ASPECTS OF VENEREAL DISEASE

1. STATISTICS

"Figures cannot lie, but liars can figure"

C. Northcote Parkinson

2. MILITARY POLICY

"It was amazing that regular army officers, both combatant and medical, seemed to be quite unable to appreciate the significance of the problems involved, and most of them seemed to be quite unwilling to face them"

(Campbell, 1946)

3. LEADERSHIP AND MORALE

"True promiscuity leading to V.D. is as rare in the soldier with high morale as it is in the high morale unit"

(Wittkower and Cowan, 1944)

4. ENVIRONMENTAL FACTORS

"The circumstances which led to promiscuity would certainly have produced severe emotional disturbance in most people"

(Wittkower and Cowan, 1944)

5. INDIVIDUAL FACTORS

"Moreover, different individuals may react entirely differently in the same environment"

(Luhrs, 1956)

IV.1. STATISTICS

Statistics relating to venereal disease are strong contenders for the most inaccurate and misleading original sources of data. A recent national survey in the United States (Fleming et. al., 1970) demonstrated that official statistics represented only about 10% of the true incidence of venereal disease (only 10.9% of gonorrhoea and 12% of infectious syphilis cases were reported). This confirmed an earlier survey (Curtis, 1966) which indicated that only 11% of infectious syphilis and gonorrhoea were reported. There is no reason to believe that other civilian statistics are any more accurate, and they are undoubtedly much less so in many countries with less sophisticated medical services. One source (WHO, 1964) estimates that perhaps only 1% of cases may be reported. Military statistics, particularly in wartime, are probably more accurate. The military organisation has a tight control over its personnel and the sick are mostly channeled through a unified medical system.

A further source of confusion, peculiar to venereal disease statistics, is the variable definition of what constitutes venereal infection. In particular, non-gonococcal urethritis, which often contributes almost 50% of cases, has usually been excluded from statistics in the past.

There has been a persistent increase in reported venereal disease in the past two decades. A world health report (1964) found a steady increase in gonorrhoea, since 1957, in 53 of 111 countries, and estimated the annual world cases to exceed 60 million in 1963. The incidence in U.S.A. is currently estimated at 2 million annually,

representing 1% of the population (Willecox, 1972), whereas one study on 32,470 women in Chicago found 5.5% to be infected, and, of the 9,637 in the 15-19 age group, 6.9% were infected (Kaackler, 1970). Syphilis is controlled in some countries, although infectious syphilis is considered to be epidemic in the U.S.A. There was a 78% increase in reported venereal infection in England and Wales between 1960 and 1969 (Caterall, 1970).

Venereal disease has always posed a special problem for the military - not all aspects of which have been avoidable. Thus in the United Kingdom, 16/1000 of applicants were rejected due to clinical syphilis in 1870, although by 1910 this rejection had fallen to 1.6/1000 (Idsoe, 1967). At the Australian call-up in 1916, 19.8/1000 were rejected due to venereal infection (Butler, 1943). Similarly in the U.S. Army during World War I, all applicants with V.D. were rejected whereas in World War II they were deferred pending treatment, and now there are no restrictions (Greenberg, 1972).

While the infection rate always tends to be higher in the Military than among civilians, there is always a marked exacerbation at time of war. The U.S.A. experienced such peaks at the time of the Mexican War, Civil War, Spanish-American War, the two world wars, Korea and Vietnam. In the civil war the rate was of the order of 200/1000/year, in black U.S. troops in Liberia in 1942 it peaked at 715/1000/year, and in the Philippines in 1945 the overall rate was 268/1000/year, whereas some small units had rates of 2000 - 4000/1000/year (Greenberg, 1972). Table X shows the rates among U.S. troops in various localities in 1970,

and demonstrates the enormous incidence in Korea, Thailand and Vietnam by comparison with other countries. Separation from families and normal social expression is probably the greatest single factor responsible for this trend.

TABLE X. Venereal disease rates (per 1000 per year) among U.S. troops in various localities in 1970 (Greenberg, 1972).

U.S.A.	36.1	Vietnam	223.0
World Wide	98.5	Europe	17.3
Korea	388.5	Japan	27.2
Thailand	545.5		

A similar effect was demonstrated by Australian statistics for World War I (Butler, 1943). In Australia between 1915 and 1918, the 12,689 venereal infections gave a rate of 94.23/1000/year, whereas overseas the rate admitted to hospital was never less than 100/1000. Similarly, hospital admissions in all theatres of the AIF in 1915 represented 54.96/1000, but in Egypt the rate was 133.4/1000.

In the second world war, the 76,000 troops of the AIF, in the Middle East until 1941, produced a V.D. rate of 40/1000/year. In addition the N.S.U. rate (not counted as V.D.) was 67/1000/year (Walker, 1952a). The rate among British Forces in this early period was 60/1000, but later fell to 30/1000 in 1942 and 1943 (Lees, 1946). The British Forces in S.E. Asia, however, had a rate of 140/1000/year, and in one unit this reached 1621/1000/year (Ratcliffe, 1947).

The types of venereal disease encountered varies greatly in

different localities and this has a direct bearing on the total impact on patients and medical services. Table XI compares the diseases reported by the Chief Medical Officer in England and Wales (1969) with those encountered in the 2 million population of Singapore (Morton, 1971).

TABLE XI. Distribution of venereal infection in 1969 in Singapore and in Great Britain.

	SINGAPORE		GREAT BRITAIN	
	No.	%	No.	%
Gonorrhoea	1879	69	50,037	55
N.S.U.	331	12	40,320	43
Infectious syphilis	229	9	1,618	1.5
Chancroid	277	10	56	0.5
	2716		92,031	

The most marked feature is the much higher incidence of chancroid in the East compared to the negligible occurrence in more developed countries. Thus in U.S. Naval Forces in Korea in 1950, 32% of 15,128 cases of venereal disease was due to chancroid, and of 23,126 venereal disease patients admitted to hospital in French Indo-China in 1936, 13% were due to chancroid, 48% syphilis and 39% gonorrhoea (Simmons, 1944). Table XII shows the relatively high incidence of this condition in India (Prebble, 1946) and the Middle East (Lees, 1946) compared with that in Australia (Butler, 1943).

TABLE XII. Distribution of venereal disease in various military populations.

	INDIA, 1945		AUSTRALIA	MIDDLE EAST
	British % of 17,722	Indian % of 54,171	1915-18 % of 6,649	1943 %
Gonorrhoea	28	18	75	37.5
N.S.U.	13.5	6	-	-
Syphilis	12	31	13	17.6
Chanoroid	22	31	6	38.9
Other genital conditions	24.5	14	6	-

Since World War II, venereal infections have mostly been treated on an outpatient basis with a resultant loss of working time of one or two days per infection. Prior to this time, however, hospitalisation was routine, and in 1917 the average stay in Bulford hospital was 12.56 days for syphilis and 46.9 days for gonorrhoea. In the U.S. Army before 1939 the time loss due to gonorrhoea was 38-50 days per case. It is not surprising, therefore, that in U.S. Army in World War I, venereal infection, apart from causing the discharge of 10,540 men, resulted in a loss of 6,804,818 man-days (Greenberg, 1972). At the beginning of World War II the loss was 1280 man-days/1000 men/year but this fell to less than 300/year by 1945 due to the combined effect of better treatment and less rigid hospitalisation (Brown, 1967). It is obvious, with recent rates encountered in S.E. Asia, that a policy of hospitalisation would automatically render some units non-functional.

With the advent of antibiotics, the severe morbidity and mortality of venereal disease has been reduced. It is reported that during the Spanish Portuguese war in 1579, venereal infections were so severe that over 5,000 penile amputations were performed. Fouraine estimated that 500,000 cases of syphilis contracted in World War I produced 2 million deaths, 157,000 cases of neurosyphilis and 61,000 cases of cardiovascular syphilis (Hinrichsen, 1944). These sequelae are rare from currently acquired infections.

On the other hand, the relative impact of venereal disease has been magnified by the much better control over other infectious disease. Thus, in the thirty years war, the Swedish Army occupation of Augsburg reduced the population from 80,000 to 16,422 largely as a result of plague (Major, 1944 p.60). Typhoid and poor living conditions reduced the population of a besieged British Garrison in the Boer War from 13,496 to 10,164 in 3 months (Major, 1944 p.128). In the first world war there were 2,500 typhus cases daily in Serbia, with 150,000 deaths in 6 months and the destruction of 25% of the Serbian Army. Against this background the impact of venereal disease was negligible.

Even as recently as the second world war, although deaths from disease were less frequent, other infections greatly outnumbered venereal disease. Table XIII shows the incidence of disease among Australian troops in two theatres in World War II (Walker, 1952a, b). Since this time, however, the control of most infectious disease has improved whereas that of venereal disease has deteriorated.

TABLE XIII. Incidence per 1000 per year of various infectious diseases in two theatres.

	ARMY-1940 (Middle East)	RAAF 1943-45 (India and Burma)
Malaria	9.19	9.24
Enteric illness	21.39	13.80
V.D.	35.21	3.48
Other infection	198	

IV.2. MILITARY POLICY

In the French Army of the early eighteenth century, men infected with venereal disease were admitted to hospital at the expense of their company commander. Later they were sent to special hospitals and treated at their own expense. Officers lost five-sixths of their salary and non-commissioned officers and the men forfeited all their pay while hospitalised. Consequently, soldiers did their utmost to conceal infection. Those with repeated infections or relapses were forced to extend their Army service, by an equivalent number of months to the days their infection had required treatment (Hinrichsen, 1944). In 1902, the French Army abolished all types of punishment for soldiers contracting venereal disease.

The first reference to control in the U.S. Army was a regulation in 1778 which provided for a 10 dollar fine for officers and a 4 dollar fine for enlisted men who contracted venereal disease. In 1814 pay stoppage was introduced and the soldier had to pay for his own medications. This regulation was dropped at the time of the civil war but was reinstated in 1912. At this time, following a submission

from 40 Commanding officers and 48 surgeons, Congress passed a bill stopping pay of soldiers while absent due to the effects of alcohol, drugs or other misconduct (e.g. V.D.). A slightly more subtle punishment was dispensed in the Cuban headquarters in 1900, when troops were submitted to a weekly physical inspection and the names of those with venereal disease posted on a bulletin board (Greenberg, 1972).

With increasing incidence in wartime, however, harsher measures were invoked. In July 1917, General Order Number 6 provided for any individual with venereal disease to be court martialled and, in December, General Order Number 77 placed responsibility firmly on the Commanding officer by stating that non-effectiveness because of venereal disease would reflect directly on his leadership. The official V.D. rates were immediately halved. Similarly in the Philippines in April 1923 a memo directed, ".....records will be used in the future to rate the efficiency of Company officers in the matter of controlling venereal disease within their organisation. Officers whose commands show no improvement in this respect will be apt to lose them". Official rates fell by 20%. In 1924, Army regulation 40-235 outlined the requirements for education, physical examinations, prophylaxis, disciplinary action against individuals, use of off-limits posting, statistical reporting and the relating of venereal disease to the efficiency of the Commanding Officer as means of control.

As Greenberg summarizes, "Consequently, the pressures that were applied in many instances drove venereal disease underground and resulted in eminently respectable, if totally misleading, rates". A revision of regulation 40-235, in 1939, deleted reference to the efficiency

of the Commanding Officer but this reappeared in circular 249 in December 1941. In 1944 Congress repealed the act for the punishment of individuals with venereal disease but reference to the efficiency of the Commanding officer persisted for a further 10 years.

Similar measures were employed in the British Army. After 1873, soldiers admitted to hospital forfeited their pay, and consequent concealment of disease occurred (Hinrichsen, 1944). In the first World War reliance was placed on disciplinary measures, but these were greatly relaxed for officers (Butler, 1943). However, stoppage of leave and pay had little effect on the incidence of venereal disease and some soldiers deliberately became infected to avoid returning to the front line (Osmond, 1949). Deliberate acquisition of venereal disease in order to be removed from the combat zone was also noted among American troops in the first World War (Major, 1944). It is claimed that of the 3% of British soldiers in Paris with venereal disease in 1918, "one third wanted to contract venereal disease because they preferred to be in hospital to being in the front line.....Venereal disease was quite well recognized as a self-inflicted disease among the American troops, and orders were issued warning officers to watch for "wilful infections"Diseased women on the streets of London and elsewhere offered sexual intercourse to soldiers at a higher price because of being diseased. The Canadian, Australian and New Zealand authorities..... tried without avail to get these women isolated". (Comfort, 1968 p.159). One effect of penalties was to encourage soldiers to visit civilian doctors, and despite strong recommendations to abolish punishment this did not occur until the second world war. As in the U.S. Army,

penalties were strongly favoured by combat officers (Osmond, 1949). In World War II British authorities initiated treatment in the field for all soldiers with V.D. (Hinrichsen, 1945).

IV.3. LEADERSHIP AND MORALE

The view that the venereal disease rate reflects leadership and consequent morale is widely supported. Among Australian troops in the first world war Butler (1943, p.154) reports, "the higher the morale of a unit the less V.D. there was in it". In world war II, Batcliffe (1947) considered that the V.D. rate in S.E. Asia reflected unit morale. Units with a low sick rate, empty guard room and few cases of V.D. always had high morale. Ahrenfeldt (1958, p.212) further supports this point, "Lowering of morale, in particular due to prolonged service overseas and separation from home, showed itself in the increase of the V.D. rate", and Singh (1966) noted the same feature in servicemen in India, "Venereal diseases are preventable and an increase in their incidence denotes declining discipline and morale in that unit or arm of service". Wittkower and Cowan (1944) emphasise that the impact of low morale is reflected by social problems in general, "V.D. is only one of the sources of military inefficiency related to low unit morale. The most obvious of the allied phenomena are absence without leave and drunkenness".

The responsibility for unit morale rests with the leader, depending on his ability to gain rapport with his troops and understand human behaviour. These qualities are often deficient in the Army officer, and his authority is usually guaranteed by his rank rather than by his personality and qualities of understanding and leadership.

Hatcliffe (1947) stresses the primacy of leadership for good morale, "Without good leadership and example at all levels good morale is impossible". Wittkower and Cowan (1944) support this view, "it follows that successful man-management,can reduce the incidence of V.D. by lowering the emotional tensions which lead to it." Osmond (1949) also reports that venereal disease was more prevalent in units which were ill-disciplined and had generally low morale.

Of great importance is the personal example of the officers themselves. Dunham (1930), a former General of the U.S. Army Medical Corps, considered that the Company Commander was of key importance as his attitudes will be reflected by the actions of his men, and sensational or illogical statements by him do vastly more harm than good. Rather than alleviate the problems by setting a good example, officers frequently aggravate low morale by lack of consideration for their men. Stouffer (1965) has expressed the view, in general terms, that men will accept hardship with complacency if they realize that nothing can be done about it, but become angry and disgruntled when some personnel, especially officers, get more than their share of scarce goods and privileges. This facet of poor management was utilised as propoganda to reduce the morale of Communist Terrorists in Malaya, "Too never lost an opportunity of telling the truth about women in the jungle, who inevitably became mistresses of the higher ranking officers - an aspect of jungle life that infuriated thousands of C.F.s., who had to watch their officers taking mistresses while the rank and file could not" (Barber, 1971 p.120).

Moralistic counsel of abstinence for the troops, while officers

continue to frequent brothels or openly take mistresses, is likely to have an adverse impact on unit morale. However, attempts to maintain abstinence by moralistic argument, fear and punishment have been prominent features of past campaigns. Butler (1943) suggests, "The attempt made in 1917 to reduce venereal disease by a campaign of lectures by a chaplain in the Command Depots and among the units in France was probably worse than useless" and that the example of senior officers had much greater influence. Evidently the approach of leaders was no more appropriate in the second world war, "the attitude of the authorities towards venereal diseases and those who treated them was still on the whole Victorian. It was amazing that regular Army Officers, both combatant and medical, seemed to be quite unable to appreciate the significance of the problems involved, and most of them seemed to be quite unwilling to face them.....The well-known approach by means of posters was baulked habitually by the finer feelings (?) of a high-ranking minority and particularly by the church" (Campbell, 1946). Similar obstruction had been experienced with Australian troops in the Middle East in the first world war, "Medical officers and padres were officially permitted to "talk" to the troops but the provision of personal prophylaxis was forbidden" (Norris, 1970 p.128). However, as the venereal disease rate rose, and eventually exceeded 3% of troops constantly incapacitated, the authorities relented.

Larimore and Sternberg (1954), writing on Army experience with 8,000,000 men, concluded that any moral approach was of limited value, although they considered fear, intelligence, patriotism and pride to be effective appeals.

Punishment has been condemned as it leads to concealment of disease, inefficient treatment and increasing spread of venereal disease (Dudley, 1967). Furthermore, a programme of fear may be harmful by placing the Medical Officer in the awkward position of providing reassurance to the patient he is treating, when he has previously terrified the soldier with the potential consequences of venereal infection. Thus fear is not only useless in preventing exposure to infection but it magnifies the problems of hypochondriasis and neurosis following exposure. Opposition to campaigns of fear have also been expressed by Havard (1909), "It is notorious that the influence of fear is a deterrent factor of slight importance" and Singh (1966), "Fear, as a weapon, appears to have outlived its utility". The inappropriateness of fear and punishment is summarized by Wittkower and Cowan (1944), "Since promiscuity of the types which lead to V.D. is seldom the result of positive mature interest but mainly the result of attempts to relieve acute psychological stress, neither punishment on the one hand nor evil counsel on the other is likely to affect to any marked degree the incidence of such promiscuity", and Hinrichsen (1944) offers appropriate advice, "modern punitive measures have been failures for so long that we should take a lesson from history and discard them."

IV.4. ENVIRONMENTAL FACTORS

Prebble (1946) attributes the high incidence of venereal disease in wartime to the associated environmental upheaval. Thus in Indian troops the incidence of venereal disease was very low in peacetime. Recruits were specially selected, given regular leave and were frequently

stationed near their homes. With the onset of war these conditions changed: the troops had more money, they were isolated from their homes and came into close contact with heavily infected prostitutes - consequently venereal disease was common.

With continued separation from family and the prolonged tensions of war the individual tends to assume a different outlook on the standards and taboos which he has previously accepted. Wessel and Pinck (1947) suggest this, "leads to the attitude that it is 'culturally normal' to seek occasional sexual outlets" and Stouffer (1965 p.79) describes the same phenomenon, "For men in combat.....under great anxiety and insecurity, men tended to lose many of their usual long term perspectives. At the same time their need for emotional reassurance was especially great; faced with the immediate possibility of personal annihilation amid the vast impersonal destruction of war, hedonistic drives and socially derived needs combined to make sexual deprivation a major stress". This psychological pressure is expressed, somewhat emotionally, by Butler (1943, p.186), "the soldier involved in the heat and circumstance of 'battle, murder and sudden death' in particular in a war of attrition, must be regarded differently from the same man in peace.....sordid task begets sordid passions.the artificial bars that in man's social life tend to restrain or sublimate the "sex-lust" are also thrown down".

While physical danger and deprivation have undoubted psychological impact on the soldier, boredom, loneliness, inactivity, low job satisfaction, hostility to military regimentation and lack of

recreational facilities are the environmental features which are notorious for fostering sexual escapism and its sequelae (Wessell and Pinck, 1947), "they often spent long periods of enforced idleness in which the intense boredom of having no goals for activity was intermingled with anticipatory anxiety of waiting for further combat.....Monotony and boredom may appear to have been trivial compared with the shocks of attack, but they did take a psychological toll of more than negligible importance" (Stouffer, 1965 p.88).

The impact of inactivity on venereal infection is well documented. Greenberg (1972) states United States experience, "Venereal disease was a problem particularly during periods when the troops were not actively campaigning in the field, and in garrison troops at all times", and venereal disease was a major problem among British troops in the 2 years following the Armistice and demobilisation in 1918, "During this period, a huge army was comparatively idle and as could be expected, the prevalence of V.D. increased rapidly" (Hinrichsen, 1945). Ratcliffe (1947) presents the same view from S.E. Asia, "the V.D. incidence rate is directly and conversely related to the degree of active employment within a unit and consequently prolonged unemployment or employment in apparently pointless tasks will be reflected by an increase in venereal disease." Australian experience has been similar, "With this quiet phase of garrison duty, we were soon faced with the problem that has endangered armies over the centuries, the venereal diseases" (Norris, 1970 p.128). In the first world war it was noted that in France the Australian and British troops had a similar incidence of V.D. whereas

in Britain the Australian rate was four times as great, i.e. V.D. proved a disease of leave or leisure (Butler, 1943 p.155). Wittkower and Cowan (1944) attribute the disparity of venereal disease incidence in a field division and static unit (2 $\frac{1}{2}$ times as great as in the former) to the "browning off" which inevitably accompanies inactivity.

There can be no doubting the severity of this stress which causes soldiers to behave in a manner they would not have envisaged in a more stable society, "in men who could be classed as good soldiers the circumstances which had led to promiscuity would certainly have produced severe emotional disturbance in most people." (Wittkower and Cowan, 1944). This environmental influence is clearly illustrated in a study by Ehrmann (1959) in which 302 war veterans were compared with 274 non-veterans. Thus although the behaviour of the two groups was similar in a stable society (37% of the veterans and 40% of the non-veterans were currently having intercourse), the impact of foreign service produced a much higher intercourse rate in the veterans - intercourse had been experienced by 80% of veterans who had served more than one year overseas compared with 57% of non-veterans. Furthermore, many of the veterans had only experienced intercourse during the period in which they were separated from their stable homeland society.

Gardner (1944) has suggested that wartime conditions tend to foster a spurious acceleration of maturity. The youth leaves home, is trained to defend his country and is suddenly thrust into a life and death situation. Thus he is introduced to all the physical stresses of manhood while still a youth emotionally. The expression of aggression in wartime

may heighten or augment other instinctual urges such as the sex drive. Thus there is an intensification of an inner drive at a time when there is lessened external control.

Also, the Army emphasises virility, the markers of which are high alcohol intake, abnormal aggression and profanity, (Elkin, 1946). There may be powerful group sanctions favouring sexual relations with prostitutes, making abstinence difficult (McCallum, 1946).

IV.5. INDIVIDUAL FACTORS

Although environmental stress is undoubtedly a potent influence on sexual behaviour and its sequelae, personal factors affect the manner in which the individual adjusts to this stress. These individual factors may operate to affect large social groups. Thus, Steuffer (1965) reports gross differences between negroes and white Americans, with the incidence of V.D. several times higher among the former both at home and abroad.

In one study in Italy in 1945, 54% of negroes had been infected at sometime and 21% had been infected while overseas, whereas the corresponding figures were 15% and 0% for whites. Negroes contributed 15% to the theatre strength but 36% to the V.D. incidence. Two main factors operated to produce this pattern. Firstly, negroes had intercourse more frequently, about one third more negroes than whites reporting intercourse in theatre, and participants having intercourse two or three times a month compared with once or twice for whites. Secondly, negroes associated with a different class of woman who was more likely to have V.D., the V.D. rate being 7/1000 contacts in negroes compared with

4/1000 contacts for whites. Brody (1948) also demonstrated this marked difference between the two racial groups.

Similarly, in British West Africa during World War II the venereal disease rate among European troops varied from 2.2% per annum in Gambia, 4.6% in Sierra Leone and 8.5% in Gold Coast to 10% in Nigeria, although in some units it reached 40% per annum. In African troops, however, the rate was 12% in Gambia, 28% in Sierra Leone, 50% in Gold Coast and over 60% in Nigeria (Willcox, 1946).

In New Zealand, Maoris contributed 19% of gonorrhoea in Christchurch although they formed only 1% of the local population (Platts, 1969).

A large number of sociological parameters have been implicated as determinants of venereal infection but agreement on many of these is not universal.

1. AGE.

Singh (1966) found that 64% of V.D. patients were between 18 and 22. However, in Watts and Wilson's (1945) study only 28% of V.D. patients compared with 43% of controls were less than 22; and Campbell (1946) considered that age was not a very significant determinant.

2. MARITAL STATE.

Campbell did not consider marital state a very significant factor for soldiers serving overseas. In Singh's study in India, 58% of V.D. patients compared with 33% of controls were single, whereas the respective figures were 28% and 31% for soldiers in Canada (Watts and Wilson) and 47.5% and 53.5% for those stationed in the United Kingdom (Wittkower and

Cowan, 1944). Among American troops stationed in Italy in World War II the figures for whites were 79% and 72% and for negroes 80% and 50% (Brody, 1948). Among sailors on a Far East Commission, married members contributed 29% of V.D. patients but 39% of the whole commission (Wheldon, 1964).

Thus, the tendency for venereal disease to be more common among single soldiers is not marked, and the marriage bond places limited restraint on the serving soldier.

3. EDUCATION.

There is usually a markedly lower infection rate among those with higher education. Watts and Wilson found only 54% of V.D. patients compared with 71% of controls had grade 7 education, and in Singh's study, 28% of patients compared with 52% of controls had attended secondary school. Among Brody's participants, 27.7% of patients compared with 40.4% of controls among whites had graduated from high school, and the corresponding figures for negroes were 2% and 15%. Stouffer found that 60% of negroes and 19% of whites who had only attended grade school had acquired venereal infection, whereas the corresponding figures for those attending college were 43% and 12%.

4. INTELLIGENCE.

Singh detected no differences between patients and controls, whereas Brody formed the impression that there was a positive relationship between V.D. and intellectual deficiency. Ahrenfeldt (1958) provides a more quantifiable comparison in a study of British soldiers in Germany. The proportion of V.D. patients in the lowest two intelligence gradings

(on a 6-point Army scale) were 33.5% and 6.5% whereas the corresponding proportions of controls were 21.0% and 4.8%.

5. RANK.

In Singh's study, 38% of V.D. patients were recruits and 18% were NCOs, the corresponding proportions of controls being 14% and 31%, whereas Brody found equal proportions of NCOs in both groups (27.4% and 25% of controls). Campbell commented that there always appeared to be ample senior NCOs in the V.D. wards.

6. LENGTH OF SERVICE.

In Singh's study, 67% of the V.D. group compared with 47% of controls had less than 2 years service, whereas Hatcliffe considered that definite risk periods with relation to overseas service were more important than total length of service. These periods were the initial homesick period; after 3 years overseas service; and in transit camps prior to return home (due to inactivity and low morale from shipping delays). Campbell suggested that the fear of V.D. decreased with increasing absence from home.

7. ALCOHOL INTAKE.

Watts and Wilson found 19% of V.D. patients compared with less than 1% of controls had excessive alcohol intake. In Brody's group, 2% of controls and 9% of V.D. patients among whites were heavy drinkers, and among negroes the proportions were 6% and 23%. In Wittkower and Cowan's group, 29.5% of patients and 2% of controls were heavy drinkers and among V.D. patients 49% were intoxicated and 7% were totally drunk at the time of infection. In contrast, Dudley (1967) is sceptical of the

influence of alcohol, suggesting it is a convenient scapegoat.

8. CIVILIAN AND ARMY CRIME.

Brody noted a positive association of venereal infection with both civilian and Army crime for both negroes and whites. The proportion of white V.D. patients with civilian arrests was 11% compared with 4% for controls and for negroes the figures were 19% and 6%, respectively. Of whites, 36% of patients and 52% of controls had avoided Army punishment whereas the proportions of negroes were 17% and 62%, respectively. Wittkower and Cowan's series showed 20% of V.D. patients and 8% of controls had committed moderate or serious Army crime.

9. PSYCHO-SOCIAL BACKGROUND.

Watts and Wilson noted a significantly higher incidence of certain psychiatric parameters in V.D. patients as opposed to controls. These included: abnormal childhood environment (separation or divorce of parents or emotional instability) - 36% to 18%, marital incompatibility - 32% to 10%, and psychiatric referrals - 43% to 5%. Of those discharged from the Canadian Army with a diagnosis of psychopathic personality, 25% had had venereal disease whereas of those discharged due to neurosis only 3% had been infected.

In Singh's study, 40% of V.D. patients and 1.6% of controls had a history of marital disharmony. A strict upbringing with unsatisfactory parental attitude to sex was experienced by 83% of patients and 48% of controls. He also observed that of those infected with V.D., 42% had well marked feelings of guilt, 21% demonstrated overt anxiety and 7% had overt depression, whereas in the control group the only significant

neurosis was mild anxiety in 31%.

Brody considered there was no relationship between venereal infection and a neurotic personality, but Ratcliffe suggested immaturity and inadequacy were significant factors, "Officers with V.D. were almost invariably either socially maladjusted or inadequate personalities with poor service records." Wittkower and Cowan considered, "its the odds and sods who get it."

The clear distinction between single infection and multiple infection has been made, "A good soldier may get V.D. However, if a man gets V.D. twice or more often, it indicates a weak personality because he does not learn by experience" (Watts and Wilson, 1945). Ratcliffe supports this view, "almost all the cases of repeated infection occurred amongst the psychopaths, aggressives or socially maladjusted groups."

In Singh's study, 53% of patients resolved to avoid future exposure and 7% of those infected had some doubts about recovery from their current infection.

10. MILITARY FACTORS.

Watts and Wilson found V.D. patients had a higher incidence of inefficiency (40% to 19%), detention (17% to 5%) poor military conduct (28% to 7%) and dissatisfaction with Army routine (24% to 8%).

Wittkower and Cowan found 17% of V.D. patients (48% controls) were keen on the Army but 54.5% (29% controls) were discontented.

Ratcliffe considered 53% of controls, in contrast to 4% of Indian and 14% of British troops with V.D., had a satisfactory service and social

background, and Campbell felt that had soldiers provided a large percentage of V.D. casualties. He thought this was largely due to the inability of these soldiers to entertain themselves.

11. FAMILY SIZE.

Singh found 56% of V.D. patients compared with 42% of controls came from families of 5 or more children. In a study by Willcox (1949), 12% of V.D. patients, compared with 4% of controls, came from families of four or more children.

12. PAST SEXUAL BEHAVIOUR.

In Brody's series, 58% of white V.D. patients (28% controls) and 79% of negro patients (26% controls) had visited a prostitute in civilian life; 3% of white patients (34% controls) had never had extramarital intercourse (all negroes had had this experience) and 67% of white patients (36% controls) and 70% of negro patients (66% controls) began intercourse within 3 months of arrival overseas.

The average age of first intercourse for negroes (both V.D. and control) was 14½ years whereas white V.D. patients had a mean onset of 16 years (16 years 7 months for controls).

Willcox (1949) noted that his V.D. patients were considerably more promiscuous and had a greater rate of past infection. Thus, 51% of patients (4% of controls) had intercourse with more than one person in the previous 2 months, 34% of married patients (11% of controls) had been unfaithful to their wives, and 52% of patients (8% of controls) had previous venereal infection. Only 10% of patients compared with 61% of controls had childless marriages, although the average duration of marriage was greater for the controls.

Wittkower and Cowan noted that 38.5% of patients (4.5% of controls) were habitually promiscuous. In Singh's series, 46% of patients had exposed themselves to infection previously and 23% had done so more than once.

13. BELIEFS.

Of Singh's patients, 70% (41% of controls) considered satisfaction of sexual needs was essential and 9% (6% of controls) considered the accumulation of semen harmful. Ratcliffe found only a small proportion of soldiers considered it unhealthy to abstain from intercourse. Of Brody's patients, 74% (55% of controls) thought that masturbation was injurious to health.

14. PRECIPITATING FACTORS.

The majority of soldiers (55%) in Singh's series had intercourse to satisfy their curiosity, whereas 8% did so to forget domestic worries, 2% because of alcohol and 35% gave no reason. For 31% intercourse was impromptu whereas for 69% it had been pre-planned.

Wittkower and Cowan found precipitating factors to be service maladaptation for 58%, drunkenness for 28%, home worries for 22% and active seduction for 2.5%.

Brody considered that V.S. patients more frequently indulged in impromptu sex after being solicited, and that they are less discriminating than the controls regarding the females with whom they cohabit. Ratcliffe considered that usually a combination of motives was responsible. A large number accepted intercourse as the obvious thing to do. Some were influenced by their peers (often in association with alcohol) and some were homesick or had domestic worries.

V. VENEREAL DISEASE AND AUSTRALIAN SOCIETY

1. ASPECTS OF AUSTRALIAN SOCIETY
2. AUSTRALIAN INVOLVEMENT WITH VENEREAL DISEASE

V.1. ASPECTS OF AUSTRALIAN SOCIETY

Detailed data enabling precise comparison of Australian society in general with the micro-society of the present study is not available.

1. FAMILY SIZE.

Of Australian wives, age of 40 and over and married before the age of 26, of the birth cohort 1920-21: 26% of catholics and 14% of non-catholics produced more than 4 children (17% of all Australian born women), and the median issue was 3.67 for catholics and 3.17 for non-catholics. This indicates the greater productivity of catholics but does not indicate the incidence of various size families (Davies and Encel, 1970).

2. RELIGION.

Table XIV compares the distribution of religious affiliation at a 1961 Gallup Poll and the 1966 census (Encel, 1970). However, religious faith is often nominal and private surveys have shown a much higher proportion not claiming any religious affiliation. In a Melbourne survey, 43% of those describing themselves as working class and 24% of middle class participants claimed no church affiliation (Davies and Encel, 1970).

In some ways church attendance may be a more illuminating index of religious activity. The Gallup Poll of 1961 showed 27% of Australians attended church weekly, 48% occasionally and 25% never. Fifty four percent of catholics, 31% of Methodists, 14% of presbyterians and 13% of Anglicans attended weekly.

In England, 69% of boys and 60% of girls did not attend any form of religious meeting and a further 9% of boys and 11% of girls did so less than once a month (Schofield, 1965).

TABLE XIV. Religious affiliation in Australia.

	1961, Gallup Poll (% of Christians)	1966 Census (% of Total)
Anglican	38.6	33.7
Catholic	23.6	26.8
Methodist	15.3	9.7
Presbyterian	14	9.0
Other Christian	8.5	9.3
Total Christian	100	88.5
No reply		9.8
Other		1.7

Religion may be a factor in venereal disease prophylaxis, in view of Catholic opposition to contraception. Until the 1930s when the safe period was advocated, Catholics faced continence or disobedience. In America, "three in ten couples use forbidden methods of contraception; and the proportion rises to half among couples who have been married for 10 years and are still fecund" (Davies and Encel, 1970 p.61). There is no reason why Catholics in Australia should be any more obedient than their American counterparts. However, the availability of the pill, which has no prophylactic value against venereal disease, may reduce the use of condoms by Catholics as well as by Protestants.

3. RACIAL ORIGIN.

In 1966 the Australian population of 11,550,000 contained 82% Australian born, 7.9% from the United Kingdom, 4% from Mediterranean

countries and 3.3% from other European countries.

4. SOCIAL STATUS.

Stratification of Australians into social classes is not simple, and failure to correlate sociological parameters with class may reflect this difficulty as much as the absence of any correlation. Two classifications - a Gallup Poll on male members of the work force in 1965 and that used by Broom - are shown in Table XV.

TABLE XV. Distribution of Australians in two social classifications.

Gallup Poll, 1965	%	Broom	%
Upper middle/upper	11	I - professional	12.4
Middle	28	II - managerial	20.5
Lower middle	11	III - clerical type	13.1
Working	44	IV - craftsmen and foremen	22.5
Lower	4	V - shop assistants	18.9
No reply	2	VI - labourers and service	12.6

Congalton (1969) classified 134 occupations by the ratings of 303 randomly selected Sydney residents and 1189 university students throughout Australia. There was a high correlation between the ratings of both groups.

5. AUSTRALIAN MILITARISM.

Due to many factors, including small population, geographical isolation with infrequent involvement in large wars, and a developing economy, Australia has been unable to maintain a large military force in continual operation. This has necessitated dependence on a large

civilian contribution (either voluntarily or by conscription) during wartime.

Under these conditions, comparisons between regular and part-time soldiers have not always enhanced the reputation of the "professional", "in Australia, where a history of citizen military effort in two world wars has further contributed to the relatively low esteem enjoyed by the professional soldier" (Encel, 1970 p.431).

The enterprising and more capable conscript may not be readily compatible with the slower thinking inflexible regular soldier who, by virtue of his seniority, is in command, "These qualities of initiative and resource are, traditionally, accompanied by a casual if not downright hostile attitude to the hierarchical structure of the military command system" (Encel, p.433).

Many regular soldiers lead a socially sheltered existence, "For most regular officers, the common form of employment between the wars was that of area commandant in charge of a drill hall, an activity which was hardly calculated to stimulate imagination or flexibility of outlook" (Encel, p.451).

Despite this background, the Army officer sees himself as belonging to a social elite with rich traditions and a treasured niche in Australian society. This attitude is best described as euphoric isolationism, because social isolation is required to maintain such a disparity between self-image and the views of civilian society. As senator Drake Brockman has said, "regular soldiers have to undergo years of boresome routine, probably with only half job, and often enough in a

limited circle of military social snobbery" (Encel, p.454).

In view of this disparity in social outlook, which is probably greater than for any other social group, social isolation is undoubtedly conducive to good military-civilian relations in peace time. However, it tends to aggravate the conflict when these two groups eventually are brought into intimate contact for an extended period of time. This conflict is almost inevitable, not only because these two groups have widely divergent outlook and abilities but because the personality of one of the antagonists (the regular Army Officer) is a central feature of the controversy. The resulting inadequacies of leadership contribute to an array of social problems of which venereal disease is merely one sequel.

V.2. AUSTRALIAN INVOLVEMENT WITH VENEREAL DISEASE

1. INTRODUCTION.

Social conditions in the early days of Australian settlement were conducive to promiscuity and its sequelae (Greenwood, 1955). Before 1800 in New South Wales there were more than three times as many males as females and this imbalance was only slightly reduced by 1821. Most of these females were either mistresses or prostitutes, the latter being the only readily available occupation for females in the new colony. In 1806 there were 395 wives compared with 1035 defacto wives and 807 legitimate children compared with 1025 illegitimate children in the colony. The spread of venereal disease was attributed largely to the prostitutes.

In the 19th century in Australia, as in other countries, venereal disease was viewed with disgust and its victims ostracized, "a conflict,

in medical sociology, between reason and fetish which, in Australia, until the Great War, kept this terrible group of diseases almost wholly outside the scope of the new science of preventive medicine and thereby involved civilised men in unnecessary physical degradation and his womenfolk and children in much needless misery and suffering.....The same taboos at the outset of the war of 1914-18 imposed on the troops of the British Empire, and in particular those of the dominions, unnecessary impediments in meeting a well-known menace, and on the medical services a needless aggravation of a sufficiently difficult task" (Butler, 1943 p.149).

2. FIRST WORLD WAR (1914-18).

In the war of 1914-18 the major military approach was oppressive retaliation against those acquiring V.D. (Butler, 1943). Concealment of venereal disease was a crime (King's Regulations 462 and Section II of Army Act) and a military order dated 1st February 1915 provided for stoppage of pay to those infected, "No pay will be issued while abroad for any period of absence from duty on account of venereal disease." Pay allotted to the soldier's family was also forfeited. This was a cause of great anxiety as it threatened exposure to one's family. Until the reason for pay stoppage was concealed on pay entries, there was a heavy loss of pay books.

The injustice of this action was aggravated by the routine retention of gonorrhoea sufferers in hospital for over 6 weeks whereas syphilitics were retained for only a few days before transferring to convalescence where pay recommenced. Butler (1943) comments, "The effect on the individual soldier was intense embitterment".

With the failure of oppressive measures, authorities resorted to medical prophylaxis and preventive treatment. This campaign had four components:

(i) Educational

- a. In the first week of every month the medical officer lectured all ranks.
- b. Before leave, soldiers were warned of the dangers, provided with free prophylactic outfits and could purchase condoms.
- c. Soldiers were given a card detailing the procedures if they were exposed.
- d. They were assured that if they reported for abortive treatment their name would not be taken and they would not lose pay.

(ii) Prophylaxis

Early treatment depots were open day and night in the lines or at headquarters, and were identified by a blue light.

(iii) Abortive treatment

For gonorrhoea a silver salt (e.g. Argyrol) and a glycerine of B-naphthol (Benetol) were used as anterior injections and potassium permanganate as a posterior irrigation.

(iv) Special hospitals were provided for the treatment of developed cases.

At the beginning of the war patients were secured in a

barbed wire compound at Mena in the Egyptian desert. All patients wore white bands on the right arm and the hospital was quarantined. No visitors were allowed in the lines and the patients were under military guard. The majority of these patients were youths, some still in their teens and over 85% had been infected for the first time.

Butler (1943) recounts the importance of public attitudes, "Both in Britain and France the crux of the problem of venereal prophylaxis lay in the national attitude towards sex, sex diseases and prostitution..... In Britain the attitude was that popularly ascribed to the ostrich." In Britain until the end of 1915, A.I.F. patients were sent to various British V.D. hospitals. On arrival from Egypt in 1916 the Australian Dermatological Hospital (A.D.H.) took over Bulford hospital and treated all V.D. from the A.I.F. The current attitude to venereal disease was reflected in the fact that this hospital became the dumping ground for staff and medical officers on disciplinary grounds. In England, during 1917, the average soldier strength in hospital with V.D. varied from 3.7% to 2.34%.

In France, from February, 1918, special measures were introduced because infection was becoming uncontrolled. Leave was cut in all units with greater than $\frac{1}{2}$ % V.D. cases per week, and stoppage of leave for six months was introduced for infected individuals.

In Australia, after March 1915, V.D. cases were sent to the Langwarrin hospital in Victoria. For the first 6 months of operation this was treated as a prison hospital and the men were herded in barbed wire enclosures and guarded by 200 militia men. There were 4 military officers

and an equal number of medical officers in charge of the prisoners who lived in round tents and were treated as untouchables.

Following this early period, Captain W.T. Condon, the Camp Commandant, decided to restore health and self respect of the patients by upgrading the conditions, and wards were built, an adequate supply of drinking water, hot and cold showers and treatment rooms provided. Sports were organised, interests created for the men and the guards removed. Well aware of the hardships from stoppage of pay, he employed the patients as orderlies and on guard duty for 5 shillings a day. Table XVI shows the impact of this policy on the morale of the men.

TABLE XVI. Absentees (A.W.L.) Deserters and military offences at Langwarrin Hospital 1916-1918.

Year	A.W.L.	Deserters	Offences	Approx. No. Patients
1916	926	88	1487	3161
1917	199	22	497	1496
1918	33	nil	108	793

From March 1915 to June 1920, 7,242 patients passed through the camp. After discharge more than 6,000 of these men went overseas and won 400 decorations including one V.C. Of the 14,839 men admitted to V.D. hospitals in Australia, 11.2% were under 20, 38.6% between 21 and 25, and 31.9% between 25 and 30.

3. WORLD WAR II 1939-45.

Walker (1952a, b) has summarized the problem of venereal disease in the second world war. Although there was considered to be a change

in approach, from moral to scientific, between the two world wars, in 1941 venereal disease patients were treated in an isolation wing of 107th General Hospital at Fockapunya under armed guard, and mostly accorded the status of criminals.

In the middle East the average time spent under treatment was 4 weeks and during this time the men were virtually useless for military duties. It was noted that combat troops were keener to be cured and return to duty than non-combatants. Although prostitution was officially discouraged in Jewish cities, it was a major problem and the hygiene of the prostitutes was untrustworthy. At the headquarters in the Middle East between April and August 1941, there were 327 cases of V.D. of which 15 were syphilis, 151 chanroid and 144 gonorrhoea. In the same period 243 cases of non-specific urethritis (not classified as V.D.) occurred. The V.D. rate was 48.46/1000/year. A special 300 bed hospital for the treatment of V.D. was opened in Syria in November 1941.

The situation was worse in Cairo and Alexandria where there were large prostitute populations, practically all of whom were infected. Alcohol was considered to play a significant part in lessening the caution of the soldiers. Measures to counter venereal disease included educational activity, group talks with the men, sport and other diversions, physical training, disciplinary measures, prophylaxis and prostitute control.

In Greece, Maj. E.E. Dunlop considered the absence of official recognition of the problem by the services was responsible for a lack of prophylactic arrangements. It was considered that syphilis cases,

which were not uncommon, should be evacuated to Egypt and treated in special hospitals. Norris (1970) describes how a special brothel was organized in Tripoli in an effort to cope with the high venereal disease rate in the Middle East. Twelve girls were recruited to the brothel which was organized by the Provost Marshall in cooperation with a gynaecologist. The sale of alcohol on the premises was prohibited and entry was denied to intoxicated members. Norris claims this enterprise produced a dramatic fall in the V.D. rate.

In Ceylon in June 1942, 110 men with venereal disease were treated in a special wing of a camp hospital, and, because of the high incidence, a prophylactic centre was opened.

All soldiers in the Home force suffering from syphilis were discharged from the Army as medically unfit (Gibson, 1942).

In the Navy, V.D. was a spasmodic problem, of course, with outbreaks following shore leave after periods at sea. Naval policy was to make the circumstances of cure no more attractive than normal working conditions. Men infected on leave were confined to a special mess and generally isolated from their fellows. Preventive ablution centres were found to be ineffective as they were often used too late.

Urethritis was treated mostly with sulphonamides but the particular regime varied from one ship to another. One regime involved sulphonamides for 9 days combined with urethral irrigations of mercury oxycyanide for 16 days. Patients were discharged from the sick list after 24 days. On another ship sulphonamides were used in conjunction with absolute rest, and patients were isolated in hammocks until

the danger of relapse had passed.

In 1944 a pharmacist created considerable controversy when he objected, on moral grounds, to the services providing prophylactic facilities for sailors, and a Standing Committee of the Service Medical Directors met to consider the whole problem. Surgeon Captain Carr commented, "the subject is an old and controversial one and is concerned with aberrations of social conduct, the springs of which lie deep in human beings".

Veneral disease was also prevalent in the RAAF. In Singapore all types of V.D. were encountered but the commonest were gonorrhoea and syphilis. In a 6 months period at Sembawang, approximately 1% of RAAF personnel were hospitalised for V.D., practically all of which was contracted from native prostitutes. Between 1943 and 1945 the average incidence of V.D. in India and Burma was 42/1000/year.

In the post-war decade there was a decline in the reported incidence of veneral disease which was mostly confined to the main centres of Sydney, Melbourne and Brisbane. Over 90% of infection was acquired from non-prostitutes (Booth, 1956).

VI. PROGRESS IN THE MANAGEMENT OF GONORRHEA

"Many people believe that the original focus for development of penicillin resistance in gonorrhoea stemmed from the port cities in the Far East, where injections of benzathine penicillin G were given weekly"

(Fleming, 1966)

1. INTRODUCTION.

Although gonorrhoea was known to Hippocrates in 400 B.C., Galen in 130 A.D. was responsible for the name gonorrhoea, meaning "flow of seed", as the condition was thought to be an involuntary flow of semen and not related to intercourse.

John of Arderne, the surgeon to Richard II, first described contagious urethritis in 1376, but gonorrhoea was confused with syphilis until Philippe Ricord clearly distinguished the two in 1860. In 1767 John Hunter had contributed to the confusion by innoculating himself from a patient who harboured both infections concurrently. The diplococcus was first identified and named the gonococcus by Neisser in 1879 and first grown on artificial media by Dumm in 1885. Its histopathology was described by Finger, Chon and Schläsenerhauser in 1894 and the first gonococcal complement fixation test was established by Muller and Openheim in 1906 (Thayer and Moore, 1964).

Some of the early treatments appear to be ordeals considerably worse than the disease itself (Willcox, 1951). Although the tendency to spontaneous cure was recognized, treatment was usually severe and brutal. For early cases, abstinence from spirits, and spices by mouth was recommended, and linen soaked in saturnine lotion was applied locally. For later cases, zinc sulphate of increasing concentrations or mercury oxymercurate was injected into the urethra two or three times daily to increase natural secretions, and cubebs, an oriental spice, was given orally. Gherdee was a common complication and this was treated by camphorated fomenta or friction with mercury ointment, and sometimes

leeches were applied to the penis. Strictures were forcefully dilated with bougies.

Treatment with sandalwood oils and other natural products was discontinued when Janet introduced potassium permanganate in 1892. Typical treatments used are those described for troops in the first world war (Butler, 1943). A silver salt (e.g. argyrol as 5% solution) and a glycerine of *B*-naphthol (Benetol as 1/60 to 1/150 solution) were used for irrigating the anterior urethra and potassium permanganate (1:8,000) for the posterior urethra.

Hyperthermia was introduced as therapy and was still used for resistant organisms after the introduction of sulphonamides (King et. al., 1943). Fitness for a surgical operation was required to survive this ordeal, during which the patient was kept in a humid cabinet at 106°F for 8 hours and intravenous fluids were given to counter hypotension. Complications were anoxia, liver damage, kidney damage, tetany, skin burns, herpes febrilis, incontinence of urine and faeces, backache, facial palsy, tachycardia and death (2 early patients died). This produced an immediate cure for over 50% of patients without premedication, and for over 90% of patients given sulphonamides as well. Relapses were almost universal, however.

Intramuscular vaccines and mild protein shock were also utilised, on the same principle of producing a transient febrile reaction.

The first use of sulphanilamide in 1937 by Dees and Bolston introduced a new era to the management of gonorrhoea. The initial response to sulphonamides was excellent, so that a review of early experiences (Williams et. al., 1944) showed cure rates of over 90% for both

sulphathiazole and sulphadiazine given for four or five days. Resistance soon developed, however, and later reports (Dunlop, 1949) showed failure rates of over 85% using doses of 4 g daily for 7 days. More alarmingly, complications of gonorrhoea occurred (in 4%) despite drug therapy. More recently the synergism of sulphonamides with trimethoprim has been utilised to good effect, and cure rates of over 95% have been obtained with trimethoprim (320 mg) and sulphamethoxazole (1600 mg) in daily oral doses for 5 days (Carroll and Nicol, 1970) or twice daily for 2 days (Arya et. al., 1970). Other reports, however, (Wright and Grimble, 1970) have obtained lower cure rates (72%) and a carrier state in 45% of treatment failures.

2. THE PENICILLINS.

The introduction of penicillin provided the first really potent remedy for gonorrhoea. This became available to the British Armed Forces in 1944 and, when used against sulphonamide resistant organisms, saved an enormous amount of manpower. Marshall (1945) obtained an 84% cure rate with 100,000 units (given, as the sodium salt, in five 3 hourly injections), and Sternberg and Turner (1944) obtained cures of 98% with 160,000 units, 96% with 80-120,000 units and 86% with 50,000 units, concluding that a rapid clinical cure in at least 90% of cases could be expected with doses of 100,000 units and upwards.

It soon became apparent, however, that larger doses were being required, and the use of probenecid was introduced to provide high blood levels for a longer period. In 1963 Sokoloff obtained a cure rate of 85.7% using 1 million units of procaine penicillin, but increased this to

100% by increasing the dose to 2.5 million units. In 1970 Katos obtained a cure rate of 97% by adding probenecid to 2.5 million units of procaine penicillin, and Minkin (1968) obtained 95% cures by increasing the dose to 4.8 million units. Olsen and Lomholt (1969) obtained 97% cures by combining probenecid with 5 million units of crystalline penicillin.

The effectiveness of penicillin, was not maintained universally however, and, in particular, it was noted that poor results were obtained in cases contracted in South East Asia (Willcox 1970). Minkin (1968) obtained a cure rate of 95% with local (U.S.A.) infections, but only 71% for cases acquired in South Vietnam. In Vietnam the failure rate on this same regime was initially as high as 50%, and even 3 million units daily for 2 days yielded unacceptable results (Kercull, 1968). Using 2.4 million units on consecutive days, Maurer and Schneider (1969) obtained a failure rate of 25% but this was reduced to 7.6% by the additional administration of probenecid. Similarly, Holmes and others (1967) in the Philippines reduced the failure rate from 29% to 2% by the addition of probenecid to the initial regime of 2.4 million units of procaine penicillin.

With the waning efficacy of penicillin, the broader spectrum analogue, ampicillin, has been widely used both in conjunction with procaine penicillin and probenecid, or alone, and both orally or parenterally. With adequate dosage good results have been obtained by all routes. Plucker and Hewitt (1969) obtained 100% cure with 3.6 million units procaine penicillin plus oral ampicillin (2 g) whereas 6.7% failures occurred with procaine penicillin alone. Gunderson and others

(1969) obtained a 98.6% cure with oral ampicillin (2 g) and probenecid (1 g) and Groth (1970) obtained a 99% cure with 2 doses of oral ampicillin (1 g) 5 hours apart, although smaller doses (0.5 g) had proved unsatisfactory. In Vietnam, Kercull, reported a 95% cure with daily intramuscular ampicillin (1 g) for 2 or 3 days.

3. OTHER ANTIBIOTICS.

Of the antibiotics used orally, the tetracyclines have probably been the most useful. McLone and other (1967) obtained a cure rate of 94% with a single oral dose of 1.5 g oxytetracycline and Cornelius (1970) reported a cure rate of 84% with the same dose, and 93% when this was increased to 3 g. In South East Asia, Scherman (1968) obtained a 63% cure with 2.5 g tetracycline in one dose and this was improved to 87% (Conte et. al., 1968) by the addition of a second dose of 2.5 g. Holmes and others (1967) and Maurer and Schneider (1969) improved the cure rates to 100% and 92.9% respectively, by continuing administration for several days. In both these studies, tetracycline produced a higher cure rate than 2.4 million units aqueous procaine penicillin plus probenecid.

Doxycycline, a newer tetracycline, has shown great promise as an effective low dose treatment. Domescik and others (1969) obtained a 95.3% cure with a single dose of 250 mg, Gray (1970) an 83% cure with 300 mg and Lassus (1970) an 83% cure with 300 mg, for mostly failed cases on penicillin.

An advantage with the tetracyclines is their effectiveness against non-gonococcal urethritis which frequently occurs concurrently with gonorrhoea. Gray (1970) found the incidence of post-gonococcal

urethritis was 17% when doxycycline was used initially and over 25% and 30% for two penicillin regimes, whereas Holmes (1967) found non-gonococcal urethritis in 27% of patients treated with tetracycline but in 64% of those treated with penicillin.

Kanamycin has proved a useful single dose treatment. Czonka (1967), Marshall and Curtis (1967) and Wilkinson and others (1967) have reported cures in excess of 95% for single injections of 2 g. Fischmaller and others (1968) obtained a 93% cure and Farrell (1969) a 95.4% cure in infections which had already failed on penicillin therapy.

A wide array of other antibiotics has been used both orally and parenterally. Streptomycin showed initial promise but has since become ineffective (Spitzer and Wilcox, 1968). Chloramphenicol has been used with good results (Ojessing and Odegaard, 1967) but could not be recommended while other drugs are available. Rifampicin has produced a cure rate of 89% when given in a single oral dose of 900 mg (Cobbold et. al., 1968). Other antibiotics used include cephaloridine (Pariser and Marino 1970), erythromycin (Smith and Osick, 1969), spiramycin (Wilcox, 1956, Siboulet and Durel, 1961), lincomycin and naladixic acid, but these offer no real threat to the supremacy of the drugs already described.

Spectinomycin is a more recent drug which does show considerable potential, however. Platts (1970) obtained a 97% cure rate with a single injection of 2 g and Cornelius and Domescik (1970) obtained a 100% cure with the same dose.

4. CAUSES OF FAILED THERAPY.

Possible reasons for the failure of antibiotics, in particular penicillin, include:

(i) RE-INFECTION

If an individual becomes reinfected soon after cure of his initial infection, his illness is likely to be considered a recurrence.

(ii) If urethritis from *Miace* species or other non-gonococcal organisms is diagnosed as gonorrhoea low cure rates can be expected, particularly with penicillin which has little effect against most of these organisms.

(iii) LOW ANTIBIOTIC LEVELS

Individual variations in distribution and excretion of antibiotics produces low tissue levels in some individuals. This is further complicated in oral medication where erratic uptake from the intestine results in inadequate levels in some patients. Concomitant infection with penicillinase producing organisms has been suggested as a further mechanism for lowering the tissue penicillin levels.

(iv) INACCESSIBILITY OF ORGANISMS TO ANTIBIOTICS.

With abscess formation or in avascular tissue, antibiotics may be impeded from gaining access to the organisms. Presumably this is a contributing factor to the requirement for larger doses or longer duration of therapy for prostatitis, rectal infection or venereal disease in the female.

(v) RESISTANCE OF ORGANISMS TO ANTIBIOTICS.

Decreasing sensitivity in recent years has been clearly demonstrated, as has the direct relationship between likelihood of cure and sensitivity of organism (Leigh et. al., 1969; Gunderson, 1969; Willcox 1970; see Table XVII). Figure I shows the dramatic change in penicillin sensitivity from 1967 in London to 1970 in South Vietnam. Whereas 80% of organisms



Figure 1. GONOCOCCAL SENSITIVITY TO PENICILLIN.

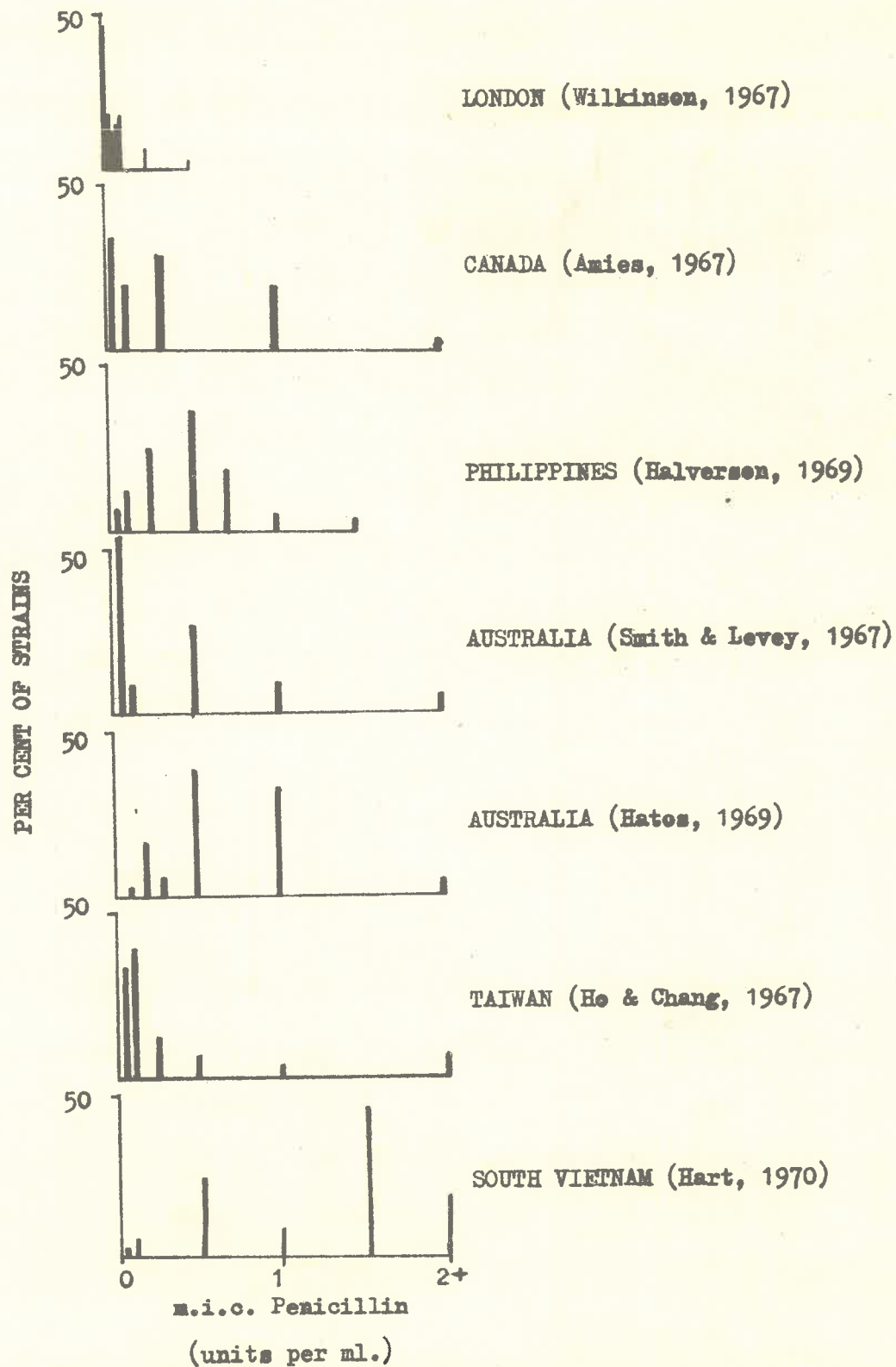


Figure 2. GONOCOCCAL SENSITIVITY TO TETRACYCLINE.

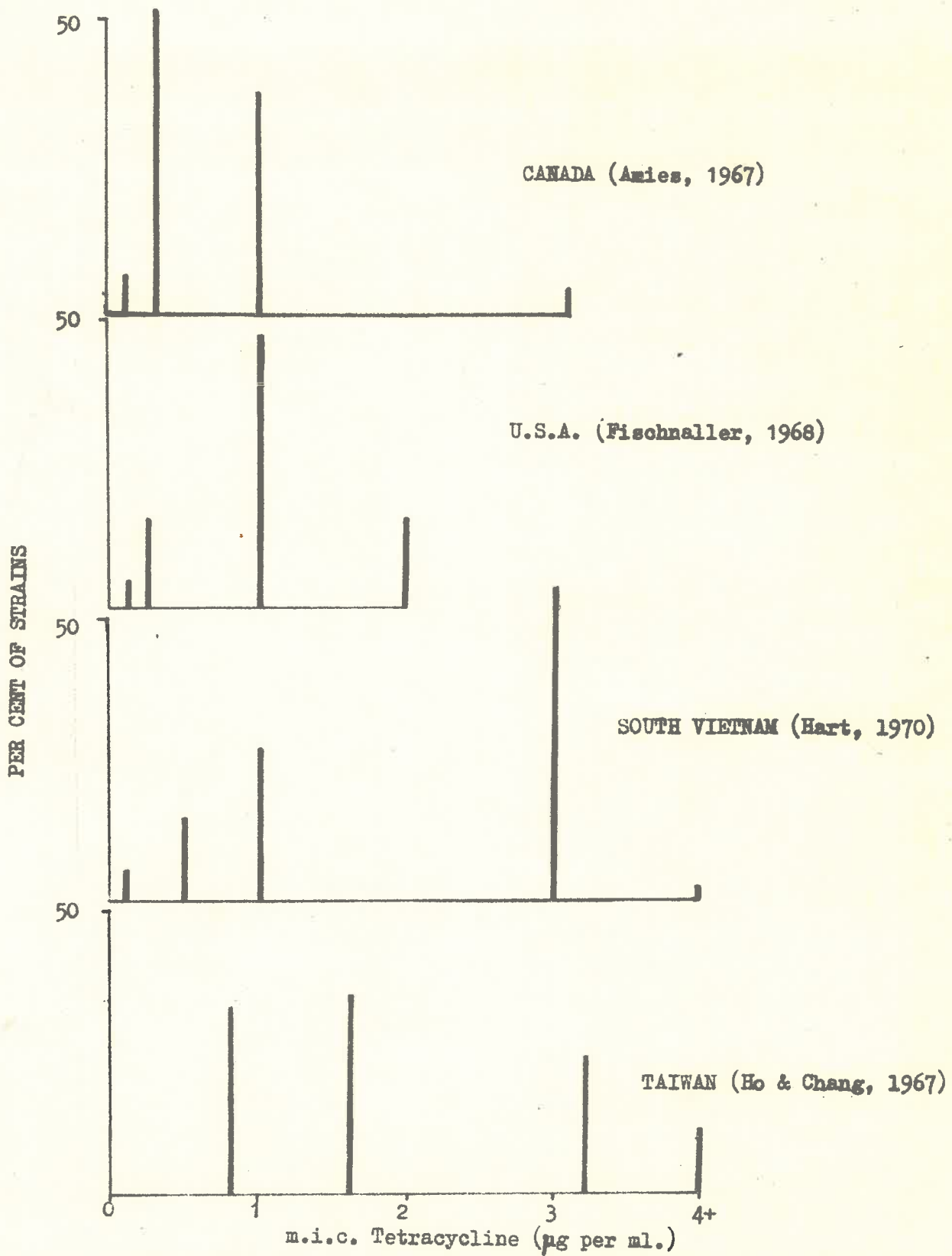


Figure 3. GONOCOCCAL SENSITIVITY TO KANAMYCIN.

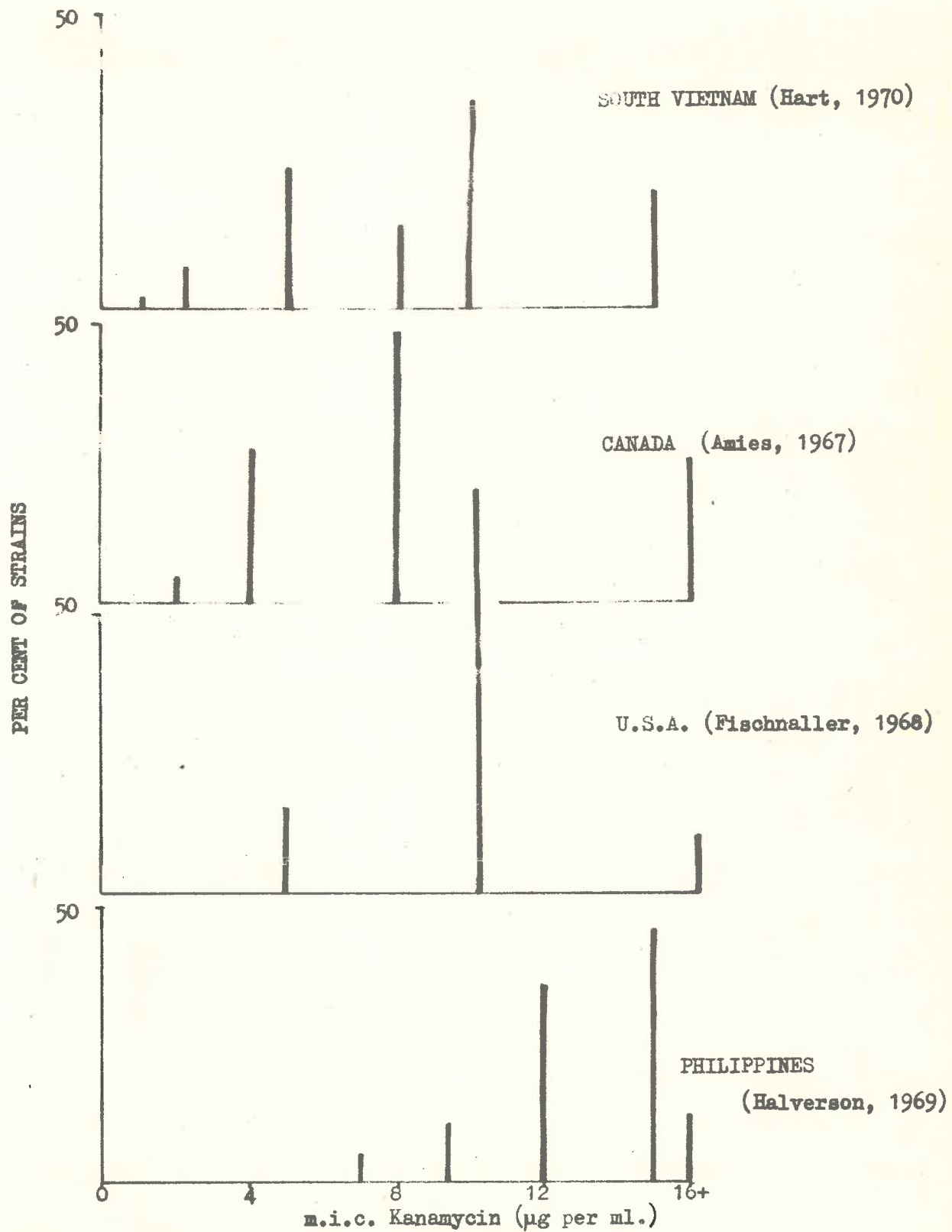


TABLE XVII. The relationship of treatment failure with penicillin (1.2 m.u. procaine) to sensitivity of the organism (units/ml), Leigh, 1969.

M.I.C. (Units/ml)	No. Cases	Failures
0.025	63	4 (6.3%)
0.05	21	1 (4.8%)
0.10	26	4 (15%)
0.20	15	3 (20%)
0.50	4	2 (50%)
Over 0.50	9	5 (55%)

in the London study were sensitive to 0.05 units/ml of penicillin, only 1% of those in Vietnam shared this sensitivity. Although all strains in the former study were sensitive to 0.5 units/ml of penicillin, 70% of the Vietnamese strains were resistant to this level. Other studies (figure 1) had given indications of this emerging resistance, particularly in South East Asia.

Figure 2 demonstrates a similar emergence of resistance to tetracycline. The two American studies revealed that 95% (Canada) and 90% (U.S.A.) of strains were sensitive to 1 ug/ml of tetracycline whereas only 30% of organisms in Taiwan and 45% in South Vietnam shared this sensitivity. In Taiwan 12% of strains were resistant to 6 ug/ml of tetracycline and over 3% were resistant to 50 ug/ml.

Figure 3 shows a somewhat different pattern for sensitivity to kanamycin. While the most marked resistance is shown in the Philippines where 86% of strains are resistant to 10 ug/ml, the sensitivity in South

Vietnam (where 20% are resistant) is not dissimilar to that in Canada (25% resistant) or the United States (10% resistant).

While a number of reasons have been postulated for the increasing resistance of gonococci, it is likely that continued exposure to sub-lethal doses of antibiotics makes a potent contribution. Past regimes often incorporated long acting penicillins or oral therapy which often produced intermittent or inadequate blood levels. Furthermore, this increasing resistance is not inevitable. It has been demonstrated (Olsen and Lonholt, 1969; Odegaard and Gjessing, 1967) that, by producing high serum antibiotic levels, the percentage of resistant strains in a particular environment can be reduced. This further reinforces the hypothesis that the pattern of resistance is, to a considerable extent, a reflection of therapeutic practices. This is related to the principle that, at least for penicillin, single doses are more effective than the same dose divided (Staheli, 1964; Ashmalla et. al., 1966).

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PART I

SETTING AND METHODOLOGY

SECTION 1. GEOGRAPHICAL SETTING

SECTION 2. CLINICAL SETTING

I.2.1 Administrative Background.

I.2.2 Incidence of venereal disease.

SECTION 3. SOCIOLOGICAL SETTING

I.3.1 Prostitution and venereal disease.

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SECTION 4. METHODOLOGY

I.4.1 Introduction

I.4.2 Descriptive study

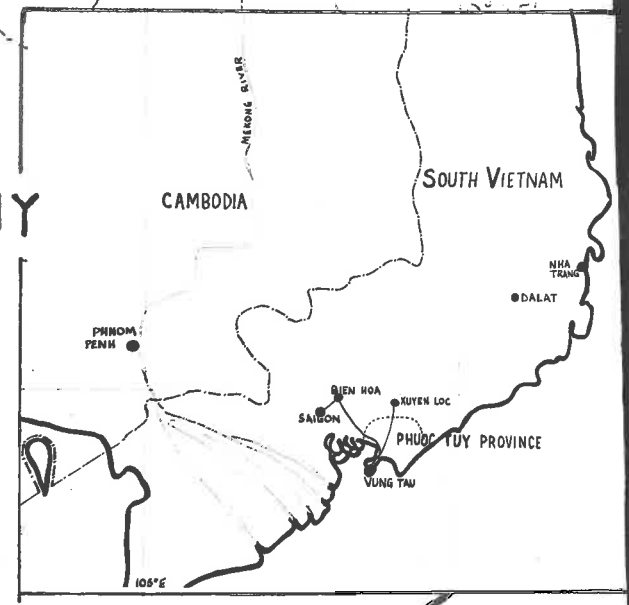
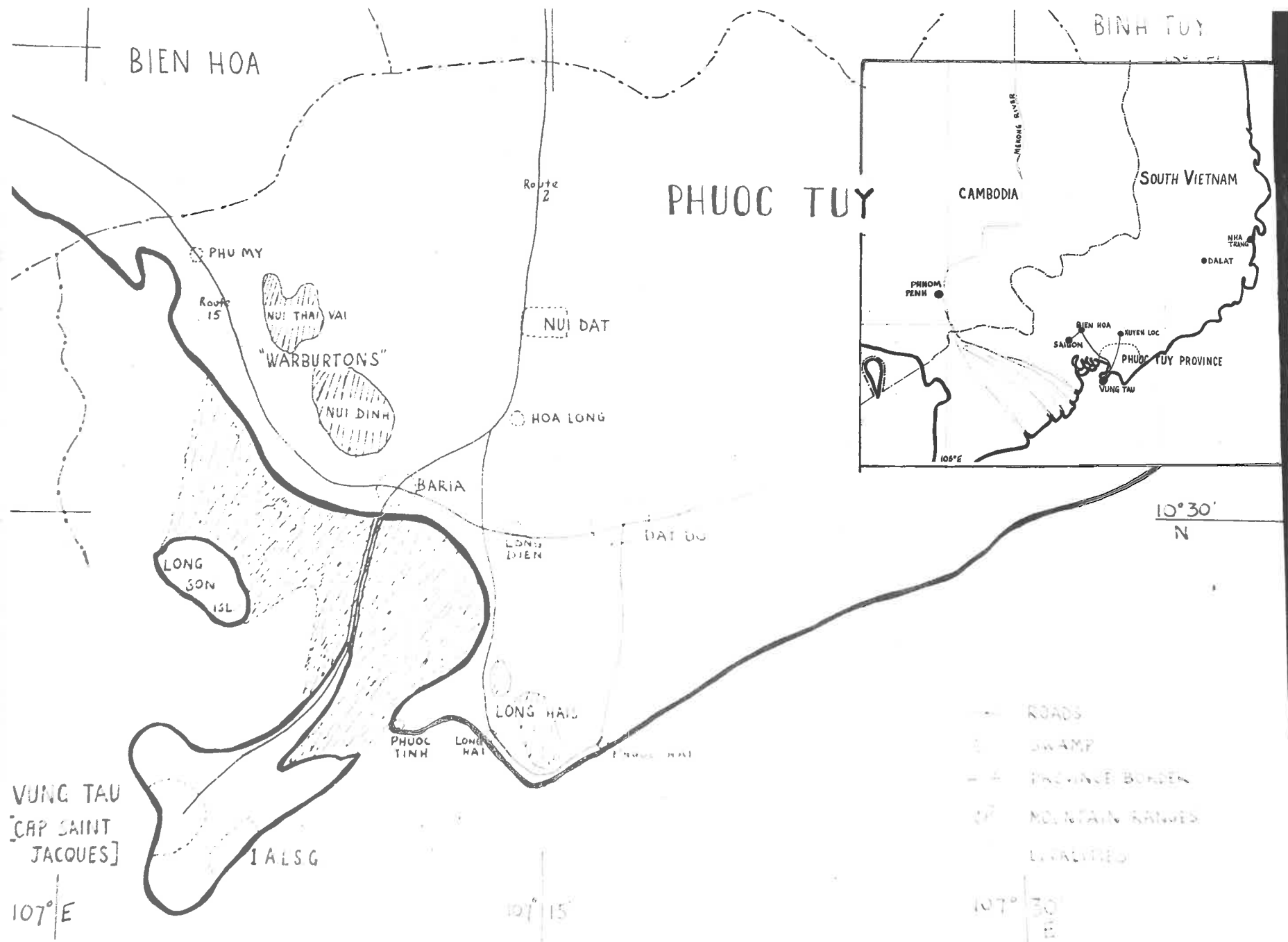
I.4.3 Interviews with Commanding Officers.

Appendices to this Part are located in Annex I.

Plate II

Map 1. SOUTH VIETNAM (INSET)

Map 2. PHUOC TUY PROVINCE



SECTION I.1 GEOGRAPHICAL SETTING

Phuoc Tuy is a small province (750 square miles in area - the total area of South Vietnam being 66,000 square miles), between 10 and 11 degrees North Latitude and 107 and 108 degrees East Longitude, on the South East coast of Vietnam (Map 1). The population of 100,000 is concentrated in the southern half of the province, with Baria (population 19,000) and Dat Do (population 10,000) being the largest of the 30 villages in the province (Map 2). The flat, low lying terrain, laced with paddy fields in the south and more heavily timbered with jungle and rubber in the North, is broken by two mountain ranges - The Long Hais in the South and a group of hills, referred to colloquially by the Australians as the Warburtons, in the South-West - neither of which rises more than 500 metres above sea level. Most of the 80 to 90 inches annual rainfall is delivered by the North-East Monsoons between May and November, and temperatures in this period are usually near 80 degrees. In contrast conditions in the remainder of the year are hot and dusty with temperatures near 90 degrees. The mean humidity varies between 75 and 95% throughout the year.

There is a limited road system with two main highways - Route 15 running North-West to Saigon or Bien Hoa and Route 2 running North through the full length of the province - and a few dirt roads linking centres of population and activity. Emergency transport for Australian troops was by helicopter which could reach any part of the province from Nui Dat in less than 30 minutes.

The Australian Task Force (ATF) was based at Nui Dat, in the south west of the province, where there was accommodation for 5,200

troops in wooden buildings and tents beneath rubber trees over an area of 3 square miles. A proportion of the task force lived permanently within Nui Dat in a reasonably pleasant environment with an ordered routine and reasonable facilities of messing, electricity, washing and entertainment.

Other troops, however, lived in more primitive conditions at smaller semi-permanent bases (Fire support bases), patrolling or setting ambush for the enemy as they emerged from the mountains to seek resupply in the adjacent politically-sympathetic villages.

Stretching ten miles south from Phuoc Tuy, and almost separated by marsh and swamps, is the sandy Vung Tau Peninsula. On the back beach at the tip of this peninsula was the Australian Logistic Support Base (ALSG) where 1500 men lived in semi-permanent cement floored wooden huts occupying an area of 190 acres. Nearby, but separated by swampy lowlands, is the town of Vung Tau (population 85,000), a popular holiday resort for wealthy South Vietnamese and the centre of an extensive prostitution trade. It is the area in which Australian troops spent most of their leisure time, and in which the impact of prostitution and venereal disease had its origin.

Troops from ALSG were able to visit Vung Tau until 10 pm, almost nightly, whereas those from Nui Dat spent a night or weekend at the town from once a fortnight to once every 3 months. In addition, each soldier received one 5 day period of leave (Rest in Country) at a Vung Tau Centre and a further 5 day period of Rest and Recuperation in Australia, Manila, Hong Kong, Singapore, Bangkok or Taipei.

CHAPTER I.2.1. ADMINISTRATIVE BACKGROUND

1. TREATMENT FACILITIES

In Vietnam, Australian troops with venereal disease were not automatically withdrawn from the field. Consequently only selected problems were referred to a central clinic. Urethral discharge occurring in any of the three 900-man battalions was treated initially by the respective battalion Medical Officer, and the remainder of the force stationed at Nui Dat were treated by either the Medical Officer from the artillery unit (4 Field Regiment) or from 8 Field Ambulance. The two technicians at 8 Field Ambulance pathology laboratory supported the clinical diagnosis of these five Medical Officers with gram-stained smears. RPR card tests and two-glass urine tests were also performed at this laboratory, enabling uncomplicated cases to be completely treated without referral to the First Australian Field Hospital at Vung Tau.

More sophisticated facilities were available at the Special Treatment Clinic at the First Australian Field Hospital. This was manned by one technician full time and one Medical Officer part time, and treated all cases of venereal disease from ALSG (1500 men), all penile lesions from Australian troops throughout Vietnam, and referrals of more difficult cases from the other Medical Officers. This clinic was air conditioned and consisted of a consulting and filing room and a treatment room (plate III). Unfortunately a waiting room was not attached, and the patients were forced to queue in a passageway in a relatively busy section of the hospital (plate III).

Patients were seen at 7.30 a.m. by the technician who completed

all documentation, collected relevant pathology specimens and administered previously prescribed therapy. Pathology tests available included gram stained smear for urethral discharge, RPR card test (Portnoy, 1962; Falcone, 1964), culture on chocolate agar, blood agar or other media and two-glass urine or micro-urine tests. All new cases or clinical problems were seen by the Medical Officer at 10.30 a.m., when the results of smears were available to complement clinical assessment. Treatment was prescribed by the Medical Officer and administered by the technician. Dark ground illumination tests on penile sores were performed in the adjacent pathology laboratory. Histological examination was not available at the hospital and, due to long delays with results obtained from other facilities, was rarely utilised.

2. DOCUMENTATION

(i) Individual Documentation.

The complete documentation required is detailed in Appendix 2. In general, the documentation requirements were complicated and involved much duplication. The time factor alone made compliance impossible for some units, and the dubious ethical wisdom of some policies further favoured incomplete documentation.

The key document was the F Med 16 (plate III), a conveniently sized card folder which was kept in the Special Treatment Clinic, separate from other medical documents. This was raised for patients attending a clinic for the first time, and the same card was then used for surveillance or any further infections. This card was then filed under the date of the next appointment, or return-to-

Plate III

- a. Waiting area for special treatment clinic.
- b. Treatment room of special treatment clinic.
- c. F Med 16.
- d. Consulting room at special treatment clinic.



5600 RTA. MAY 71

IN CONFIDENCE
VENEREAL CASE CARD

F - Mod 10
(Revised Dec. 1967)

1. Service No [redacted]	2. Rank/Rating <i>SPC</i>	3. Surname [redacted]	
4. Christian or Fore Name(s) [redacted]		5. Port Div/Regt Comd/ RAAF Command	6. Enlist/Unit/RAAF Unit <i>17 Const</i>
7. Branch/Trade <i>Flight/Trade</i>	8. Age at last birthday	9. Total full-time service <i>2</i> years <i>1</i> mths	10. Marital status <i>Single</i>
11. Disease (and stage) 1st-2nd-3rd Infection or relapse			
12. Hospital or Special Centre where treated <i>STC</i>		Date of examina- tion or admission <i>29/6/70</i>	Date of discharge from hospital
13. Final disposal and date			
14. Date	Exposed at	Pre / Amctbr	
<i>26/6/70</i>	<i>Purple Beach Bas.</i>	<i>Pre</i>	
<i>31/10/70</i>	<i>Hawaii Base</i>	<i>PRO.</i>	
15. Prophylaxis used (if any) <i>No. NO</i>		16. Period elapsed between exposure and prophylaxis <i>15 mths</i>	17. Under influence of alcohol <i>Yes / 4 or 5.</i>
18. Previous VD <input checked="" type="checkbox"/> <i>No</i> / <i>4 or 5.</i>			
19. History of present condition <i>① Urinal discharge</i> <i>② burning symptoms.</i>			20. Date of onset <i>25/6/70</i> <i>10/1/70</i>



Australia date, after surveillance was completed. This method enabled a very convenient check on defaulters and ensured that adequate surveillance was conducted on all cases.

The most contentious aspect of documentation was the requirement to enter a summary of diagnosis, treatment and progress in a patient's ordinary medical documents. This procedure largely nullified the advantages of having a separate document for venereal disease. Although, theoretically, medical documents are confidential, they were regularly handled by non-medical personnel and secrecy of their contents was not assured.

(ii) Clinic Documentation.

Two registers were kept by the clinic - a daily treatment book and an alphabetical list of patients. Each day, details of name, number, rank, unit, diagnosis, treatment and date of next appointment were recorded for each patient attending the clinic. An alphabetical index was also kept of each patient and the date of his next appointment.

At the conclusion of each week the 1 ALSG Commander was notified of the number of new cases of venereal disease classified by disease (Appendix 7), rank, country and unit (Appendix 8), and locality of infection (Appendix 3). The Commanding Officer of each unit was notified of the number of new cases in his unit (Appendix 4). Each month the ADMS in Saigon was notified by signal of the monthly rate classified by rank, disease and unit (Appendix 5). At the end of each month F Med 16s of patients who had returned to Australia

in that month were sent to the ADMS for forwarding to respective units in Australia (Appendix 6).

3. SURVEILLANCE

One week and 3 weeks after completion of therapy, patients were clinically examined and two-glass urine specimens were collected. Any threads present were centrifuged, cultured and examined microscopically. Eight weeks and 16 weeks after completion of therapy, RPR card tests for syphilis were performed. At the completion of the tests, if no residual disease was revealed, the F Med 16 was stamped, "Surveillance Completed", dated and signed by the Medical Officer.

Surveillance for syphilis consisted of serological tests 3 months, 6 months, one year and 2 years after completion of therapy.

For chancroid, surveillance was confined to serological testing for syphilis, 2 months and 4 months after completion of therapy.

CHAPTER 1.2.2. INCIDENCE OF VENEREAL DISEASE.

1. INTRODUCTION

Venereal infections were the most common diseases among Australian troops in South Vietnam. For several reasons the true incidence of venereal disease was greater than that revealed by the official statistics:

(i) Unauthorised Treatment

- (a) A considerable number of patients had access to treatment other than through the Australian Army system. In particular, American Army Medical care was utilised by some groups, especially some who had close contact with

prostitutes in their official duties, and were loathe to reveal the extent of their social involvement.

(b) Name disclosure to unit Commanders.

The periodic demands by unit commanders to know the names of soldiers with venereal disease motivated some to seek unauthorised treatment.

(c) Self Treatment.

Self treatment was relatively rare and was largely confined to those working in medical establishments. At least some of these soldiers believed they were using more potent antibiotics than a Medical Officer would have prescribed.

(ii) Failure to document venereal disease.

For various reasons some patients did not have their infections recorded. The largest group consisted of officers who often sought treatment by secretive means, using a Medical officer as an intermediary. Others, mainly officers and senior non-commissioned officers, contacted the appropriate clinic or Medical Officer, but were so agitated about maintaining the secrecy of their infection that no documentation was processed.

(iii) Inaccurate Collation of Data.

Due to inadequate records, units often understated the number of cases in their weekly venereal disease returns. While the Special Treatment Clinic at the First Australian Field Hospital maintained precise records, many other units had neither the time nor sufficiently interested staff to maintain such accurate data.

When making estimates, it was in the interests of the unit to err towards lower rather than higher figures.

(iv) Laboratory Diagnosis.

Inaccuracies in laboratory diagnosis usually produced a redistribution of diagnoses without altering the total number of cases recorded. Non-gonococcal urethritis was accepted as a venereal disease in Australian statistics but not by the Americans, and this factor further accentuates the difference in incidence between the two Armies.

While it is easy to be critical of the imprecision of documentation and frequent treatment without substantiated diagnosis, the wartime conditions and volume of patients left no alternative in many cases. In the American Army the problem was almost overwhelming, and in many areas patients with a urethral discharge were first treated by non-medical personnel with a standard regime, and the treatment failures referred to a urologist for rational therapy. By this means the initial number of cases was reduced to manageable proportions. This situation was never reached among Australian units but it was often expedient for patients to be treated without adequate clinical assessment.

2. INCIDENCE IN THE AUSTRALIAN ARMY

Table 1 shows the distribution of Australian troops in Vietnam in 1970. Appendix 9 shows the fluctuation of total troops from January 1968 to December 1970.

Table 2 shows the incidence of venereal disease at the three major treatment centres for the months of 1969 and 1970. Training team

TABLE 1. Distribution of Australian troops in South Vietnam on 19th August, 1970.

	HQ AFV Saigon	1 ATF Nui Dat	1 ALSG Vung Tau	AATTV	Total	RAAF	RAN	Total
Officers	83	307	102	108	600	124	21	745
Other Ranks	208	4801	1221	37	6267	614	31	6912
Total	291	5108	1323	145	6867	738	53	7657

members (AATTV) were treated at all three centres but predominantly at Nui Dat or Saigon. These figures were compiled from laboratory statistics at the First Australian Field Hospital and 8 Field Ambulance at Nui Dat, and represent the most accurate available. They are compared with the total figure compiled from statistics delivered to Medical Headquarters at Saigon and, for reasons already discussed, the latter represent only from 60% to 90% of the former. All penile ulcers were referred to the First Australian Field Hospital for dark ground illumination studies, and hence the syphilis figure represents the total for Australian forces in Vietnam.

Table 3 shows the distribution, by month, of new cases at the Special Treatment Clinic at the First Australian Field Hospital in 1970. The RFR figures represent those requesting tests before leave or return to Australia, without any prior evidence of venereal disease. Those attending for clinical examination presented with vague symptoms almost invariably without any pathological basis. The total number of treatments includes surveillance attendances and cases of gonorrhoea, non-gonococcal urethritis and syphilis, which explains the variation from the total new cases.

TABLE 2. Incidence of Venereal Disease at 3 major treatment centres (Saigon, Nui Dat, Vung Tau). These totals, obtained from laboratory records, are compared with the official statistics.

Month	HQ AFV Saigon	1 ATF (NUI DAT)			1 ALSO (VUNG TAU)				TOTAL	OFFICIAL TOTAL
	Total	NSU	GONO	TOTAL	NSU	GONO	SYPH	TOTAL		
1969										
Jan	11	67	54	121	19	29	-	48	180	124
Feb	9	70	32	102	11	16	2	29	140	79
Mar	5	50	44	94	11	21	1	33	132	87
Apr	19	50	54	104	28	29	-	57	180	127
May	6	23	29	52	13	22	1	36	94	82
Jun	10	25	37	62	21	17	1	39	111	91
Jul	7	56	54	110	21	13	3	37	154	100
Aug	3	67	52	119	31	15	2	48	170	125
Sep	9	48	45	93	19	17	-	36	138	118
Oct	15	57	48	105	17	16	2	35	155	137
Nov	6	63	57	120	17	18	4	39	165	153
Dec	4	48	77	125	31	29	1	61	190	143
TOTAL	104	624	583	1207	239	242	17	498	1705	1366
1970										
Jan	9	60	50	110	22	22	1	45	164	132
Feb	11	77	30	107	15	17	-	32	150	95
Mar	11	85	45	130	31	21	-	52	193	163
Apr	13	80	47	127	15	20	2	37	177	149
May	19	81	61	142	11	13	1	25	186	115
Jun	25	69	66	135	5	26	-	31	191	156
Jul	15	72	70	142	33	17	-	50	207	169
Aug	14	99	82	181	25	27	-	52	247	169
Sep	14	66	85	151	17	21	-	38	203	269
Oct	17	73	61	134	22	17	-	39	190	157
Nov	17	67	84	151	26	28	-	54	222	207
Dec	19	95	108	203	31	40	1	72	294	289
TOTAL	184	924	789	1713	253	269	5	527	2240	2070

TABLE 3. The distribution by month of new cases (excluding gonorrhoea, syphilis, and non-gonococcal urethritis) at the special treatment clinic at Vung Tau. The total number of treatments by month are also shown.

Month	Balanitis	Herpes Genitalis	Chancroid	Pyogenic Ulcers	Warts	Clinical	RPM	Misc.	Total	Total Treatment
Jan	1	6	15	10	3	10	14	4	63	305
Feb	1	5	16	10	5	25	21	1	84	223
Mar	1	3	8	6	0	21	53	0	92	260
Apr	0	5	13	9	0	23	36	2	88	237
May	1	2	9	9	6	34	37	1	99	207
Jun	0	4	13	10	4	60	32	6	129	246
Jul	0	10	17	30	2	53	39	0	151	289
Aug	3	5	14	16	4	97	33	5	177	350
Sep	3	9	14	18	1	60	46	16	167	286
Oct	8	6	17	16	2	44	55	12	160	352
Nov	6	3	5	13	4	21	62	4	118	284
Dec	10	4	22	5	4	16	44	10	115	384
Total	34	62	163	152	35	464	472	61	1443	3423

(i) Comparison with the incidence of other diseases.

Appendix 9 details the monthly rates of malaria, pyrexia of unknown origin, diarrheal disease and venereal disease in the Australian Forces from 1968 to 1970. Appendix 10 shows the corresponding rates for the American Army from 1968 to 1970. Table 4 shows the mean yearly rates for these two armies. The Australian data includes non-gonococcal urethritis as venereal disease whereas these cases are omitted from the American figures.

TABLE 4. Disease incidence 1968 - 1970. Number of cases per 1000 per year.

Year	AUSTRALIAN ARMY				AMERICAN ARMY		
	Malaria	PUO	Diarrhea	V.D.	Malaria	Diarrhea	V.D.
1968	68.6	29.3	(-)	251.7	24.2	41.1	195.2
1969	4.2	45.0	63.0	198.8	21.3	35.5	195.7
1970	15.4	36.2	36.8	292.0	22.5	38.2	230.1

Table 5 shows the occupancy of the First Australian Field Hospital for a one-year period, by number of patients and total man-days. In 1970, outpatient attendances for venereal disease resulted in the loss of 2206 man-days at Nui Dat and 842 man-days at Vung Tau. Outpatient referrals from other centres to the First Australian Field Hospital produced a loss of 684 man-days. The total loss of 3732 man-days by outpatients plus 1219 man-days by inpatients represents a permanent loss from the field of 14 men from the force of 7000 men.

TABLE 5. Patient occupancy of the first Australian Field Hospital,
August 1st 1969 to July 31st 1970.

SURGICAL WARD		MEDICAL WARD (excluding V.D.)		Venereal Disease	
No. Patients	Total Man-days	No. Patients	Total Man-days	No. Patients	Total Man-days
1467	12189	1296	11682	116	1219

(ii) Variation in incidence with time and locality.

Table 6 compares the incidence of gonorrhoea in two Australian localities (Vung Tau and Nui Dat) with that in two American groups (Vung Tau and the overall Vietnam rate).

Figure 1 records the monthly variation of all forms of venereal disease, for 1969 and 1970, for Australian troops at Nui Dat and at Vung Tau. This shows the consistently higher incidence at Vung Tau compared with Nui Dat, and the higher incidence in 1970 compared with 1969. A similar fluctuation occurs in all series with a maximum incidence in December-January, minimum incidence in May-June and less marked fluctuations between these two periods. The increased incidence in 1970 (December had the highest monthly rate for 4 years) was due, at least partly, to the greatly decreased war activity during this year. The large variation throughout the year (over 100%) demonstrates the hazards of ascribing changes in venereal disease rate, over short periods, to any particular innovation introduced into the control campaign.

TABLE 6. 1970 Gonorrhoea rates per 1000 per month in four population groups.

Month	1 ATF (Nui Dat)	1 ALSG (Vung Tau)	U.S. (Vung Tau)	U.S. (South Vietnam)
January	10	17	33	17
February	6	13	19	15
March	9	16	40	15
April	9	15	43	15
May	12	10	38	15
June	13	20	55	18
July	14	13	31	22
August	16	20	41	17
September	17	16	22	20
October	12	13	28	18
November	19	24	30	20
December	24	34	40	18
Average	13	18	35	17

Table 7 shows the country of origin of venereal disease treated at Australian clinics in South Vietnam. Approximately 80% of infections were acquired in Vietnam compared with only 2.5% in Australia and the remainder in other Asian cities (mainly in Hong Kong and Bangkok).

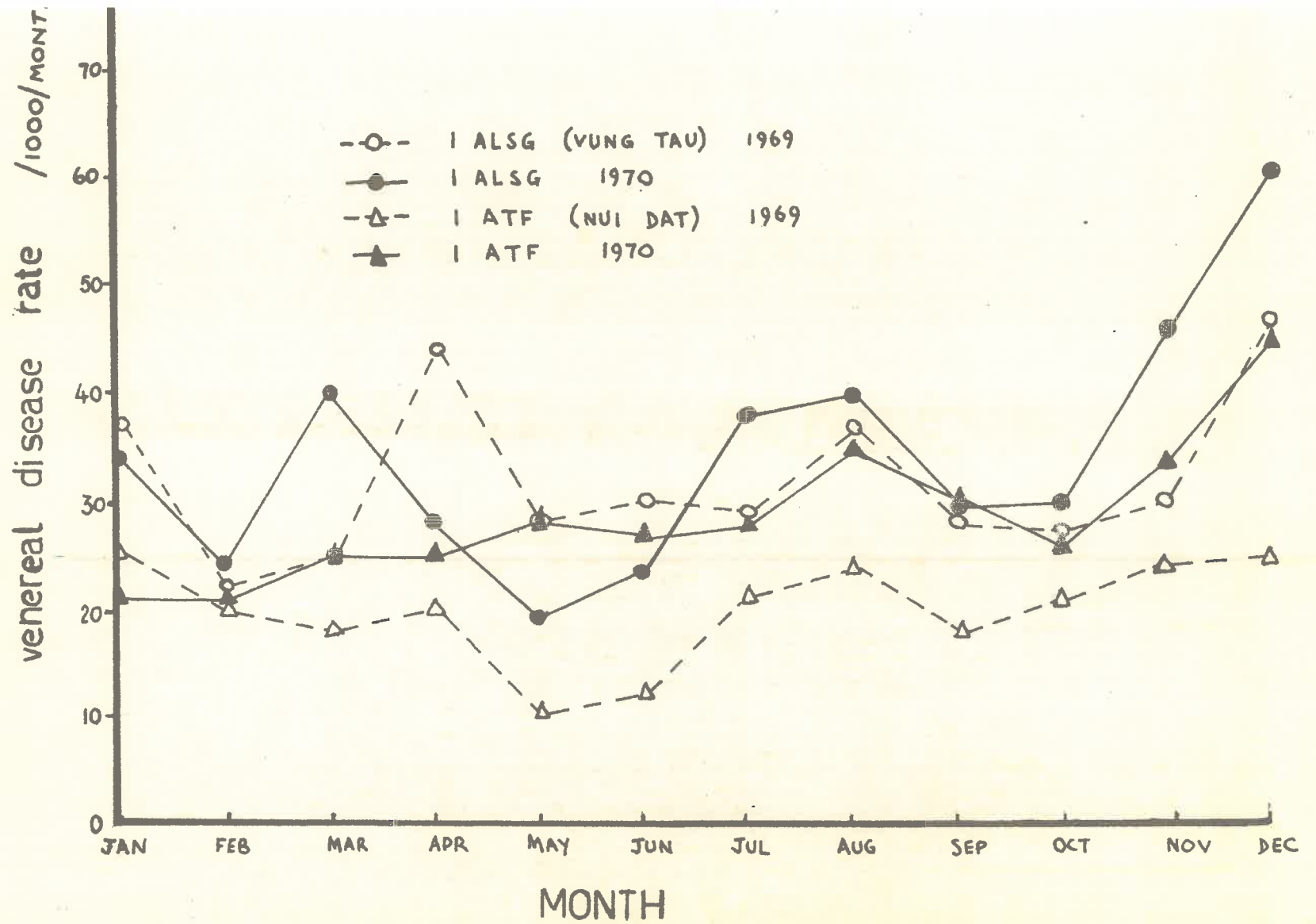


Figure 1. The monthly variation of total venereal disease for 1969 and 1970 for Australian troops at Nui Dat and at Vung Tau.

TABLE 7. Countries of origin of Venereal Disease treated at
Australian Clinics in Vietnam.

MONTH	VIETNAM	AUST.	HONG KONG	BANGKOK	TAIPEI	MALAYSIA	TOTAL
May 68	93	1	17	19	2	1	133
Jun	129	2	9	16	6	7	169
Jul	137	2	7	10	1	11	168
Aug	64	3	4	19	2	4	96
Sep	96	-	11	15	6	10	138
Oct	97	-	13	17	7	5	139
Nov	76	7	13	14	4	-	114
Dec	63	7	5	4	6	3	88
Jan 69	109	4	3	4	3	1	124
Feb	61	5	6	4	3	-	79
Mar	74	1	7	3	1	1	87
Apr	110	6	4	5	1	1	127
TOTAL	1109	38	99	130	42	44	1462
May 69	66	1	7	4	2	2	82
Jun	82	1	1	5	-	2	91
Jul	76	1	8	7	7	1	100
Aug	111	3	8	2	-	1	125
Sep	92	1	9	13	2	1	118
Oct	112	5	6	6	5	3	137
Nov	133	4	6	2	5	3	153
Dec	114	6	7	6	4	6	143
Jan 70	115	4	6	3	3	1	132
Feb	75	4	4	5	5	2	95
Mar	140	4	10	4	2	3	163
Apr	137	2	6	3	-	1	149
TOTAL	1253	36	78	60	35	26	1486

CHAPTER I.3.1. PROSTITUTION AND VENEREAL DISEASE

1. INTRODUCTION

The population of the Vung Tau special zone is concentrated at the southern tip of the sandy peninsula, in the township of Vung Tau. With its dirty streets, decaying French hotels and diversity of socio-economic standards, it has been popularly referred to as the 'Riviera of South Vietnam'.

This area contained all the ingredients for a flourishing prostitution trade. In 1969 there were over 4,000 American and 1,500 Australian servicemen stationed in the area. These men were distant from the tasks of battle and, with little work, had ample leisure time to reflect on their boredom, loneliness and lack of female company.

With most young men called away for Army service, the local populace contained a preponderance of young women seeking a quick income to support themselves and their dependants. A small group of affluent Vietnamese, soundly experienced in eclecticism, was available to exploit this social situation. The leaders in the community - the Mayor, Police Chiefs and local dignitaries - invested profitably in entertainment houses. Attractively presented young girls were prerequisites to the financial security of the hotels, restaurants, bars, steam baths and massage parlours which increased in number weekly. These were the brothels of Vung Tau which welcomed the eager "digger" with open arms, flagrantly encouraged the hesitant, and at their peak supported 7000 prostitutes.

The inevitable concomitant of prostitution, venereal disease,

soon made a telling impact on the intruding troops. By 1969 the Americans were incurring up to 300 cases of gonorrhoea and twice this number of other venereal infections monthly.

With the local economy soundly supported and considerable individual profits, it was understandable that the local civil authorities, headed by the Mayor of Vung Tau, were reluctant to concede the existence of brothels and prostitutes in their community. They would not concede that venereal disease was a problem, and considered Army impositions on the hostesses to control disease were, therefore, unwarranted. While this attitude and lack of support were later softened by diplomacy and indirect pressures, the unilateral nature of control always remained a dominant feature.

2. ALLIED FORCES CONTROL

Early in 1969, Colonel Samuel C. Jefferson, the American Area Surgeon for Vung Tau, discussed the problem of control with the Commander of 1 ALSG, and later with the Commanding Officer of the First Australian Field Hospital, Lieutenant Colonel Hurley. He summarised the general feelings of these discussions in a memorandum of the 26th April, 1969 (Appendix 11). He suggested that control measures be directed in two spheres. The Free World Military Forces should utilise lectures, contact reporting, provision of prophylactics and continual command emphasis.

Secondly, he outlined a schedule of assistance from the Vietnamese civil authorities, viz.

- (1) Positive identification of females by a form of identity card. In addition, he suggested that each girl should wear

an identifying number while at work.

- (ii) Monthly pelvic examinations and serology tests on each girl.
- (iii) Any girl traced by a contact report should not work until cured.
- (iv) Treatment of venereal disease should be performed in a central location.
- (v) All involved in the trade should encourage prostitutes to insist that all clients wear condoms.
- (vi) The Free World Forces should provide technical assistance and advice when requested.

Following these suggestions, a meeting was held on the 21st May, 1969 at the Maccords (Military Assistance Command Coordination of Redevelopment) office in Vung Tau (Appendix 12). This conference was attended by representatives of Maccords, American and Australian Forces and the Regional and Local Public Health departments. The following resolutions were made:

- (i) On the 31st May, 1969, a Vietnamese team, of one physician and four technicians from Saigon, would begin a two week serological survey on Vung Tau bar girls.
- (ii) The best method of control was from contact reports, and both Australian and American Medical facilities would attempt to implement this system. Girls identified in reports would be treated at the Le Loi Hospital, and if they refused the bar concerned would be placed out of bounds.
- (iii) American and Australian personnel should be educated in the system to enable adequate identification of contacts.

The survey of bar girls was duly performed between the 2nd and 14th of June, but the local response was disappointing. From an estimated prostitute population of 7000 at this time, a total of 1,367 were tested. These comprised 1,057 bar girls, 89 male personnel from bars and 221 persons from other professions. The results are summarized in Table 8.

VDRL tests were performed on 65 patients with positive RPR card tests, and these yielded 62 positive results (95.4%).

Patients with only a positive RPR card test were given 2.4 million units of benzathine penicillin intramuscularly. Those with a positive VDRL test were given two injections of 2.4 million units of benzathine penicillin intramuscularly and 2 g of either tetracycline or erythromycin orally daily for two weeks. Additional RPR card tests were performed quarterly on those treated.

A further survey was scheduled from the 16th to the 25th of June but only 214 samples were obtained. These yielded 30 positive results.

Following these surveys, the United States Army provided two technicians and a supervising sergeant to work at a special clinic at the Le Loi Hospital. Concurrently, the United States Military Police visited brothels throughout the town, seeking their cooperation and stressing the benefits Medical checks offered to the girls themselves. At this stage, although the Americans provided the services, they were precluded from social or medical control.

Towards the end of 1969, the Australian S.I.B. (Special

TABLE 8. Distribution of RPR results by profession, age and sex.

GROUP	NO. Tests	RPR			Percent
		+	-	Total	
<u>BAR GIRLS</u>					
15-20 yrs	394 (37%)	18	-	18	4.5
21-25	323 (31%)	19	3	22	6.7
26-30	192 (18%)	14	-	14	7.4
Over 30	148 (14%)	12	2	14	10.0
Total	1057	63	5	68	6.8
<u>MALES IN BARS</u>					
15-20	50 (56%)	1	2	3	6
21-25	1 (1%)	-	-	-	-
26-30	7 (8%)	-	1	1	(-)
Over 30	31 (35%)	2	1	3	9.5
Total	89	3	4	7	7.7
<u>OTHER PROFESSIONS</u>					
15-20	97 (44%)	1	-	1	1
21-25	18 (8%)	1	-	1	5.5
26-30	13 (6%)	1	-	1	7.6
Over 30	93 (42%)	1	2	3	3.2
Total	221	4	2	6	2.7
Males	170			11	6
Females	1188			70	6
TOTAL	1367	70	11	81	6

Investigation Branch) began unofficially compiling a dossier of the brothels and prostitutes in Vung Tau. Despite resistance to enquiries, and formal complaints made to the Mayor, this project had reached a useful stage by February, 1970. Representations to civilian authorities stressing the benefits of control, and the indirect pressures which could be exerted, proved the only means successful in allowing Australian participation in control. Due to the continued withdrawal of American personnel from Vung Tau, Australian technicians were invited to assist at the Le Loi clinic in April. In May, American technicians left the clinic and the effective supervision of both the clinic and brothels was conducted solely by Australian personnel.

3. AUSTRALIAN CONTROL IN 1970

In Vung Tau in 1970, there were 160 establishments which could be reasonably categorised as brothels. These brothels each supported from 3 to 40 prostitutes, although at its peak, the Grand Hotel had almost 80 girls working at one time. Some 1500 registered prostitutes and approximately an equal number of others supported these establishments or worked independently.

Sexual stimulation could be purchased in a number of ways, but was most commonly initiated in a bar. On entering a bar, a soldier would almost invariably be approached by a hostess (prostitute) who usually behaved in a mildly (stroking or body contact) or blatantly (penis clutching; see 'handshake' in glossary) seductive manner. When the customer was seated, the girl often exposed his penis and continued manual or oral stimulation unless she was actively dissuaded. When the

customer was actively involved, the hostess would desist and demand payment by way of a drink of tea before continuing. This cup of tea was removed and replaced many times before orgasm was achieved. If the customer quibbled about the price and no satisfactory compromise was reached, the hostess, transformed from an enthusiastic flattering lover, would stalk off muttering abuse ("cheap Charley", "numba ten" etc. - see glossary) at her client. On other occasions she might demonstrate her displeasure by biting or twisting the customer's erect penis.

On other occasions, or if the customer resisted penis clutching, less aggressive seduction in the form of thigh stroking, rubbing against or sitting on the lap of the client was practiced. In this manner it was hoped to stimulate the otherwise reluctant sexual participant to a state of sufficient sexual excitement to place him at a bargaining disadvantage.

The customer paid 300 to 400 piastres (see bibliography) for each cup of tea provided, and from this amount the prostitute received 100 piastres commission. From this source alone some girls earned 7,000 to 8,000 piastres a night and some bars grossed 200,000 piastres.

When such seduction culminated in orgasm in the bar, following manual or oral stimulation, it was of limited venereal disease significance. However, many soldiers found satisfactory fulfillment difficult in such public surroundings, but were sufficiently motivated by their seductress to continue their entertainment in a private room, either attached to the bar or in a different locality. This procedure required the approval of the mama san (see glossary) who usually demanded remuneration to the bar at a rate depending on the estimated loss of

earning during the girl's absence from the establishment. On these occasions the soldier could elect to spend all night with the prostitute or merely indulge in sex for a "short time".

Sexual stimulation also occurred in massage parlours. In these establishments a soldier paid for a steam bath and subsequent massage and was usually encouraged by the masseuse to enter a further independent contract for sexual stimulation, during or at the conclusion of the massage. Sometimes this agreement was proposed at the beginning of the massage, but usually the girl waited until the client was aroused sexually, when a higher fee could be obtained. These acts mostly involved manual or oral stimulation but sometimes intercourse occurred, often on the initiative of the soldier who, in his excitement, placed the masseuse astride himself to achieve orgasm. Under these impromptu conditions condoms were rarely used.

Intercourse also occurred on the roadside. Procurers took prostitutes, usually by motor scooter, into areas where troops were working, and potential clients were propositioned by the procurer or the prostitute herself. Intercourse then occurred on the roadside, often with a number of clients in rapid succession. This type of intercourse also occurred with prostitutes who loitered inside or near roadside cafes.

A small proportion of V. B. sufferers (3%) acquired their infection in "brothels". This term, while applicable to all the places of sexual entertainment, was usually used to denote squalid houses practicing their trade without any facade of respectability. In Vung Tau, one area noted for these houses was known as "one buck" or "100 P"

alley, because of the usual fee, which was less than one quarter of that usually charged in the more glamorous establishments (see plate XI). The girls in these houses rarely attended V.D. clinics and paid little attention to hygiene, so they offered an added venereal disease risk. Due to borderline acceptance of these brothels, their trade was practiced very furtively and they were placed off-limits to Australian troops.

Occasionally soldiers were lured to these or other private houses by street walkers. These girls often stood in the doorway of a bar, creating the illusion that they were employed in this establishment. Having acquired a client, they took him to a private home in an off-limit area.

A further significant source of contact was the "regular" girl friend. This was a rather cynical misnomer for these acquaintances, as they were almost invariably prostitutes who continued to practice their trade. However, they developed a shallow affectionate relationship, with lessened mercenary motivation, with some of their clients. They provided free sex to their "steady boy friends" under conditions which often jeopardised their employment with a mama san. In return, the soldiers usually provided gifts and rarely offers of marriage. The latter, however, was a highly prized goal for many prostitutes in this environment.

Ostensibly control over the flourishing prostitute industry was conducted solely by the Vietnamese civil police. However, in practice, the Australian Military Police, through the S.I.B., while utilising the records already kept by the local police, were able to exert considerable

influence on the system.

The Vietnamese police were solely interested in extracting revenue, via bar and hostess tax, from the trade. They held a register (Plate VI), a duplicate of which was kept in the bar itself, for each bar. This contained a photograph and personal particulars of each girl working in the bar. Payment of registration and quarterly hostess tax of 500 piastres on each girl was acknowledged by a dated stamp in both registers. In addition, a monthly bar tax of 20,000 to 50,000 piastres, depending on the size of the bar, was paid. Termination of employment of a girl was noted in both registers, thus ending the bar's obligation to pay hostess tax and freeing the bar of responsibility should the girl contract venereal disease (the latter being of significance only to the Australian Military Police). On registration, the prostitute herself received a hostess card (Plate IV) which was stamped each time her tax was paid and remained with her regardless of her place of employment.

In place of a set of registers, the S.I.B. used a set of small index cards (Plate IV) as their catalogue of prostitutes. These cards contained photograph and particulars on the front and details of medical checks on the back. They were grouped according to bar of employment and could be readily rearranged as a girl moved from one bar to another.

All Medical control was conducted from a special clinic at the Le Loi Hospital. The prostitutes had serological tests for syphilis monthly and, initially, a vaginal smear for gonorrhoea fortnightly. From September, 1970, a weekly smear test was performed on all prostitutes. The slides were interpreted by an Australian technician from the First

Australian Field Hospital, but all other work was performed by female Vietnamese assistants.

On arrival at the clinic (Plate V), each prostitute, after depositing her hostess card, received a numbered glass slide and her medical card was numbered accordingly. A Vietnamese attendant then prepared a vaginal smear from the prostitute and passed it, together with the medical card, to the adjacent laboratory where it was stained and examined microscopically. The result was recorded on a master sheet. If the smear was negative, the medical card and back of hostess card were stamped, dated and returned to the patient. If positive, the girl was treated with penicillin and the documents retained until the patient returned for a review smear three days later. The S.I.B. maintained the medical side of its card catalogue by referral to the master sheet.

The Military Police regularly checked the medical attendances of the prostitutes from each bar, and frequently visited the bars at night to ensure that only registered girls were working. If either of these aspects of management were unsatisfactory, the bar was placed out of bounds and this information promulgated to all units (Appendix 13). In September 1970, this system of informing the soldier was modified slightly. If a bar was satisfactory it was issued with an "APPROVED" sign (Plate VI) which was displayed in the front of the bar. If standards in the bar relaxed, the sign was removed by the Military Police until any deficiencies had been remedied.

Control from Medical checks on the prostitutes was supplemented by a system of contact reporting among troops contracting venereal

Plate IV

a. and c. Hostess cards (reverse and
obverse)

b. and d. SIB index cards (reverse
and obverse)

Plate V

Top: Prostitute arriving at the clinic.

Bottom: Prostitutes receiving glass slide and
medical card.



Plate VI

Top: Bar register, a duplicate of which
was held by the Vietnamese police.

Bottom: Approved sign, for display in bar.

17

Chiêu Tài viên.

Phạm Thị Tuyết.

sinh năm 1947. Ca.

Phù Yếu.

Căn cước số 01766284

cấp tại Bung Lai ngày 21.6.1969.

Hiện ở số 11/5 Đường

Lưu Sơn Hưng Tân

Chợ - Phạm Văn Thê

lưu. Và tại Minh-Châu

MIỀN-TÂY

Ngày 23 tháng 9 năm 1970



HỘI VIÊN TẬP THỂ



NHÀ HÀNG

ĐƯỢC PHÉP

HOẠT

ĐỘNG

THESE

PREMISES

HAVE

BEEN

APPROVED

BY ORDER OF THE MAYOR

quốc gia nước
số giấy phép 1721/72/KT/4
Ngày 26-06-1968



SERIAL NO. 12



Plate VII

Typical Vung Tau Bars.



Plate VIII

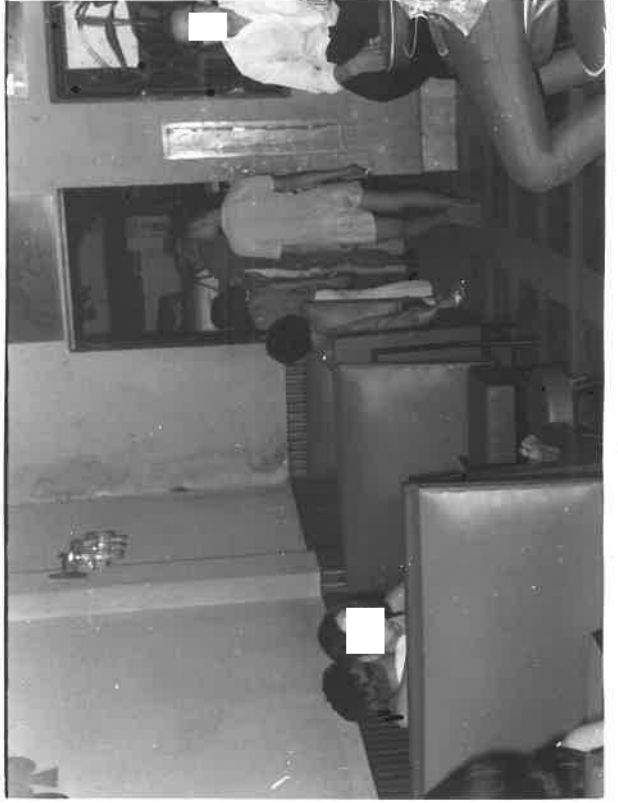
BAR SCENES

a. and c. Hostesses.

b. and d. Inside activity.



a



b



c



d

Plate IX

THE EXTREMES IN BROTHEL DECOR

Top: The Grand Hotel, the largest and most glamorous house of entertainment in Vung Tau.

Below: "Syph" corner, located near the Australian Camp. The customer had the choice of upstairs or downstairs apartments.



Plate X

"ONE BUCK ALLEY"

- a. and d. Typical dwellings.
- b. View from the main thoroughfare.
- c. A business house. The mama sans on the pavement permitted bona fide customers to enter through the door on the left of the picture.



c



a



d



b

disease. This system had been used for some time in other Asian cities, and for several years trace reports from soldiers contracting venereal disease on rest and recuperation leave in Hong Kong had been sent to Hong Kong authorities (Appendix 14). In this system every soldier with venereal disease was asked to complete a comprehensive form (Appendix 15) designed to identify the infective prostitute and provide other information relevant to venereal disease control. This form was initially adapted from a similar one used in Hong Kong (Appendix 16) and later simplified when it was found to be unnecessarily detailed (Appendix 17). The Americans used a cumbersome form (Appendix 18) which offered no advantages over the other forms used. From the completed report, the S.I.B. attempted to trace the girl and take her to the Le Loi clinic for treatment.

At S.I.B. headquarters an overall impression of the current state of control was given by a master board which listed all the bars, together with positive smear tests and trace reports from each particular bar. From this it was possible, at a glance, to see the overall rates and correlation of smear tests and trace reports. Girls with recurrent positive smears or who were named in trace reports, despite negative smears, were periodically taken to the Le Loi clinic to be examined by a female Medical Officer in the hope of explaining any anomalies that existed.

In theory this system offered a sound basis for venereal disease control and a decline in incidence was expected. In practice, the impact made on the problem was unimpressive.

4. LIMITATIONS OF PROSTITUTE CONTROL IN VUNG TAU

The greatest single barrier to effective organisation and control of prostitution was the lack of co-operation from all Vietnamese associated with the business. At no stage would civilian authorities admit that prostitution or any organised entertainment existed. Any girl could decline to visit the Le Loi clinic with impunity. Several times the whole controlling organisation was in jeopardy because prostitutes complained about the discomfort of injections or the injustice of their smear results.

Closely associated with this lack of cooperation was corruption of those in positions of influence. On at least two occasions attendants at the Le Loi Hospital were replaced for selling falsified documents and incorrectly stamping cards for an appropriate fee. When Vietnamese interpreted the vaginal smears, they were often threatened by associates of the prostitutes who recorded positive results. All levels of the prostitution trade endeavoured to buy favours from those involved with control.

The poor standards of diagnosis and therapy at the Le Loi clinic cast doubt on the effectiveness of the whole system. The prostitutes refused to be examined by a male Doctor, and consequently an untrained Vietnamese girl prepared the smears by inserting a swab deep into the vagina and smearing this onto a slide. The interpretation of these slides by partially trained technicians was not facilitated by vigorous douching prior to examination - an almost universal practice of patients attending the clinic. From May to December, 14035 smears were examined

at the Le Loi clinic and 2768 (20%) of these were recorded as positive.

The wisdom of treatment with benzathine penicillin was questionable, but this was soon changed to procaine penicillin. Rarely did a patient receive the full scheduled dose of three million units intramuscularly, even though this was barely sufficient for the strains of gonorrhoea encountered in South East Asia. If the patient looked frail or complained of pain or if there was any difficulty in giving the injection, the dose was reduced; so some patients received even less than one million units. A more vigorous douche before the next examination was probably responsible for many of the cures. The use of 3.5 g of ampicillin orally was advocated as this offered many advantages (more pleasant administration for the patient, a full dose would be administered, effective in treating gonorrhoea, and more effective than penicillin for the array of non-gonococcal infections which produced positive smears) but no change was made.

Due to these shortcomings in prostitute control, trace reports remained the main hope for reducing the incidence of venereal disease in the troop population. While these enabled contacts to be traced in some cases, they were generally of limited value. Even with the aid of a map, many soldiers were unable to identify, with any certainty, the bar from which their contact came. Efforts to describe the actual girl were even less rewarding as few patients were able to recall any distinctive features that did not apply to the majority of bar girls. Common comments such as, "mole on buttock", "gold teeth", "stretch marks on the stomach" and "small breasts" were valueless as clues. Although these

inadequacies were sometimes due merely to lack of perception, they more commonly occurred due to the influence of alcohol. Not uncommonly the soldier was so drunk that he could barely remember even having intercourse, and more commonly he had no idea of the identity of his partner. Of 350 soldiers asked for trace reports in one period, 40 (11%) could remember insufficient detail to make any comment, 122 (35%) were unable to identify the bar or location of their act, and of the remaining 188, only 77 (22%) could provide any reasonable description of the girl. A soldier was rarely able to give the girl's name or bar number. Tracing was complicated by irregular location of some girls. If business was poor at one bar, the girls often moved to another bar, owned by the same proprietor, for the night. Other street-girls would stand in the doorway of a bar to collect their pickup who in turn assumed they belonged to the particular bar.

With these severe limitations, a photograph of the girl was invaluable, but these were rarely obtained. It was suggested that all bar girls should carry a set of small photographs of themselves and give one to each customer as a receipt, but this was firmly resisted by the prostitute trade.

With the restrictions placed on the Australian authorities, and the attitudes of the local populace and troop population, it is not surprising that control was difficult. Due to the large number of variables influencing the incidence of venereal disease, it is not possible to gauge the effectiveness of the Vung Tau programme. Certainly the control organisation had a sound theoretical basis and, even in

practice, it provided insight into the problems involved and enabled the early detection of any undesirable innovations. Whether these benefits justified the manpower and money used in the programme is not readily assessable.

5. PROSTITUTION CONTROL AT CAN THO

It is relevant to contrast control in Vung Tau with that at Can Tho, a large township in the Mekong Delta. It was considered that elaborate policies were impracticable and, instead, all prostitutes, or as many as possible, were periodically treated with penicillin (2.4 m.u. procaine penicillin in one dose). The dramatic effect on venereal disease in American troops in the ensuing six months can be seen from Table 9. Comparison of these two systems clearly demonstrates how the practical results obtained in any system may bear little relationship to its complexity or apparent thoroughness.

TABLE 9. Venereal disease rates in U.S. troops at Can Tho (Via Maj R. Anderson, U.S. Army.)

Month	July	Aug	Sep	Dec	Jan	(1971)
Rate (per 1000 per year)	1100	812	712	550	400	

CHAPTER 1.3.2. ANALYSIS OF EXISTING STATISTICS

Material available in war time or other periods of instability is often lost or destroyed before it can be collated or permanently recorded. Thus in Vietnam records of considerable interest were obtainable from files or boxes of papers awaiting disposal. Some of

these papers providing a commentary on the development and problems of the venereal disease control campaign are reproduced in the appendices. Two sets of documents were analysed in an effort to obtain some background data on the sociological facets of venereal disease.

1. SPECIAL TREATMENT CLINIC DOCUMENTS

The individual document for recording venereal disease treatment is the P Med 16 (Plate III). These documents were stored at the clinic until the soldier returned to Australia, when his document was also returned. From the front of this card, the following data were obtained - rank, marital state, age, prophylaxis used and time in country before contracting venereal disease.

TABLE 10. Rank and marital state of patients.

RANK	NUMBER	%	MARITAL STATE	NUMBER	%
Private	172	68	Married	71	28
NCO	82	32	Single	183	72

TABLE 11. Age of clinic patients.

	Under 21		21-25		26-30		Over 30	
	No.	%	No.	%	No.	%	No.	%
Private	48	27.5	119	69	5	3	1	0.5
NCO	12	14.5	46	56	5	6	19	23.5
Total	60	23.5	164	64.5	10	4	20	8

These data were recorded by clerical staff and their value varied with the enthusiasm of the recorder, the pressure of work at the time of recording, and the cooperation of the patient. The only reason for recording this information is for research purposes, and as such it is unreliable. In this study, the material was collated in order to obtain comparisons with other series in the study and to obtain some insight, crude though this might be, into aspects not covered by other investigations.

Tables 10-13 analyse the 254 documents held at the Special Treatment Clinic at the First Australian Field Hospital on 1st October, 1970. All patients had confirmed venereal disease i.e. gonorrhoea, non-gonococcal urethritis, syphilis or chancroid. Officers are excluded from the analysis because of the small number involved (6).

TABLE 12. Prophylaxis used by clinic patients.

	CONDOM	WASHED			NO PROPHYLAXIS	NOT DOCT.
		immed.	1-20 mins.	20-120 mins.		
Private	6	32	19	23	89	3
NCO	4	13	9	9	47	-
Married	4	13	9	7	38	-
Single	6	32	19	25	98	3
Total	10	45	28	32	136	3

TABLE 13. Time in country before contracting venereal disease.

Time (Months)	Married		Single		Total		% (Corrected) *
	No.	%	No.	%	No.	%	
1	7	10	27	15	34	13.5	6.5
2	5	7	19	10.5	24	9.5	5
3	14	20	19	10.5	33	13	8
4	10	14	18	10	28	11	7.5
5	8	11.5	25	13.5	33	13	9.5
6	7	10	18	10	25	10	8.5
7	3	4	10	5.5	13	5	5
8	3	4	12	6.5	15	6	7
9	6	8.5	14	7.5	20	8	11.5
10	5	7	13	7	18	7	14
11	3	4	4	2	7	2.5	8
12	-	-	4	2	4	1.5	9.5
TOTAL	71	100	183	100	254	100	100

* Documents were returned to Australia at the completion of a soldier's tour. Hence documents for a soldier contracting V.D. in the first month were held at the clinic for 12 months, but for 11, 10, 9 months etc., if he was infected in the second, third, fourth months etc., respectively.

2. TRACE REPORTS

A variety of trace report forms was used (see chapter I.3.1). These provide some interesting information, but form a heavily biased sampling of the troop population. They only applied to soldiers with venereal disease, and from this group those who were too drunk at the time or unable to provide a precise report for any other reason, were excluded. They were recorded by interview which ensured complete answers to all the questions.

In order to provide a readily analysable format, the more objective data from 500 consecutive trace reports were transcribed on to a specially designed form (Form A, Appendix 19). These forms were then sorted manually.

The detailed analysis is shown in Appendix 20 and the results are summarized in Tables 14-18.

TABLE 14. Type of introduction to sexual partner (174 reports only).

	Number	Per Cent
Knew previously	32	18.5
New acquaintance	142	81.5
Propositioned	25	14.5
Self introduction	130	74.5
Taxi driver	3	1.5
Mama san	5	3
Pimp	3	1.5
Other	8	5

TABLE 15. Price paid for intercourse, related to state of intoxication.

PRICE (Piastres)	SOBER		UNDER INFLUENCE		DRUNK	TOTAL	
	No.	%	No.	%	No.	No.	%
Nil	15	10	9	3.5	6	30	6
1-500	35	23	40	16	14	89	18
501-1000	37	24.5	63	25.5	29	129	26
1001-1500	21	14	40	16	16	77	15.5
1501-2000	25	16.5	58	23	16	99	20
2001-2500	1	0.5	6	2.5	7	14	3
2501-3000	12	8	31	12.5	11	54	11
More than 3000	5	3.5	2	1	1	8	1.5
TOTAL	151	100	249	100	100	500	100
SAME as asked for	123	81.5	197	79	78	398	79.5
MORE than asked for	5	3.5	26	10.5	5	36	7
LESS than asked for	23	15	26	10.5	17	66	13.5

TABLE 16. Type of establishment visited, related to state of intoxication.

ESTABLISHMENT	SOBER		UNDER INFLUENCE		DRUNK No.	TOTAL	
	No.	%	No.	%		No.	%
Bar	24	15.9	41	16.5	19	84	17
Private House	70	46.5	132	53	45	247	49.5
Hotel	26	17.2	49	19.7	17	92	18.5
Brothel	5	3.3	7	2.8	4	16	3
Massage Parlour	20	13.2	19	7.6	10	49	10
Other	6	3.9	1	0.4	5	12	2

TABLE 17. Condom usage related to state of intoxication and type of establishment.

	Number	Percent
Sober	12	8
Under influence	3	3
Drunk	3	3
Private House	17	7.5
Other Establishment	6	2
TOTAL	23	4.5

TABLE 18. Price paid for intercourse, related to type of establishment.

Price (Piastres)	Bar		Private House		Hotel		Brothel	Massage Parlour		Other
	No.	%	No.	%	No.	%	No.	No.	%	No.
Nil	1	1	23	9.5	3	3.5	-	2	4	1
1-500	21	25	26	10.5	4	4.5	6	30	61	2
501-1000	38	45	66	27	8	8.5	3	11	22.5	3
1001-1500	11	13	47	19	12	13	2	4	8	1
1501-2000	9	10.5	56	22.5	28	30.5	3	1	2	2
2001-2500	3	3.5	7	3	3	3.5	-	-	-	1
2501-3000	1	1	19	7.5	32	34.5	1	-	-	1
More than 3000	-	-	3	1	2	2	1	1	2	1

CHAPTER I.4.1. INTRODUCTORY STUDIES

1. INTRODUCTION

Managing a venereal disease clinic provided a general impression of the high incidence of venereal disease and the cost to the Army in terms of money and manpower. It also presented definite clinical problems, with the emergence of resistant strains of gonorrhea and difficulties in effective treatment of other venereal conditions.

The most marked feature of the clinic, however, was the high incidence of psychological sequelae from exposure to venereal infection. The guilt reaction of the patient who is the father of a young child, or the anxiety reaction of the husband who fears that he may not be cured, may be more incapacitating than a severe physical injury and certainly lasts for a longer time. It was obvious, therefore, that to consider the impact of venereal disease solely in terms of the physical illness it produced was misleading. The relative contribution of the psychological and physical components was not so readily assessed, however.

Of even less certainty was the degree to which these patients were representative of the troop population as a whole. Were they merely a random sample of those who had intercourse? Or did they form a discrete group with characteristic sociological parameters which accounted for their venereal infection?

There was no reliable evidence on the extent of the sociological problem - the proportion of the population having intercourse, the characteristics of these soldiers, their motivation, or the sequelae of intercourse, other than venereal disease. Of course, there was ample

speculation on these matters. "Over 90% of all troops have intercourse in country", "the V.D. rate is largely a result of a few soldiers getting repeated infections" and "the V.D. patient is the poorer type of soldier" were common utterances voiced with conviction. Unfortunately, after sufficient re-iteration there is a tendency for such statements to be accepted as fact, without reference to the evidence on which they are based.

Despite elaborate and costly efforts at venereal disease control, virtually no impact was made on this problem. It seemed that no allowance had been made for the fundamental personality of the soldier, his weaknesses and individualities which make him, at times, act in an apparently irrational manner. In any case there was a complete absence of the sort of sociological data which could be utilised epidemiologically.

Against this background, the requirements of the research investigation were formulated: Firstly, to assess the total impact on the troop population by collecting accurate data on the occurrence of certain behaviour and the sequelae of this behaviour. Furthermore, analysis of the sociological parameters associated with particular sequelae might elicit a relationship between impact and sociological background. Secondly, to elicit those factors contributing to sexual involvement with the Vietnamese and to subsequent venereal infection among this group.

One might anticipate that the findings would have practical applications in reducing the impact of such an environment on either the troop population as a whole or at a personal level on the members within the population. Depending on the nature of the findings such remedial

action might be applicable to other populations.

To assess whether the sociological problem was likely to be of sufficient impact to warrant a more thorough investigation, an exploratory study was planned.

2. EXPLORATORY STUDY

All soldiers returning to Australia were seen by a medical officer to be certified free from infectious disease. This offered an ideal opportunity to obtain data on their sexual behaviour in Vietnam. Four hundred consecutive attenders (300 at Nui Dat and 100 at Vung Tau) were interviewed by direct questioning and the replies were recorded directly. Although a standardised format was used, there was considerable flexibility to allow for differing responses and amplification of replies. Those participants who enquired about the reasons for the questions were told that they were designed to assess the frequency of intercourse and the use of prophylactics among various groups of troops, and that the anonymity of their replies was assured.

Each participant was asked his rank, age, marital state and type of enlistment (volunteer or conscripted) and whether or not he was circumcised.

He was then asked when he last had intercourse. If he volunteered an episode prior to Vietnam, the interviewer replied "No, I mean when was the last time you had intercourse in Vietnam", thus implying that intercourse was fully accepted and placing the onus of denial on the soldier. If he admitted intercourse in Vietnam, he was asked how many times he had intercourse, where, what prophylaxis he had

used, and whether alcohol contributed to his participation. He was then asked if venereal disease resulted from any of these episodes. If he denied intercourse in Vietnam, he was asked the reason for his abstinence. If the reply was vague e.g. "For moral reason", he was invited to amplify this by an open-ended question e.g. "How do you mean?" in order to provide a more definitive meaning for this term e.g. sense of obligation to his wife, contrary to inculcated religious beliefs, or personal sense of ethics.

The soldier was then asked similar questions about his behaviour and any sequelae while on Rest and Recreation leave. Finally he was asked the age at which he first had intercourse. The whole interview lasted from 2 to 5 minutes. The findings of this study are fully discussed in the text but in terms of the role of the study they may be summarised.

- (i) The study showed that further investigation was indicated e.g. over 60% had had intercourse, 25% of these had acquired venereal disease, and the absence of prophylaxis and marked influence of alcohol were apparent.
- (ii) Officers and senior non-commissioned officers were reluctant participants. Other subjects were most cooperative, however. A few tended to be reticent about admitting intercourse in Vietnam but once this had been acknowledged, the interview proceeded smoothly with little self consciousness of the participant. This finding indicated that a full scale study would be best limited to soldiers of the rank of sergeant or

below.

- (iii) For collection of the more detailed intimate material for a large survey, a written questionnaire was favoured in preference to direct interview.

3. EXPERIENCE SURVEY

From administering venereal disease clinics for both soldiers and prostitutes, visits to brothels, both with control teams and for hygiene inspection, association with S.I.B. personnel and 5-10 minute interviews with various clinic patients, a good deal of the "lore" of the prostitution-venereal disease environment was accumulated. However, for the extensive study a more formal experience survey was conducted.

Initially three close acquaintances, with a broad knowledge of the environment, both from personal experience and association with a large number of fellow participants, were interviewed. They were invited to recount their total knowledge, including hearsay. In the week following these discussions, the participants noted any further points they had overlooked, and these were added to the combined list of topics obtained.

Other known participants were then invited to offer an outline of their experiences. The only criterion for selection was the likelihood of providing significant background data. No soldier who had only had intercourse once was included, as many of these solitary participants were ignorant about the prostitution-venereal disease environment. The only other selection involved was ensuring that some representatives of the following groups were included: conscripts and volunteers, married and single, soldiers from a base area and from a field area.

At initial contact, the research nature of the project and the anonymity of participation was explained. An appointment was then made for a time convenient to the soldier. At the actual interview, the soldier was instructed to limit his contribution to first-hand experience and not include hearsay.

The interview was unstructured and commenced with "Tell me about some of your experiences with the girls up here". The interviews invariably proceeded smoothly with little need for involvement of the interviewer. Occasionally amplification of a point was requested. After about 10 minutes, if conversation slackened, the soldier was sometimes asked, "What do you know about the experiences of other fellows?" When the flow of voluntary information had apparently ended, the soldier was asked a number of open-ended questions regarding topics or views which had been formulated in the initial list e.g. "What do you know about _____?" or "What experience have you had of _____?".

There was a common tendency for the subject to lapse into hearsay. This was often done in such a way that specific inquiry from the interviewer was required to elucidate the nature of the evidence. In general, most matters raised as hearsay were covered amply by the first hand experience of other subjects, but the distinction was nevertheless important in assessing the relative incidence of certain behaviour. There was a tendency for isolated occurrences of particular human interest to receive hearsay mention out of all proportion to their incidence.

No time limit was set for the interview but most lasted about 30 minutes. After about 20 interviews when at least several soldiers

from each of the groups had been seen, it became apparent that little new material was being unearthed. It was decided to continue the interviews until 30 soldiers had been seen. Although offering virtually no new material, these further interviews confirmed important features raised by preceding subjects.

CHAPTER I.4.2. DESCRIPTIVE STUDY

Against this background, it was decided to collect the sociological information required by a written questionnaire submitted to a chosen sample. The purpose of this questionnaire was, therefore, to obtain incidence data on certain behaviour and its sequelae, and to determine the relationship of certain sociological parameters to this behaviour. The construction of the multi-choice questionnaire was greatly facilitated by the prior indications of the commonest answers likely. For many questions a complete list of all possible answers would have been prohibitively lengthy, but this approach enabled a selection of four or five alternatives which would cover over 90% of replies, and an "other" category to cover the array of miscellaneous responses of low incidence. To cover the possibility that some unexpected response might be prevalent, participants were asked to specify, in their own words, their particular response in the "miscellaneous" category. In practice, it was found that this safeguard was not needed.

In other areas, it was difficult to provide mutually exclusive alternatives or even ones that followed a single continuum. However, with prior information of the responses expected, and due to the generalised inferences to be drawn from the data, these questions provided

useful quantitative baselines despite theoretical defects in their composition.

The questions were compiled in series (of one to 6 questions in number) each of which was designed to elucidate a particular facet of the subject. These topics were grouped into 4 categories - general classification, sociological background, education and attitudes, and sexual involvement and venereal disease. The overall format of the questionnaire was designed to provide a routine, non-threatening introduction proceeding to more emotion-provoking and threatening questions and concluding with some further milder enquiries. The full questionnaire is shown in Appendix 21. Those categories selected for general classification were rank, age, time in Vietnam, type of enlistment and marital state.

(i) Sociological Background

The following parameters of sociological background were investigated:

- a. Racial origin.
- b. Socio-economic Status.
- c. The Parental Home.

This was covered by: stability of the parental home, family size, family order and type of parentage (e.g. adopted, natural etc.)

- d. Base-Line Alcohol Intake.

Alternative answers to this question were chosen to represent abstainers, social drinkers, regular drinkers, heavy drinkers

and very heavy drinkers.

e. Religion.

Characterised by religious order, church attendance in Vietnam and seriousness of religious beliefs.

f. Education.

g. Detected non-conformity of social standards.

The two parameters of Army offences and civilian offences offered quite different criteria of social conformity. By comparison with civilian charges, Army charges often arise from more trivial incidents, and may relate to maladjustment confined to the military setting.

h. Personality.

Two dimensions of personality, extraversion and neuroticism, were determined by an Eysenck Personality Inventory (Form A), administered prior to the descriptive questionnaire.

The Eysenck personality inventory (E.P.I.) is a development of the Maudsley personality inventory (M.P.I.) but it is claimed to have a higher retest reliability (in excess of 0.85) than its predecessor (Eysenck, 1964). In addition the E.P.I. contains a lie scale, permitting the elimination of subjects showing "desirability response set", which was not a feature of the earlier inventory. Also, the ? (or don't know) response of the M.P.I. has been eliminated and this common response set has thus been avoided.

This type of inventory allows precise quantitation of aspects of personality, enabling more detailed analysis than is possible with vague descriptive categories. The validity for such an inventory is difficult to prove, due to the lack of indisputable base-lines for comparison. However, two types of validation have been provided. Firstly, the tests have been shown to fit predictions made from a more general theory. Secondly, the assessment of extraversion and neuroticism of individuals by independent judges corresponds closely with the inventory findings for these individuals.

After scoring the inventory, each subject can be assigned an E (extraversion) and N (neuroticism) score. Groups can then be compared by finding the mean scores, standard deviations and standard errors for these scores. Groups were considered to differ significantly if their mean scores differed by more than twice the standard error of the difference of the means. Each inventory can be assigned an L (lie) score of 0 to 9. As suggested by Eysenck, all those with an L score greater than 5 were excluded from analysis, on the grounds of "desirability response set".

(ii) Education and Attitudes on V.D.

This series of questions was designed to assess the soldier's knowledge of venereal disease and prophylaxis, and to what extent this knowledge was related to experiences within the Army and to specific lectures given to improve this knowledge.

(iii) Sexual habits and venereal disease.

Incidence data on the following facets of the venereal disease

environment were obtained.

- a. Relationship of past sexual patterns to venereal infection in Vietnam (Qu. 31, 32, 33).
- b. The contribution of homosexuality to the venereal disease problem (Qu. 34).
- c. The motivation behind soldiers entry to bars and the role of these establishments in the V.D. environment (Qu. 35, 36).
- d. The frequency of intercourse in Vietnam (Qu. 37, 38).
- e. The motivation behind abstention from intercourse (Qu. 38).
- f. The validity, in this environment, of the concept of the soldier exaggerating his sexual conquests (Qu. 39, 40).
- g. The extent to which opportunity determined both the degree of promiscuity and the incidence of venereal infection (Qu. 41).
- h. The role of partner selection and partner selectivity in venereal infection (Qu. 42, 43, 44).
- i. The role of alcohol in deciding to have intercourse (Qu. 45).
- j. The incidence of prophylaxis usage and the reason for its omission (Qu. 46, 47).
- k. The occurrence of venereal disease and its sequelae (Qu. 48, 49, 50, 51).
- l. The role of seduction in determining the incidence of intercourse and venereal disease (Qu. 52, 53, 54).
- m. Emotional concomitants of involvement with prostitutes (Qu. 58, 61, 72, 73, 74, 75, 77, 80, 81, 93, 96).

These questions provided the greatest problem in composition.

The wide array and vague definition of emotions made it difficult to provide comprehensive mutually exclusive alternative responses. The questions to elicit impaired sexual function (73, 74), due to emotional disturbance, were not understood by many soldiers, but otherwise this group of questions provided no difficulties for the participants.

- n. The degree to which sexual involvement was premeditated and the reasons altering original intention (Qu. 56, 57, 62).
- o. Parental attitudes to involvement, and the inhibiting role these might exert in a homeland environment (Qu. 59, 60).
- p. The effectiveness of V.D. control programme public relations (Qu. 63, 76).
- q. Intercourse on rest and recreation leave (Qu. 64, 65, 66).
- r. Aspects of fee levels (Qu. 68, 69, 70, 71).
- s. The use of drugs prophylactically (Qu. 78).
- t. The influence of the environment or venereal infection on intention for further intercourse (Qu. 67, 79).
- u. Specific sexual behaviour.
 - (1) Frequency of masturbation (Qu. 83).
 - (2) Frequency of cunnilingus (Qu. 90).
 - (3) Most frequent sexual practice and the motivation for this (Qu. 91, 92).
 - (4) Fellatio (Qu. 84, 85, 86, 87, 88, 89).

This practice was investigated in depth, as it was very common and held great emotional interest among the troop

population. The questions were designed to distinguish whether fellatio in Australia represented a different sociological pattern from that in Vietnam; to establish motivating factors; and to determine whether penile trauma, acquired from this practice, was related to any characteristics of the soldier, in particular to the common practice of forced intra-oral ejaculation.

- v. The relationship of venereal disease to other illnesses (Qu. 94, 95, 97, 98). This inquiry tested the hypothesis that venereal infection was merely one feature of the "injury prone" or "sickness prone" individual.

1. SAMPLING

Following the exploratory study, it was decided to study all soldiers of sergeant rank and below who were stationed in the Vung Tau area, a total of some 1200 troops. Initially it was intended to take a random sample of these troops, say 400, which could be internally analysed into three groups - those abstaining from intercourse, those having intercourse without acquiring V.D., and those acquiring V.D.

However, due to resistance from higher Army authorities, it was not possible to present this type of questionnaire to the troop population in general. Consequently it was restricted to venereal disease clinic patients. The questionnaire was administered to all patients over a 4 month period, in anticipation of obtaining at least 400. In actual fact, the questionnaire was submitted to 488 patients, 27 (5.5%) of whom declined to participate and 17 (3.5%) of whom completed the form inconsistently and

were rejected from analysis, leaving 444 satisfactory replies.

To obtain a reference to the whole population a shorter questionnaire of sociological parameters (Qu. 1-27, plus an enquiry of whether or not the soldier had had intercourse in Vietnam) and the personality inventory were administered to a random sampling from the major units in the Vung Tau area. This simplified questionnaire contained no emotion-laden issues, was straight-forward to answer and, consequently, provoked no undue comment. Of 230 administered, only 4 were rejected and these were due to omissions from the personality inventory.

Due to the necessary anonymity of all questionnaires, overlap in the control and clinic series was unavoidable. Thus, 56 of the 230 controls (24.5%) were also in the clinic series. This factor also tends to reduce significant differences between the two groups, and adds emphasis to those differences which were found. Any statistically significant differences which were masked by this overlap are unlikely to be of epidemiological significance. The degree of overlap is quite meaningful in itself. It shows that clinic attenders formed a sizeable proportion of the population and that, in this society, involvement in the prostitution system was not confined to a discrete minority group (clearly evidenced by the intercourse incidence of over 64%).

Due to this amended scheme of sampling, certain questions (Qu. 38, 39, 94, 95, 97, 98) became redundant, but they were retained in the questionnaire to preserve its balance.

2. ADMINISTRATION

Trial administration was performed on 5 patients to elicit any

short-comings of the questionnaire. From this trial it was noted that 30-45 minutes was required to complete the inventory and questionnaire, and that a number of words in the initial questions (e.g. heterosexual, fellatio, impaired) were not understood, and the questionnaire was amended accordingly.

All clinic patients completed the inventory and questionnaire, in groups of 4 to 8, in an airconditioned room at the clinic. The directions on both the inventory and the questionnaire were read to the group, after which all members completed first the inventory and then the questionnaire.

The controls completed the questionnaire, by unit, in groups of 20 to 50. The participants were told that this data was being collected as a basis for comparison in any other research projects, and to obtain some idea of the usefulness of V.D. lectures. This shortened questionnaire, with inventory, required 15 to 20 minutes to complete.

3. DATA COLLATION

Questionnaires from clinic patients were rapidly screened upon completion, to ensure that all questions had been answered. They were later screened more thoroughly by noting the responses to each question. Questionnaires with inconsistencies detectable by this method, were discarded. It will be noted that closer analysis of the data revealed occasional discrepancies, but these questionnaires with more subtle inconsistencies were retained.

The data from each acceptable questionnaire was then transcribed to a single card, each questionnaire and its corresponding card having

been given a number from 1 to 444, and the transcription checked by reading back the card. Overall analysis and cross references were then obtained by manual sorting.

4. RELIABILITY

It is relevant to consider the reliability of the data from two aspects - differences due to location of the troops studied and, secondly, the effect of defaulters.

All the troops studied in this work were from one of two bases - Vung Tau, a support base, and Nui Dat, a more forward base. However, this distinction might not be of great significance as there was very little activity at this stage of the war, and even this did not require active participation of troops from either base. Troops from Nui Dat had slightly less frequent access to the brothels of Vung Tau, but, with the ready availability of prostitutes on the roadside or in the field, this did not greatly reduce their opportunity for intercourse.

Soldiers from Vung Tau comprised 100% of the control series, most of the clinic series and 25% of the exploratory study. Table 19 compares some parameters from the control series with those from the exploratory study. There is close agreement with respect to rank and age, but some discrepancy regarding marital state. There was very close correlation of the intercourse rates obtained (64.2% in the control series and 65.5% in the exploratory study).

Information on rank and type of enlistment was available from defaulters (both those declining and those inconsistently completing a

TABLE 19. Comparison of sociological parameters from the control series with those from the exploratory study.

	CONTROL		EXPLORATORY		P
	No.	%	No.	%	
Private	140	62	209	55.7	> 0.10
NCO	86	38	167	44.3	
Married	67	30	143	37.7	0.01-0.02
Single	159	70	233	62.3	
<u>AGE</u> Under 21	31	13.7	52	13.9	
21-25	166	73.5	269	71.5	
26-30	10	4.4	24	6.4	> 0.50
Over 30	19	8.4	31	8.2	

questionnaire) and these were compared with the respective data from the clinic series (Appendix 22). The two groups did not differ significantly for these two variables ($P > 0.20$, for both). Those excluded for inconsistencies did not differ significantly from the series analysed with respect to education background and marital state ($P > 0.20$ for both variables). It, therefore, seems reasonable to assume that the absence of other data from the defaulters did not markedly affect the results obtained.

5. SIGNIFICANT DIFFERENCES

Significant differences between incidence data were detected by chi-squared calculations. However, differences may not be of interest to the venereologist merely because they are statistically significant.

Thus, for suitable sized samples, the difference in intercourse rates of 61% and 62% will be statistically significant, but it is unlikely to be of interest to the epidemiologist i.e. it is not epidemiologically significant.

CHAPTER I.4.3. INTERVIEWS WITH COMMANDING OFFICERS

Most of these officers were acquaintances of the author, and the views on venereal disease of some were already known. However, it was decided to have a rather lengthier and more formal discussion with as many of these Commanding Officers as possible.

They were approached individually by telephone call, when the author requested a routine discussion on venereal disease. It was suggested that the talk might take about 30 minutes and that it should be at a time and place convenient to the officer. One officer refused to discuss the subject, but the others were cooperative and all arranged an appointment in their own office.

A short multi-choice format was drawn up for these interviews (see results). This was done to structure and to some extent standardise the record of the interview, rather than to structure the interview itself. It was planned to obtain sufficient information for the author to complete this proforma, but otherwise the interviews were completely non-directive.

The subject usually covered most of the topics on the proforma without any direct enquiry from the interviewer. Towards the end of the interview the unanswered topics were asked in an open-ended manner e.g. "What do you think of ——?" or "What are your views on ——?" The proforma was completed immediately after returning from an interview.

PART II

RESEARCH STUDIES

- SECTION 1. CLINICAL PROBLEMS
- II. 1.1. Gonorrhoea
 - II. 1.2. Penile Ulcers
- SECTION 2. SOCIOLOGICAL FINDINGS
- II. 2.1. Exploratory Study
 - II. 2.2. Questionnaires Findings
- SECTION 3. SOME SOCIOLOGICAL FACTORS ASSOCIATED WITH VENEREAL DISEASE.
- II. 3.1. Venereal disease education and attitudes.
 - II. 3.2. Alcohol usage
 - II. 3.3. Prophylaxis
 - II. 3.4. Environmental stress
 - II. 3.5. Types of sexual behaviour
 - II. 3.6. Psychological impact
 - II. 3.7. The role of Army leadership
 - II. 3.8. Miscellaneous findings.
- SECTION 4. CONCLUSIONS

Appendices to this Part are located in Annex II.

CHAPTER II.1.1. GONORRHEA

Urethritis was the commonest venereal disease encountered in the campaign, and approximately half these cases were of gonococcal etiology. In 1970, 269 (14%) of the 1970 patients treated at the special treatment clinic had gonorrhoea. However, a further 789 cases were treated in the field.

The widespread use of benzathine penicillin or low doses of procaine penicillin in treating the prostitute population has been discussed (Chapter I.3.1). This environment, in which a large number of girls exposed to venereal infection had a low concentration of serum penicillin, would appear to be ideal for breeding resistant organisms.

It was not surprising, therefore, that even at an early stage in the campaign, treatment failures occurred among the troops. The initial treatment of 800,000 units of procaine penicillin was inadequate in this situation. In 1968 this regime was amended to 1.5 m.u. procaine penicillin b.d. for 3 days, plus benemid administration. Later 1 m.u. crystalline penicillin was added as an initial loading dose. At the conclusion of the campaign the official regime was altered to 4.8 m.u. procaine penicillin in a single dose. This was probably the best of the regimes recommended, but its introduction at the beginning of the war, instead of at the end, would have been more appropriate.

In practice, in Vietnam, the treatment regime (3 days procaine penicillin, a loading dose of crystalline penicillin, plus probenecid) was inadequate on many occasions. Furthermore, a further course of penicillin, in larger doses, often proved no more successful than the first.

Another disappointing feature of penicillin therapy was the frequent emergence of non-gonococcal urethritis after the gonococcal infection had been cured.

Of other drugs available, tetracycline has the advantage of being effective against some varieties of non-gonococcal urethritis and had been shown to be effective against gonococci in South East Asia (Scherman, 1968; Conte et. al., 1968; Holmes et. al., 1967; Maurer and Schneider, 1969). Because Kanamycin was not widely used in Vietnam, had been used effectively against gonococci (Fischmaller et. al., 1968; Farrell, 1969; Wilkinson et. al., 1967) and was convenient to administer, this drug provided a useful alternative in this situation.

To test these assumptions, and find a solution to the problem of recurrent infections, a simple clinical trial, and sensitivity study of the antibiotics used, was conducted.

1. METHOD

(i) Clinical.

The study was restricted to soldiers presenting with an acute purulent urethral discharge and no history of venereal infection within the preceding two months. All infections were acquired from Vietnamese in South Vietnam between June and December 1970, the majority being from prostitutes in Vung Tau. Clinical diagnosis was confirmed by the presence of Gram-negative diplococci in Gram-stained smears. Swabs were plated directly onto chocolate agar plates for culture confirmation. One hundred and fifty soldiers in the study were allotted, in

sequence, one of 3 treatments (except that 3 patients allergic to penicillin were treated with kanamycin (2) and tetracycline (1)):

- a. Intramuscular potassium penicillin G (1 m.u. statim) and procaine penicillin G (1.5 m.u. b.d. for 3 days) plus probenecid (0.5 g t.d.s.). The initial dose of probenecid was given 30 minutes before the penicillin injections. Cost of this course in Vietnam was \$US 1.00.
- b. Oral tetracycline hydrochloride (2 g statim, 0.5 g q.i.d. for 10 days). Patients were instructed to take the tablets at least one hour before or after any food or milk products were eaten. Cost of the course in Vietnam was \$US 1.40.
- c. Intramuscular kanamycin sulphate (Kantrex) (1 g into each buttock). Cost of this in Vietnam was \$US 6.50.

One week and 3 weeks after cessation of therapy, the patients were questioned regarding progress of symptoms and side effects from therapy (but no specific symptoms were suggested). Two-glass urine samples were collected at these visits and any sediment, after centrifugation, examined for Gram-negative intracellular diplococci. A patient was regarded as cured if no diplococci had been identified by the second visit. Surveillance was completed by serological studies for syphilis 8 and 16 weeks after presentation.

(ii) Antibiotic Sensitivity

The mean inhibitory concentrations (m.i.c.) of penicillin,

tetracycline and kanamycin were determined on 100 strains of *Neisseria gonorrhoeae*. Fifty one of these were from subjects in the clinical trial and 49 from other patients. At the initial examination urethral swabs were plated directly onto chocolate agar containing vancomycin and Difco supplement B. After incubating for 48 hours, in a carbon dioxide enriched atmosphere, a sample of each strain was emulsified in 0.2 ml Difco Brain-Heart infusion broth and replated onto chocolate agar (containing 0, 0.01, 0.05, 0.10, 0.50, 1.00, 1.50, 2.00 and 3.00 units/ml of potassium penicillin G; 1.0, 2.5, 5.0, 8.0, 10.0 and 15.0 ug/ml of kanamycin sulphate and 0.1, 0.5, 1.0 and 3.0 ug/ml of tetracycline hydrochloride. The plates were read after 48 hours incubation and the gonococci identified by their characteristic morphology and the oxidase reaction.

The m.i.c. was the smallest concentration of antibiotic on which the organisms failed to grow. Of 121 initial platings, 7 (5.7%) failed to grow and a further 14 (12.3% of 114) failed on subculture.

2. RESULTS

Of the 11 (22%) recurrences with penicillin:

- (1) Six were treated with a further course of penicillin in which the dose of procaine penicillin G was doubled (3 m.u. b.d. for 3 days). Four of these again recurred. Two were cured with a further course of penicillin, one with tetracycline and one with kanamycin.

- (ii) One patient was admitted to hospital and cured with a 4 day course of potassium penicillin G (2 m.u. q.i.d.), procaine penicillin G (1.5 m.u. b.d.) and probenecid (0.5 g t.d.s.).
- (iii) Two were treated with tetracycline. One recurred and was cured with kanamycin.
- (iv) Two were cured with kanamycin.

There was one treatment failure (2%) in the patients treated with kanamycin and this was cured with tetracycline. There were no recurrences among the patients treated with tetracycline.

M.i.c. values were obtained in 8 of the 11 cases of penicillin failure and these were all 1.5 units/ml or more.

Except in one treatment failure, where the urethral discharge persisted unchanged, treatment with penicillin caused an abrupt cessation of the urethral discharge within 12 hours of the initial injection. In the treatment failures, the urethral discharge recommenced 2 or 3 days after cessation of treatment. Treatment with tetracycline caused an abrupt cessation of the urethral discharge within 2 to 3 days of commencement of therapy whereas kanamycin produced a more gradual reduction in discharge between 8 hours and 2 days after the initial injection.

Forty per cent of patients treated with tetracycline and penicillin and 38% of those treated with kanamycin were uncircumcised. This approximates to the proportion of uncircumcised in the troop population.

The distribution of incubation periods was similar in all treatment regimes and is shown in Table 1.

TABLE 1. Incubation periods of gonococcal infections.

Incubation period (days)	Number cases	Per cent
2	4	3
3	16	10
4	28	18
5	27	18
6	20	14
7	17	12
8	13	8
9 - 12	10	7
13 - 16	10	7
17 - 22	2	1
23 - 28	3	2

In 2 cases the only sexual contact within 2 months had been fellatio 4 weeks and 13 days, respectively, prior to the appearance of symptoms. Two patients last had intercourse 4 weeks prior to presentation but had fellatio 7 days and 14 days, respectively, before the appearance of urethral discharge. An incubation period of 4 or 5 days occurred in 55 (36%) cases, and in 125 (83%) cases symptoms appeared within 8 days of contact.

Most patients complained of the pain of potassium penicillin G and kanamycin injections. There were 2 cases of syncope after administration of penicillin and one with kanamycin. There were no

complaints of side effects from tetracycline, suggesting that any resultant gastro-intestinal disturbance was so slight as to go unnoticed among the typically labile bowel behaviour of soldiers in the tropics.

Table 2 shows the distribution of penicillin, tetracycline and kanamycin m.i.c. values. The comparison of these values with those from other studies has been discussed in chapter VI.

TABLE 2. Distribution of M.I.C. values for penicillin, kanamycin and tetracycline.

PENICILLIN		KANAMYCIN		TETRACYCLINE	
Units/ml	%	ug/ml	%	ug/ml	%
0.05	1	1	1	0.1	5
0.1	5	2.5	7	0.5	14
0.5	24	5	24	1.0	26
1.0	9	8	14	3.0	54
1.5	45	10	34	Over 3	1
2.0	4	15	20		
3.0	10				
Over 3	2				

Table 3 shows the correlation of kanamycin and tetracycline sensitivities with penicillin sensitivity. There is significant decrease in sensitivity to both kanamycin and tetracycline as the penicillin resistance increase above 0.5 units/ml, but this same tendency does not continue with the very resistant strains (above 1.5 units/ml). Forty per cent of strains sensitive to 0.5 units/ml of penicillin are resistant

TABLE 3. Distribution of M.I.C. values for kanamycin and tetracycline for 3 levels of penicillin sensitivity.

	PENICILLIN M.I.C. (Units/ml)					
	0.5 or less		1.5		Over 1.5	
	No.	%	No.	%	No.	%
KANAMYCIN						
M.I.C. (ug/ml)						
1.0	-	-	1	2	-	
2.5	6	20	-		1	6
5.0	12	40	10	19	2	13
10	9	30	30	55	9	56
15	3	10	13	24	4	25
TETRACYCLINE						
M.I.C. (ug/ml)						
0.1	5	19	-		-	
0.5	6	20	7	13	1	6
1	13	41	10	18	3	19
3	6	20	36	67	12	75
Over 3	-		1	2	-	

to 5 ug/ml of kanamycin compared with 80% of these strains resistant to 0.5 units/ml of penicillin. Similarly, resistance to 1 ug/ml of tetracycline is exhibited by 20% of strains sensitive to 0.5 units/ml of penicillin but by 69% of strains resistant to this penicillin level.

3. DISCUSSION

The results of this study indicate the advantages of tetracycline and kanamycin over penicillin in this particular environment. The failure of penicillin can be largely accredited to the extreme resistance of the gonococci in this area. The marked difference between the relative regional resistance to penicillin compared with that to tetracycline and kanamycin (as demonstrated in chapter VI) is of considerable interest. This supports the suggestion that this resistance was due to the type of drug usage of the civilian population (who used penicillin much more frequently than either tetracycline or kanamycin). It also offers one explanation for the results obtained in the clinical trial.

Under these conditions, penicillin even in doses up to 5 to 10 m.u. with the addition of probenecid, ceases to be the drug of choice for treating gonorrhoea. Tetracycline has excellent curative powers, is cheap and painless to administer. Its efficacy against non-gonococcal urethritis reduces the importance of distinguishing this condition from gonorrhoea. This is particularly significant where laboratory facilities are lacking or Medical Officers are inexperienced. In any case gonococcal and non-gonococcal urethritis often exist concurrently, and the latter must often be treated after a gonococcal infection has been terminated. Non-gonococcal urethritis appears much less commonly at the conclusion of gonococcal therapy when tetracycline, rather than penicillin or kanamycin, is used in the first instance. In large Armies where urethritis is in epidemic proportions, it is often necessary for non-medical personnel to administer a standard therapy for all urethral

discharges to reduce the number of cases for professional consideration to manageable proportions. Tetracycline is the obvious drug for this purpose. Even in this environment, where such extreme conditions did not exist in the Australian Army, tetracycline was probably the drug of choice for treating gonorrhoea. In view of the absorption characteristics of tetracycline, it is possible that the high dosage used was wasteful, and that smaller amounts for a shorter time would be equally effective. Doxycycline was introduced in place of tetracycline but there is insufficient experience to assess its value. It might be anticipated that, if suitably large doses are used, it will yield comparable results to tetracycline hydrochloride.

Kanamycin has proved a suitable alternative drug against penicillin resistant gonococci. Possibly its effectiveness is, in part, due to the high urinary and prostatic fluid concentrations it produces. Overemphasis, in the past, has been placed on its ototoxicity and nephrotoxicity, as the likelihood of side effects from this dose in healthy individuals must be remote. In fact, if reserved for selected recurrences to be managed under controlled conditions, a further 1 or 2 g daily could be safely given for a further 2 or 3 days. The high cost is an important consideration for routine use but loses its deterrance in recurrences, where the cost of lost manpower outweighs that of the drugs used. It has the advantage of being a one-dose therapy, which is even more significant for civilian practice where defaulting may be a problem. In Vietnam its effectiveness in treating chronic non-gonococcal prostatitis was disappointing.

The determination of plate-dilution sensitivity of a given gonococcal environment is desirable under most modern conditions. It is not of great help in individual cases, as the results are retrospective, but it produces a clearer picture of the specific combination of sensitivities of various drugs within a particular environment. This information enables rational drug usage. The relative merits of penicillin, tetracycline and kanamycin differ in the various regions discussed (Chapter VI). Where more than 50% of unselected strains have a penicillin m.i.c. of 1.5 units/ml or greater, it is probably unwise to continue using penicillin routinely. Where more than 50% of strains have a penicillin m.i.c. of 0.5 units/ml or less, penicillin may still be the drug of choice. Between these two extremes, penicillin should only be used in large doses. Experience suggests that large doses for a short period are more effective than the same total dose given over an extended period.

It is considered that benemid should always be given with penicillin therapy so that blood levels are augmented. Arguments have been raised that this practice lowers urinary levels and is, therefore, undesirable. This criticism is ill-founded, however, as gonococci and pus to which urine has access are of minor significance compared with organisms which have invaded organ tissues and are only accessible to blood-borne antibiotic.

Of interest in the present series is the suggestion that, in at least two cases, gonorrhoea was transmitted by fellatio. On several other occasions such incidents were traced and cultures taken from the

mouth and pharynx of the girls concerned. None of these cultures yielded gonococci, however. While gonococcal pharyngitis has been reported (Piumara et. al., 1967), this is not a necessary prerequisite for transmission. It is feasible that, where a girl services a number of customers in rapid succession, the mouth may merely act as an incubator thus avoiding the need for colonisation of mucosa by the organisms. In this situation, investigations when the girl is traced (usually at least a week after transmission) are unlikely to be helpful.

CHAPTER II.1.2. PENILE ULCERS

During 1970, 382 patients (19% of the clinic total of 1,970) with penile ulcers were treated. The following groups are excluded from this discussion:-

- (i) Those lesions only detectable after careful scrutiny.
- (ii) Donovanosis, which was not uncommon in other areas of Vietnam, but was not seen in the clinic.
- (iii) Three cases diagnosed as lymphogranuloma venereum (elongated lymphadenopathy and positive skin test) and not having prominent penile ulcers.

The lesions seen may be discussed in 4 groups: syphilis, chancroid, herpes genitalis and non-specific pyogenic ulcers.

1. SYPHILIS

Only 5 cases were seen in 1970, and 4 of these were acquired in Saigon. Clinically the ulcers were quite painless, but otherwise differed from the classical chancre picture in being either long serpiginous ulcers

or deep pits near the coronal sulcus. Dark ground illumination confirmed the diagnoses. 7048 RPR card tests on the troop population in 1970 failed to disclose any further cases.

Syphilis was of interest due to its rarity rather than its presence. This low incidence was noticed elsewhere in Vietnam, both in Military and civilian populations. It is possible that the widespread use of penicillin and other antibiotics masked the incidence of this disease.

2. CHANCROID

Although in most western countries chancroid is a very rare disease, in Vietnam it was second only to gonorrhoea (apart from non-gonococcal urethritis) as a cause of venereal disease. It can be a difficult disease both to diagnose and to treat.

Two previously reported studies are relevant to this environment. The first reports observations on American troops in Korea (Asin, 1952) and the second gives an account of chancroid in Vietnam (Kerber et. al., 1968).

The Korean study on 1402 American personnel yielded the following results:-

- (i) Four percent of patients had been circumcised. Chancroid was most prone to occur in men with phimosis.
- (ii) Incubation was one to 14 days.
- (iii) Ulcers were variable in size and shape, and inflammatory reaction of the surrounding area was uncommon. Pain in the ulcer was infrequent.
- (iv) Seventy per cent of patients had single ulcers.

- (v) Clinical diagnosis was confirmed by finding Ducrey bacilli on direct smear or a positive Ito-Reenstierna skin test.
- (vi) Fifty one per cent of patients had inguinal buboes and these were bilateral in one-fifth of patients.
- (vii) Aureomycin was found to be the most effective drug for treatment.

In order to characterize the disease in terms of presentation, diagnosis and treatment, the Vietnam study was done in 1968 (Kerber et al.). Diagnosis was made by identification of gram-negative rods on Gram-stain, after syphilis and Donovanosis had been excluded. Efforts to culture *Haemophilus ducrey* on various media were unsuccessful. The findings from this study were:-

- (i) Twenty six per cent of patients were circumcised compared with 52% of controls.
- (ii) Average incubation period was 7 days.
- (iii) Mean number of chancres was 2.1 (maximum was 10).
- (iv) Size of the lesions varied from 1 mm to 2 cm (average was 5 mm).
- (v) Tender lesions commonest on foreskin and adjacent to fraenum but the glans and shaft were sometimes involved.
- (vi) Forty per cent had no inguinal lymphadenopathy, 16% had discrete unilateral nodes, 33% had discrete bilateral nodes and 11% had matted unilateral adenopathy.
- (vii) Treatment with tetracycline alone (2 g per day) was not as effective as gantrisin (4 g per day) or the combination of gantrisin plus tetracycline. In both the latter cases,

however, the average time to healing was 13 days.

Among Australian troops there were 153 cases of chancroid diagnosed clinically in 1970. Syphilis was excluded by dark ground illumination, but subsequent diagnosis of chancroid from smear alone was found unsatisfactory. Gram-negative rods consistent with *H. Ducreyi* could usually be identified, but these were inevitably outnumbered by a host of other organisms regardless of how the smear was taken. In the earlier part of 1970, approximately 25% of cases diagnosed as chancroid developed spherical unilateral buboes, with mildly reddened overlying skin, and *Haemophilus* organisms were clearly recognizable in aspirate from these lesions. This enabled an assessment of the clinical forms of chancroid encountered:

- (i) Probably the commonest presentation consisted of one to 5 circular or oval ulcers on the mucosal surface of the prepuce or adjacent frenulum or coronal sulcus. These were shallow, painful, non-indurated and were often surrounded by a sizeable area of erythema. Circular lesions were never greater than 1 cm in diameter but elongated ulcers were often larger. When the ulcers were multiple there was usually marked variation in their sizes.
- (ii) Of almost equal frequency was the presentation of confluent, sloughing ulceration in the coronal sulcus.
- (iii) Phagedenic ulceration was much less common but often proved extremely difficult to treat. Usually there was only one lesion situated on either the shaft or glans. This ulcer was

extremely painful and spread at an alarming rate.

- (iv) Other forms of chancroid, e.g. papular ulceration, were less common.

The greatest difficulty in clinical diagnosis was the distinction from herpes genitalis.

Against this diagnostic background, a clinical trial was undertaken to assess the relative efficacy of 3 treatment regimes:-

- (i) Gantrisin, orally (4 g per day).
- (ii) Streptomycin, 0.5 g i.m. twice a day.
- (iii) Local therapy. This involved cleaning the lesion with dilute eusol 3 times a day and applying neomycin ointment. When a lesion occurred beneath the uncircumcised prepuce, this was maintained in a retracted state during therapy. This practice is contraindicated if there is any tendency to phimosis.

In the clinic this treatment was used for all relevant cases of penile ulceration and balanitis, and no complications were experienced. On the contrary, rapid healing was obtained with many lesions which had proved refractory while the overlying prepuce had maintained the lesion and adjacent skin in a macerated state.

An effective technique was developed to maintain the prepuce retracted in humid tropical conditions and at times of vigorous exercise by the patient (Plate VII). Firstly, the dorsum of the penis and a vertical strip 2" wide on the pubis and adjacent abdominal wall were

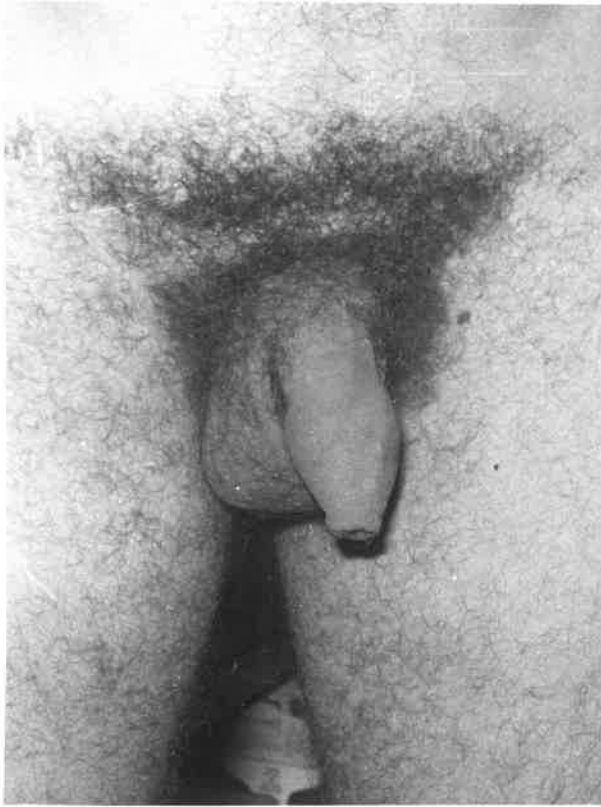
shaved free of hair. The prepuce was then retracted and a strip of micropore adhesive applied around the circumference of the retracted foreskin. A further strip of micropore was then used to attach the first strip to the abdominal wall. Further adhesive was added to fortify this arrangement. With other variations of anatomy and working conditions, it was sometimes possible to dispense with the vertical strip and merely use circumferential adhesive or cotton tape to maintain retraction.

Patients with clinical chancroid were assigned in turn to one of the 3 treatment regimes. Information on circumcision, incubation, size and location of the lesions was recorded. Patients were reviewed weekly and their progress recorded.

The therapeutic aspect of this trial was discontinued after only 20 cases had been seen. While streptomycin always produced a marked improvement in one week and usually complete healing within 2 weeks, the other 2 regimes often allowed the lesion to worsen and progress to bubo formation. Furthermore, these lesions did not then show as good a response to streptomycin as those lesions which were treated with this drug initially. Lesions on the penile shaft often showed a poor response, if any, to streptomycin. For these lesions, and others refractory to streptomycin, intravenous Keflin (1 g 6 hrly) was used, and produced dramatic healing within a few days.

From this time, all cases of clinical chancroid were treated by a standard regime. Following a single dark ground illumination study for spirochaetes, the patient received streptomycin (0.5 g b.d.) for 7

- a. The uncircumcised penis.
- b. Preputial retraction maintained with tube gauze.
- c. Gross preputial oedema from prolonged intercourse. The glans can be seen above and behind the oedematous prepuce.
- d. Preputial retraction maintained with micropore adhesive.



a



b



c



d



a



b

Plate XII.

PENILE TRAUMA

- a. Paraphimosis from forced preputial retraction during ejaculation.
- b. Preputial oedema from traumatic tear by a prostitute.

days. If the lesions were beneath the prepuce, routine local therapy was administered concurrently. Due probably to the rapid presentation (within one or two days of the appearance of the lesions), the efficacy of the treatment regime and the early institution of therapy (previously therapy had been withheld for three days while successive dark ground illumination tests were done), healing always occurred within 7 to 14 days and Keflin was never required (in Vietnam, a 5 day course of this latter drug cost 100 dollars). Furthermore, the incidence of bubo formation was reduced to 10%.

The findings in this Australian study were:-

- (i) Twenty three per cent of chancroid patients were circumcised compared with 60% of other clinic patients.
- (ii) The incubation was usually 2 to 10 days, with the modal value being 4 days.
- (iii) There were rarely more than 5 distinct ulcers and over 60% of cases had only one or 2 ulcers.
- (iv) The size of the lesions was very variable but circular lesions were rarely more than one cm in diameter. Confluent linear lesions in the coronal sulcus were often several cms long, however.
- (v) Bilateral inguinal lymphadenopathy was not seen, neither was discrete nodal enlargement. In cases treated in the earlier part of 1970, 25% had a characteristic spherical bubo in one groin. Later, when treatment with streptomycin was instituted

within one to two days of the appearance of the ulcer, this rate fell to less than 10%. A highly significant difference in the American series was that treatment was sought, on an average, 4 days after appearance of ulceration. Furthermore, delays due to investigation and the use of oral medication precluded effective antibiotic therapy, for many patients, until one week after appearance of the lesion. Under these circumstances a much higher incidence of lymphadenopathy would be expected. It is not unlikely that some of the discrete nodal enlargement (particularly when bilateral) was due to secondary infection.

Difficulties in diagnosis and the lack of sophisticated research facilities precluded conclusive experimental investigation of chancroid. However, some interesting observations emerged from this series.

- (i) Lesions occurring on the penile shaft or in the uncircumcised were invariably more difficult to treat than other lesions.
- (ii) A much higher incidence in the uncircumcised (5 times as frequent as in the circumcised) was noted in both the American and Australian series. In view of the difficulty in growing this organism in artificial media, it possibly requires some predisposing influence for it to invade human tissue. The moist macerated tissue beneath the prepuce results in a breakdown of the normal integumental barrier to infection. Furthermore, this predisposes to traumatic abrasions or tears of the frenulum and prepuce, and it is possible for *Haemophilus ducreyi* to

invade the host. Under these circumstances, it is possible to remove the predisposing factors (by local therapy), combat the organism with antibiotics and restore the balance in favour of host resistance.

The rarer lesions occurring on the penile shaft or in the uncircumcised may occur as a result of previous abrasions or lacerations but, alternatively, may be due to a particularly virulent organism or to a low host resistance. In this latter situation the host is at an initial disadvantage which cannot be readily overcome, so more potent or extended antibiotic therapy will be required than for infections in the uncircumcised.

In these lesions it has been suggested that the invasiveness and phagedenic effect are due to superinfection with a synergistic organism (e.g. Vincent's organisms) and this emphasises the special need for antibiotic therapy as soon as possible. Delay in instituting therapy for a few days may allow a great increase in the size of the lesions and prolong the period of treatment for weeks.

This account has demonstrated how workers in 3 different fields, at different times, have approached the problem of chancroid, and found a reasonably satisfactory therapeutic solution. The 3 studies are in agreement on a short incubation of 1-14 days and the very strong preponderance in the uncircumcised. There is marked divergence on certain other aspects, however, and this may well be attributable to the poor standards of diagnosis, by research standards, common to all 3 studies. Diagnosis of chancroid by stained smear of the primary ulcer is unsatisfactory

for research studies. Since culture is difficult, buboes only occur in a minority of the promptly treated, and skin testing is of limited use, the research worker, in a war setting, is left without satisfactory diagnostic aids.

3. HERPES GENITALIS

In 1970, 62 cases of herpes genitalis were seen. The small minority of these cases involved infection on the external skin of the prepuce and presented no diagnostic problem. Lesions occurring on the mucosal surface of the prepuce can be confused with chancroid, however. Usually a larger number of ulcers occurred (10-15) and these were uniformly sized, usually less than 5 mm in diameter, and surrounded by a narrow circle of erythema. Local therapy which allowed drying of the ulcers, and prevention of secondary infection invariably allowed healing in 7-10 days. The use of stoxil (idoxuridine) ointment instead of neomycin did not improve this rate of healing. Bubo formation was never observed although secondary infection sometimes produced tender inguinal lymphadenopathy.

4. PYOGENIC ULCERS

With 152 cases in 1970, these ulcers were almost as common as chancroid. Some ulcers were so obviously traumatic that they were not referred to the clinic, so this group of penile ulcers was clearly the largest in this environment. Dark ground illumination was performed on these ulcers but there was rarely any suspicion of syphilis as an etiology. The lesions were mostly single, shallow, of variable size and moderately

painful. Trauma was a common cause, although not always readily forthcoming in the history. Teeth marks on the prepuce presented a quite characteristic picture, whereas frenular tears were most commonly caused by intercourse or masturbation. Where trauma was severe, preputial oedema was a common accompaniment to ulceration and occasionally paraphimosis resulted.

Local therapy, with eusol washes and neomycin ointment, invariably produced healing within 7 to 10 days. Retraction of the prepuce was rarely indicated (due to the location of the ulcers) and is certainly contraindicated in the presence of preputial oedema.

5. SUMMARY

Penile ulcers, although not numerically as common, caused greater time loss per man and were more difficult to treat than urethritis. Syphilis was very rare, but chancroid occurred commonly and was difficult both to diagnose and to treat. Early treatment with an effective antibiotic (e.g. streptomycin, kanamycin, keflin) administered parenterally was found to be essential in the management of this latter condition. Prolonged preputial retraction, allowing better cleansing and subsequent drying of underlying lesions, was a valuable aid in the management of all sub preputial ulcers and was free of complications.

CHAPTER II.2.1. EXPLORATORY STUDY

The results from the 400 participants are outlined in Appendix 1. Useful analysis of the data provided by the officers is precluded because of the small number (24). The data from the 376 other soldiers are summarized in Tables 4-12.

1. CIRCUMCISION

There was no difference in the incidence of circumcision for conscripts (113, 73%) and volunteers (164, 74%).

2. VENEREAL DISEASE PRIOR TO COMING TO VIETNAM

Previous venereal disease had been contracted by 8 (6.5%) conscripts and 28 (12.5%) volunteers ($P < 0.02$); 36 (9.5%) in all.

TABLE 4. Relationship of intercourse incidence with rank, enlistment and marital state.

	NUMBER	% OF TOTAL	% HAVING INTERCOURSE		P (for Intercourse vs. no Intercourse)
			Once	Multiple	
RANK					< 0.01
Private	209	55.5	18.5	52.5	
NCO	167	44.5	17	40	
ENLISTMENT					> 0.30
Conscript	155	41.5	13.5	53.5	
Volunteer	221	58.5	21.5	42.5	
MARITAL STATE					< 0.001
Married	143	37.5	21.5	29.5	
Single	233	62.5	16.5	58	

TABLE 5. Intercourse incidence of conscripts and volunteers subdivided by marital state.

	Number	Number having Intercourse	Per cent
CONSCRIPT			
Single	125	90	72
Married	30	14	46.5
VOLUNTEER			
Single	108	83	77
Married	113	59	52
TOTAL	376	246	65.5

TABLE 6. Age distribution of participants.

	Under 21	21-25	PER CENT 26-30	Over 30
Private	15.8	79	4.5	0.9
NCO	11.4	62.2	9	17.4
Total	13.9	71.5	6.4	8.2

TABLE 7. The incidence of venereal infection in Vietnam.

Group	Number with V.D.	% of those having intercourse	P
CONSCRIPT			
Single	25	28	
Married	1	7	
VOLUNTEER			
Single	27	32.5	
Married	13	22	
TOTAL	66	27	

Married conscripts vs rest
0.05 < P < 0.10

TABLE 8. Numbers of soldiers who utilised a condom during intercourse on all occasions.

Group	Number	% of those having intercourse	P
CONSCRIPT			
Single	13	14.5	
Married	7	50	Single vs married
VOLUNTEER			
Single	13	15.5	
Married	22	37.5	P < 0.001
TOTAL	55	22.5	

TABLE 9. Numbers of soldiers with and without V.D. related to number of exposures and prophylaxis used.

Number Exposures	No Prophylaxis		Prophylaxis sometimes		Condom Always NO-V.D.	Wash always	
	V.D.	NO-V.D.	V.D.	NO-V.D.		V.D.	NO-V.D.
1	6	20	-	-	25	4	10
2	4	16	2	-	9	3	3
3	3	10	3	11	9	1	1
4	1	2	2	7	2	-	2
5	-	5	3	6	3	-	-
6 - 10	7	9	9	14	5	4	1
11 - 20	3	6	4	-	1	-	-
Over 20	2	2	5	-	1	-	-
TOTAL	26	70	28	36	55	12	17

TABLE 10. Numbers of soldiers usually influenced into having intercourse by the effects of alcohol.

GROUP	Number	% of those having Intercourse	P
CONSCRIPT			
Single	23	25.5	
Married	7	50	Married conscripts vs rest
VOLUNTEER			
Single	24	29	P < 0.10
Married	17	29	
TOTAL	71	29	

TABLE 11. The frequency of volunteered reasons for abstinence.

REASON	MARRIED		SINGLE	
	No.	%	No.	%
Fidelity	47	67	6	10
No opportunity	3	4.5	4	6.5
Fear of V.D.	5	7	9	15
Ethical or religious	7	10	3	5
Inconvenient	5	7	6	10
Fear of failure	-	-	5	8.5
Dislike Vietnamese	-	-	14	23
Don't know	3	4.5	13	22
TOTAL	70	100	60	100

TABLE 12. Behaviour and sequelae of soldiers on rest and recuperation leaves.

	CONSCRIPT		VOLUNTEER		Intercourse Rate	V.D. Rate
	Married	Single	Married	Single		
AUSTRALIA						
Number	30	40	110	56		
HONG KONG					100%	7%
Number	-	52	-	38		
Intercourse	-	48	-	34		
V.D.	-	-	-	6		
BANGKOK					100%	30%
Number	-	10	-	7		
Intercourse	-	10	-	7		
V.D.	-	5	-	-		
TAIPEI					100%	0%
Number	-	23	3	7		
Intercourse	-	23	3	7		
V.D.	-	-	-	-		
TOTAL	30	125	113	108	94.5%	8%

CHAPTER II.2.2. QUESTIONNAIRE FINDINGS

The full analysis of data from the control series is shown in Appendices 3 and 4 where comparisons with the clinic group are also shown.

Of the control group, 145 (64.2%) had intercourse in Vietnam. Table 13 outlines the factors associated with sexual participation - age, marital state, type of enlistment, alcohol intake, education, civil and military crime and family size. Table 14 outlines the factors not clearly related to participation - rank, time in Vietnam, racial origin, state of parental home, family order, religion, church attendance, religious beliefs and social status.

1. COMPARISON OF CONSCRIPTS AND VOLUNTEERS

115 (51%) of the control group were conscripts and 111 (49%) were volunteers. The Army selected conscripts randomly (by date of birth) so this group can be related to the average Australian male of this age group (20-22 years). The randomisation is disturbed by fall out due to medical unfitness or administrative exemption, selection of a limited number for officer training and the uneven distribution of characteristics leading to service in Vietnam, and there are probably statistically significant differences between the average Australian and this group. However, with most sociological factors assessed, these differences will not be great on a percentage basis and the results represent a rough approximation to those expected from the 20 year old Australian male. By contrast, volunteers represent a selected occupational group.

Differences between conscripts and volunteers were apparent without statistical analysis. The better education, initiative and more

TABLE 13. Factors associated with an increased incidence of intercourse with prostitutes in Vietnam.

PARAMETER	Total	Intercourse	% Intercourse	P
<u>AGE</u>				< 0.10
Under 21	31	26	84	
21-25	166	101	61	
26-30	10	7	70	
Over 30	19	11	58	
<u>MARITAL/ENLISTMENT</u>				< 0.01
Single conscript	96	58	60.5	
Married conscript	19	8	41	
Single volunteer	63	52	83	
Married volunteer	48	27	56	
<u>ALCOHOL INTAKE</u>				< 0.001
Nil	7	4	57	
Social	84	40	47	
Regular	77	56	72.5	
Heavy	21	15	71.5	
Very heavy	37	30	81	
<u>EDUCATION</u>				< 0.02
Primary	4	3	75	
1-3 yrs secondary	120	86	71.5	
4-6 yrs secondary	80	48	60	
Tertiary	22	8	35.5	
<u>CIVIL ARRESTS</u>				< 0.01
Yes	58	46	79.5	
No	168	99	59	
<u>ARMY CHARGES</u>				< 0.10
Nil	119	73	61	
1	59	36	61	
2-5	37	26	70.5	
6-10	7	7	100	
More than 10	4	3	75	
<u>FAMILY SIZE</u>				< 0.05
Only child	5	2	40	
2 children	45	25	55.5	
3 children	63	34	54	
4 children	52	41	79	
5 children	20	13	65	
More than 5	41	30	73	

TABLE 14. Sociological parameters not closely related to an increased incidence of intercourse with prostitutes.

PARAMETER	Total	Intercourse	% Intercourse	P
<u>CHURCH ATTENDANCE</u>				> 0.2
Weekly	8	3	37.5	
Monthly	2	1	50	
Infrequently	43	27	63	
Never	173	114	66	
<u>RANK</u>				> 0.7
Private	140	91	65	
NCO	86	54	63	
<u>TIME IN VIETNAM</u>				> 0.7
Under 3 months	45	27	60	
3-6 months	73	47	64.5	
Over 6 months	108	71	66	
<u>RACIAL ORIGIN</u>				> 0.2
Australian	184	117	63.5	
United Kingdom	22	17	77.5	
Mediterranean	3	1	33.5	
New Zealand	3	3	100	
Maori	1	-	0	
Other	13	7	54	
<u>PARENTAL HOME</u>				> 0.7
Happy	156	98	63	
Unhappy	6	5	83.5	
Separated	14	10	71.5	
Divorced	10	7	70	
Other	40	25	62.5	

TABLE 14. (Continued)

PARAMETER	Total	Intercourse	% Intercourse	P
<u>FAMILY ORDER</u>				> 0.7
Eldest	93	58	62.5	
Second	58	36	62	
Third	38	25	66	
Fourth	19	12	63	
Fifth	4	2	50	
Less	14	12	86	
<u>RELIGION</u>				> 0.3
Anglican	71	50	71	
Roman Catholic	68	45	66	
Other Protestant	64	35	54.5	
Nil	16	12	75	
Other	7	3	43	
<u>RELIGIOUS BELIEFS</u>				> 0.3
Serious	57	34	59.5	
Not serious	169	111	66	
<u>SOCIAL STATUS</u>				> 0.3
1	9	7	78	
2	4	2	50	
3	15	7	46.5	
4	21	12	57	
5	68	45	66	
6	82	56	68	
7	27	15	55.5	

stable personality of the conscript enabled the Army to function more efficiently than would have been possible otherwise. Thus, private soldiers with University degrees or other special qualifications provided skills of a standard which the Army normally could not attain. Regular Army officers, however, often expressed a preference for volunteers. This is not surprising as, although the conscript was a definite asset in technical fields, he created problems in the more mundane and routine aspects of Army life. The soldier who follows any instruction unthinkingly is easier to control than the one who requires rational justification for a particular policy, or continually contributes ideas of his own. Furthermore, initiative, intelligence and insight can be severe handicaps in a field situation where one is asked to risk life and limb for what many considered a futile endeavour for a dubious goal.

Statistical comparison between volunteers and conscripts shows many spurious differences due to length of service, age and other factors. Differences in this category - age, rank, state of parental home, marital state and army crime - are shown in Table 15. Other differences are shown in Table 16.

2. COMPARISON OF CONTROL AND CLINIC SERIES

Appendix 4 compares the control series, divided into those having intercourse in Vietnam (i.c.) and those abstaining (no-i.c.), with the clinic series, divided into those who acquired V.D. in Vietnam (V.D.) and those who did not (no-V.D.). The sequence: no-i.c., i.c., no-V.D., V.D. probably represents a gradation of increasing involvement in the prostitution-venereal disease environment. In many characteristics

TABLE 15. Conscript and volunteer differences related to age and length of service.

	CONSCRIPT (%)	REGULAR (%)		CONSCRIPT (%)	REGULAR (%)
<u>AGE</u>			<u>MARITAL STATE</u>		
Under 21	-	28	Single	83.5	57
21-25	98	47.7	Happily married	14.5	40.5
26-30	2	7.2	Other	2	2.5
Over 30	-	17.1	<u>CHARGED IN ARMY</u>		
<u>RANK</u>			Never	67	38
Private	79	44	Once	24	28
NCO	21	56	2 - 5 times	7	26
<u>PARENTS</u>			6 - 10 times	1	5.5
Happily married	81.6	56	Over 10	1	2.5
Unhappily married	2.6	2.7			
Separated	4.7	8.1			
Divorced	5.1	3.6			
Other	6.0	29.6			

there is a consistent trend along this sequence, with abstainers and V.D. sufferers at the extremes, whereas the two groups i.c. and no-V.D. are very similar and occupy an intermediate position. The significant differences between the two groups are shown in Table 17.

TABLE 16. Some differences between conscripts and volunteers.

PARAMETER	PER CENT OF		P
	Conscript	Volunteers	
Tertiary Education	17.5	2	< 0.001
Over 4 siblings	12	24.5	< 0.05
V.D. before Vietnam	9	18	< 0.01
Intercourse before 15 yrs	11	23	< 0.001
Indiscriminate choice of sexual partner (single soldiers)	15	52	< 0.001
Keen to marry Vietnamese	0.3	5	< 0.001
Paternal disapproval anticipated	45.5	35	< 0.05
Masturbation major sexual outlet	33	23	< 0.02
Intercourse over 5 times a night	8	38	< 0.001

3. THE MULTIPLE-V.D. PATIENT

Appendix 24 compares the sociological parameters of patients with single infections to those of patients with multiple infections. Apart from length of service in Vietnam, there were no significant differences between these two groups.

4. SEXUAL HABITS AND VENEREAL DISEASE

Appendix 5 outlines the findings from the clinic series. Appendices 6-21 outline the relationship of various aspects of sexual behaviour with parameters of sociological background. Discussion of this data is included in the next section.

TABLE 17. Differences between control and clinic series.

PARAMETER	Percent			P
	Control	No-V.D.	V.D.	
ENLISTMENT				<0.01
Conscript	51	49	37	
Volunteer	49	51	63	
AGE				<0.001
Under 21	13.7	12.5	25	
21-25	73.5	77	67	
26-30	4.4	5.5	5	
Over 30	8.4	5	3	
MARITAL STATE				<0.01
Single, un- attached	36.4	38.5	53	
Single, attached	17	17	12.5	
Married	27.4	25	20.5	
ARMY CHARGES				<0.001
N11	52.7	46.5	28	
One	26	24	29.5	
Multiple	21.3	29.5	42.5	
TIME IN VIETNAM				<0.05
Under 3 months	20	14	12.5	
3-6 months	32	32	27	
Over 6 months	48	54	60.5	
RELIGIOUS BELIEFS				<0.10
Serious	25.2	19	15.5	
Not serious	74.8	81	84.5	
RANK				<0.10
Private	62	68	69	
NCO	38	32	31	
PERSONALITY				
Extraversion	12.70	12.84	13.64	sig.
Neuroticism	9.10	9.94	10.30	sig.

CHAPTER II.3.1. VENEREAL DISEASE EDUCATION AND ATTITUDES

1. INFLUENCE OF V.D. LECTURES (Qu. 18, 19, 27)

Only 4% of soldiers had never attended a lecture on V.D., and 66% had attended on more than one occasion. However, only 81% had attended a lecture by a doctor and 15% had always been lectured by a lay person. There were no significant differences in attendance among the various sub-groups or with type of enlistment.

Eighty six percent considered that lectures had some influence but only 2% thought this was sufficient to deter them from having intercourse. Fifteen percent of those abstaining from intercourse considered this was due to lectures they had received. Among the controls, 8% of volunteers compared with 3% of conscripts were deterred ($P < 0.05$).

2. INFLUENCE OF ARMY LIFE ON KNOWLEDGE (Qu. 21, 22)

Only 1% of patients knew all about V.D. before joining the Army, 8% considered they knew nothing and 35% considered they knew very little. By comparison 5% of controls thought they knew all about V.D. before joining the Army ($P < 0.01$). In the control series, 11.5% of volunteers and 1% of conscripts had no prior understanding of V.D. ($P < 0.001$).

Forty three percent of the no-i.c. group, 55% of the i.c. group and 73% of clinic attenders knew much more about V.D. than they had prior to joining the Army ($P < 0.001$). Of the 15 clinic attenders who knew no more about V.D., 4 had previously known most facts and 9 had known some facts about V.D. In contrast, 12.5% of abstainers and 14.5% of the i.c. group had not increased their knowledge of V.D.

3. SERIOUSNESS OF VENEREAL DISEASE (Qu. 20, 23, 24)

Fifteen percent of clinic attenders thought V.D. could always be cured, 77% that it could usually be cured and 8% that it often could not be cured. In contrast, 18.5% of abstainers and 11% of the i.c. group thought that often V.D. could not be cured ($P < 0.01$). There were no significant differences in the beliefs of conscripts and volunteers.

Over 58% of patients and 53% of controls thought all V.D. was serious whereas all the others considered only some V.D. was serious. In each group fewer conscripts than volunteers considered all V.D. was serious. The percentages of conscripts with this belief in the controls, no-V.D. and V.D. groups were 33.5, 49.5 and 54.5, respectively, whereas the percentages of volunteers were 57, 66 and 61.5, respectively ($P < 0.01$).

Over 70% of controls and over 80% of clinic patients thought that syphilis was the most serious type of V.D., and 12% of each group that all types were equally serious.

4. PROPHYLAXIS (Qu. 25, 26)

Seven percent of controls and 2% of clinic patients thought washing usually prevented all types of V.D., 18% of controls and 22% of patients that it usually prevented some types of V.D. and 55% of each group that it occasionally prevented some types of V.D.

Approximately 30% of both controls and patients thought a condom was usually effective against all types of V.D., 43% of each group that it was usually effective against some types and 24% that it was occasionally effective.

5. BELIEFS AND LECTURE ATTENDANCE

The majority of soldiers with unreasonable beliefs had attended at least one V.D. lecture given by a doctor (Table 18).

TABLE 18. Unreasonable beliefs related to lecture attendance.

	Washing Prevents All V.D.	CONDOM PREVENTS V.D.		Often Can't Cure V.D.
		Never	Occasionally	
LECTURE ATTENDANCE				
No	1	-	2	3
Yes	9	2	102	34
GIVEN BY				
Doctor	8	2	90	24
Non-Doctor	1	-	12	10

6. DISCUSSION

Generally the troops under study had a good lay knowledge of venereal disease. Ignorance on the subject was more common among volunteers, and lectures tended to have a greater deterrent effect with this group than with conscripts. A thorough knowledge of venereal disease tended to be a mild deterrent to its acquisition. Army experiences greatly increased the knowledge of venereal disease of over 30% of soldiers. This was not related to lectures but to the degree of personal experience in the prostitution-venereal disease environment, but even 43% of those who did not have intercourse in Vietnam were considerably enlightened.

Overall, there tended to be unjustifiable optimism about the effectiveness of washing and insufficient faith in condoms as prophylactics.

Most soldiers received some form of instruction before coming to Vietnam. In Vietnam, films or lectures were usually given to each unit by a Medical Officer every 3 months. There was no set format for this instruction, the content of which was left to the discretion of the particular Medical Officer. Some Commanding Officers usually briefed the Medical Officer regarding the type of material they wished presented, and this sometimes caused embarrassment if it was at variance with the view of the lecturer. From the latter months of 1970 all new arrivals were given a 5-10 minutes lecture on venereal disease. This consisted of a brief talk on local aspects of control and distribution of a proforma (Appendix 22). If the author was unavailable for any of these lectures, another Medical Officer distributed the proforma and amplified any aspects not clear to the soldiers. By this means some uniformity of instruction was maintained.

There is little evidence that the lectures or films presented had a significant impact on the venereal disease problem. Education and instruction obviously have a definite role in any campaign, but this is a limited supportive one and its effectiveness will vary with the content and timing of such instruction. Some confusion was caused by divergent opinions presented by different lecturers.

In order to influence troop behaviour it is relevant to know the reasons motivating soldiers to abstain from intercourse in any environment. The pilot study provided this information and, despite the

possibility of some rationalisation, indicates that certain assumptions by Army Commanders on the influence of some policies were invalid.

Fear of V.D. deterred only 7% of married and 14.5% of single soldiers, and ethical or religious convictions were determinants for only 10% of married and 5% of single soldiers. Fidelity to spouse, though the most socially acceptable response, was not considered the main factor by 33% of married soldiers. Fear of failure was a factor for 8% of single soldiers, mainly the more introverted and sensitive individuals.

The greatest single deterrant named by single soldiers (23%) was dislike of the Vietnamese. This intolerance was widespread and manifested itself by the use of terms such as "gook", "slope" (see glossary), shouted obscenities from passengers of military vehicles and brawling with the local populace. On occasions drivers of military vehicles deliberately drove through poals, spraying pedestrians and cyclists with muddy water. The relationship of this intolerance to promiscuity was not simple, however. Many who openly displayed their antagonism to the local populace were not reluctant to use the women for their sexual pleasure. There was another large group, however, who did not usually openly display their intolerance, but in discussion voiced their marked hostility to the Vietnamese. This latter group, in contrast to the former, contained both conscripts and volunteers and many of considerable intelligence. Most of this latter group avoided any social contact with the Vietnamese.

7. CONCLUSIONS

Experience in Vietnam indicated that two types of instruction

might prove helpful :

(i) Before arrival

Simple instruction on the symptomatology of venereal disease, the types and correct use of prophylactics and a brief outline of prostitution could form the basis of lectures in preparation for overseas service.

(ii) On arrival

It is desirable that all troops should understand the details of the local control programme and their role in it. This instruction could be given on arrival and again 3 months later.

There is no evidence that regular lectures of a general nature are of any value.

CHAPTER II.3.2 ALCOHOL USAGE

In Vietnam, alcoholic beverages were cheap and consumed in abundance. Although, in some areas, the consumption of alcohol by troops was restricted, there were obviously frequent breaches of this regulation. Some of the more obvious aspects of acute alcoholism were:

- (1) Frequent admissions to casualty of soldiers deeply comatose, often unresponsive to painful stimuli, following the ingestion of large amounts of alcohol, almost certainly including spirits. Recovery was usually fairly rapid, but the task of excluding concomitant illness requiring emergency treatment was not always easy for the doctor.
- (2) Severe trauma following falls from balconies or into pits, contact with barbed wire or other obstacles, and from brawling with other soldiers or the indigenous population.
- (3) Damage to property and injury to other soldiers. The possession of a loaded firearm by the soldier magnified the potential dangers of intoxication.
- (4) Impaired efficiency, exhaustion and death from lowered endurance resulting from severe body water and electrolyte disturbance immediately following ingestion of large quantities of alcohol.

The relationship of alcohol usage to V.D. can be considered from two aspects. There is definite evidence that the immediate effects of alcohol had an influence on decisions to have intercourse, the use of prophylactics and the risk of acquiring venereal disease. Secondly, both alcohol abuse and promiscuity and V.D. may be the consequences of

the underlying personality and sociological background of the soldier. On this criterion, the heavy drinker may be at greater risk than the light drinker, even if both are sober at the time of potential contact.

The personality studies (II.3.6) support this latter hypothesis. Both the control and study groups showed a similar trend in personality scores, with both increasing alcohol intake and increasing involvement in the venereal disease-prostitution environment. Thus, it appears that certain personality types, which can be represented by particular inventory scores, are prone to certain behaviour, which is generally recognized as antisocial, resulting in infection with venereal disease, excessive alcohol intake, civil arrests, frequent military changes and possibly other forms of deviant behaviour.

The population from which this study was drawn was one accustomed to heavy alcohol consumption in their homeland. Only 3% were abstainers from alcohol and 25% were drunk at least once a fortnight. The remainder were equally divided into social and regular drinkers. There were no marked differences between the drinking patterns of conscripts and volunteers.

The base-line alcohol intake had a marked influence on the likelihood of having intercourse in Vietnam, as 81% of heavy drinkers were promiscuous compared with only 47% of social drinkers. V.D. patients contained a preponderance of moderate to heavy drinkers with decreased representation from both the light and the very heavy drinkers. Although alcohol intake was not closely related to acquisition of venereal disease for conscripts, among volunteers, steady drinkers made a large contribution (47% compared with 30.5% of controls) whereas very heavy

drinkers made a small contribution (6% compared with 19% of controls). For the very heavy drinker, interest in and enjoyment from alcohol possibly obviated the need for sexual diversions. Furthermore, these individuals were frequently rendered incapable of sexual acts due to the large quantity of alcohol they imbibed.

It was not rare to find soldiers late at night in a drunken state, having spent all their money, trying to borrow enough money for "a hang". These soldiers were usually so drunk that they were oblivious of any social taboos on behaviour, and one was observed to snatch a drink from a U.S. Colonel in uniform and gulp the contents before moving onto the next prospective philanthropist. While this behaviour revealed one aspect of the impact of alcohol, it is doubtful whether it had any sociological significance to the V.D. problem, as a soldier's sexual capabilities were surely limited during such an advanced drunken state. On one occasion, however, the virgin son of a clergyman, while in a state of intoxication, was assisted by his "friends" to perform sexually sufficiently well to acquire V.D. This practice was probably too rare to be of any overall significance and, in any case, could be more justly attributed to the distorted qualities of "Australian mateship" than to the influence of alcohol.

However, it was not uncommon to find soldiers who, while indulging occasionally in sex with prostitutes, considered the joys of alcohol more important. This attitude was most commonly recounted by soldiers who visited the recreation centre from active field duty. They would firstly "clean up" with a steam bath and massage "and sometimes

a head job, to get it out of the system" and then "get down to a night of solid drinking".

Intercourse with a prostitute in Australia was similarly related to drinking habits. Social drinkers contributed 41% of sexual abstainers compared with 26% of multiple attenders, and steady drinkers contributed 39% of abstainers compared with 53% of multiple attenders ($P < 0.05$).

The exact influence of alcohol due to its immediate physiological effects is not so clearly defined. Most of the evidence on this subject is derived from the retrospective assessment of the individuals concerned, and this assessment is subject to oversimplification and rationalisation. The pilot study indicated the important sociological role of alcohol as it influenced over 25% of the soldiers into having intercourse. Whereas for volunteers the proportion so influenced was the same for both married and single soldiers (29%), for conscripts, married men were influenced twice as frequently (50%) as were single soldiers (25.5%). This added influence, in a group among whom promiscuity is less common-place and socially more unacceptable, suggests that the influence of alcohol is due to a lowering of inhibitions and weakening of the natural psychological restraints imposed by the ethics of the individual's upbringing.

Trace reports reveal two significant influences of alcohol. Twenty percent of those completing trace reports were drunk and 50% were under the influence of alcohol, so 70% had obviously impaired ability to provide an optimal trace report. Eleven percent of soldiers were so

drunk that they were unable to initiate any form of trace report and a further 35% were unable to identify the bar or location of their act. A condom was used by 8% of sober soldiers but by only 3% of those who were intoxicated. Among the clinic patients, 25% of those omitting prophylaxis did so due to drunkenness. Thus, cooperation in any preventive campaign, both at a personal and at a community level, was greatly impaired by the effects of alcohol.

The immediate effects of alcohol influenced, to some degree, over 50% of soldiers into having intercourse and 10% considered alcohol was the sole influence. Of the 87% of soldiers in whom sex was not always premeditated, 24% changed their minds solely due to alcohol, and alcohol may have been contributing factors in a further 30%. Among V.D. patients, married soldiers contributed disproportionately to those influenced by alcohol, which was a deciding influence for 43% of married soldiers but for only 19% of single soldiers ($P < 0.001$).

Over 53% of soldiers having intercourse in Vietnam had no intention of doing so prior to arrival in the country, and the majority of these were married (8% of married and 30% of single soldiers definitely intended to have intercourse, ($P < 0.001$)). Of this group, 27.5% were always influenced to have intercourse by alcohol whereas only 10% of those with prior intentions were so influenced ($P < 0.001$).

SUMMARY

Alcohol use was a serious problem in its own right, but, in some ways, may have alleviated the V.D. problem by providing an alternative leisure activity or form of social escapism. Alternatively it sometimes

rendered soldiers incapable of significant sexual participation. Its main influence on V.D., however, was markedly adverse in that it was probably a major influence to having intercourse for about 50% of soldiers. Furthermore, 25% of those omitting prophylaxis did so because of drunkenness, and inebriation prevented 50% of V.D. sufferers from providing a useful contact report. Thus alcohol not only greatly increased the intercourse incidence but effectively thwarted any personal or community preventive campaign.

CHAPTER II.3.3. PROPHYLAXIS

One of the most marked features of soldier behaviour was the virtual disregard of prophylactic measures against V.D. The exploratory study revealed that only 25.5% of those having intercourse used a condom on all occasions. This disregard was even greater in single soldiers, among whom only 15% employed prophylaxis.

Washing the genitalia following intercourse was the commonest form of prophylaxis applied, but there was great variability in materials used, thoroughness of application, and time lag between intercourse and prophylaxis. Although treatment documents revealed that 41% of V.D. patients had washed prophylactically, less than half of these had done so immediately following intercourse, and over 25% had allowed more than 20 minutes to elapse before washing. Ten per cent of soldiers in the exploratory study always washed following intercourse, and a further 15% did so on some occasions. Almost 50% of the clinic series washed their genitalia after each exposure. Certainly, as used by the soldiers in Vietnam, washing was of little use:

- (i) Those utilising washing were over represented in clinic documentation (41%) and the questionnaire series (50%) compared with the random population (10%) ($P < 0.001$).
- (ii) In the exploratory study, those who washed had a similar V.D. rate (30%) to those using prophylaxis sometimes (37%) and those using no prophylaxis (26%).
- (iii) Of clinic patients, 41% of those washing had contracted V.D., and this included 17% who had washed immediately following intercourse.

- (iv) In the questionnaire series there was no significant difference between the proportion utilising washing as prophylaxis in those with V.D. and those without V.D. (approximately 50%) ($P > 0.30$).
- (v) Chancroid was the venereal disease most likely to be prevented by washing, but over 50% of those documented for this condition had washed their genitalia, and 20% of these had done so immediately following intercourse.

Unfortunately water was not always immediately available (and soap even less commonly) at the scene of sexual relations. Sometimes the prostitute initiated a thorough cleansing of both herself and partner immediately following intercourse, but, while this was common in other Asian centres, it was not a common feature in Vietnam. Under these circumstances, the opinion of 26% of both controls and clinic attenders that washing was generally effective was an optimistic one.

Urination, often in conjunction with other prophylaxis, immediately following intercourse was utilised by many, but urethral ointments or irrigations were not utilised.

Prophylactic use of antibiotics was rare, with only 1.5% of clinic attenders ever resorting to this practice. The only case of paraurethral abscess encountered, however, had employed self medication intermittently before seeking medical advice.

A condom was used on all occasions by only 22.5% of soldiers in the exploratory study. The efficacy of the condom is demonstrated by:

- (1) The incidence of its use in the general population (22.5%) was over five times greater than its use in various groups of V.D.

patients (clinic documentation (4%), trace reports (4.5%) and questionnaire series (3.1%) ($P < 0.001$).

- (ii) In the exploratory study the V.D. rate using a condom was nil, compared with 30% for washing and 26% for no prophylaxis ($P < 0.001$).

The consistent incidence of condom usage among the V.D. groups suggests that its users accounted for only about 4% of V.D. patients. Infection probably occurred from defective condoms or their improper use, as a properly utilised condom should offer protection from chancroid or any forms of urethritis. This faith was not shared by the troop population, however, as only 30% of both the control series and clinic series considered the condom to be highly effective, and a further 43% thought it was moderately effective. Furthermore, of those with faith in the effectiveness of condoms, only 22% actually used them (Appendix 25).

The commonest reason for failure to use condoms (35%) was the strong prejudice of a large proportion of the troops. Regardless of the consequences of their actions, many were reluctant to take any measure which would impair their pleasure. The majority of those who were outspoken about the unpleasantness of wearing a condom had never actually used one.

With alcohol abuse so common, it is not surprising that drunkenness accounted for considerable omission of prophylaxis (25%). Also, condoms were frequently misused by those under the influence of alcohol and this accounted for a number of condom users who acquired V.D. Due to the frequently impromptu nature of intercourse (on at least one

occasion for 87% of those having intercourse), lack of availability was responsible for prophylactic failure in 22% of those having intercourse.

Prophylactics were used variably by most soldiers. There were fewer Roman Catholics who utilised the condom, but the difference from the other religions was not marked (Catholics contributed 21% of condom users compared with 29% of those not using any prophylaxis). Overall, education was not an important determinant. Although all those with tertiary education employed some prophylaxis, only 15% of these used a condom. Extraversion and neuroticism were not determinants of prophylactic usage.

Prostitute attitudes had some influence on prophylactic usage. Earlier in the war, most prostitutes were strongly opposed to condoms and refused to have intercourse with soldiers wearing them. If a soldier persisted the prostitute often punctured the sheath with her fingernails or teeth. One motivating factor for this behaviour was the desire of some prostitutes to have a Caucasian baby. These were highly prized by many of the girls and they cared for them affectionately. When the children became too burdensome, they were often cared for by a *mama san* but many found their way into orphanages (see frontispiece, an Australian soldier's son at a Vung Tau orphanage). Later when the hazards of V.D. (experienced as injections and loss of working time) became fully appreciated, there was a marked change in attitude towards condoms. Many of the girls encouraged their use and sometimes provided them for customers.

There was no fixed policy for providing condoms to the troop

population. They were freely available at all medical facilities, but obtaining them depended on the soldiers' initiative. At the Saigon officers' club an ample supply of condoms was left in a box in the foyer (the "blue box") and this service was widely used. A similar method of distribution was employed at some rest and recreation centres but this depended on the discretion of the controlling officer. Measures to have condoms routinely issued to all troops were not greeted favourably, due to fear of exposing the Army to public criticism of encouraging promiscuity and immoral behaviour.

CONCLUSIONS

The problem confronting the prophylactic campaign was, firstly, to emphasise the desirability of wearing a condom and, secondly, to ensure that one was available when required. Under the circumstances in Vietnam, washing of genitalia was of no prophylactic value and gave a false sense of security to the majority who employed it. The unqualified discrediting of this form of prophylaxis may have, alone, considerably increased the use of condoms.

The policy of attaching a condom to all leave passes, enabling everyone on leave to have a condom if he desired to use it, has some merit. This avoids the embarrassment of asking for a condom and also alleviates the problem of unexpected intercourse. It is not expected that this approach would automatically result in the universal use of condoms and the disappearance of V.D., but in the campaign studied, it would have had a considerable influence, possibly reducing the incidence by up to 50%.

CHAPTER II.3.4. ENVIRONMENTAL STRESS

The types of behaviour exhibited by the troop population, and in particular the degree of sexual promiscuity, may be difficult to appreciate without insight into the environmental background against which this behaviour occurred. Under the physical and mental stress of the war environment an individual's outlook and behaviour may change from that previously displayed. These altered standards, together with absence from the homeland and family, and the ethical codes they represent, are conducive to seeking pleasurable forms of entertainment in a manner which have previously been taboo.

The Vietnamese civilian population, in similar manner to indigenous populations in past wars, was not reluctant to exploit the economic benefits from this situation, and places of entertainment, bars and brothels proliferated at a rapid rate. These people were not content, however, merely to provide a service to satisfy demand, but actively enticed the reticent to indulge in a wide array of physical pleasures. The goal of monetary gain eclipsed all other principles to such an extent that virtually no behaviour was too degrading to achieve this end. This activity is characteristic of mercenary groups which emerge in all societies and was no indication of the standards of the Vietnamese people in general. In fact, the completely shameless manner in which seduction was performed was even more offensive to the general Vietnamese population than those cultured on more tolerant Western standards. Friendships between Caucasians and respectable Vietnamese were thus hampered by the

inferences the general population formed about the nature of these relationships.

Although some soldiers (16% of the clinic series, including 9% of the married soldiers) visited a bar with the express intention of having sex, this was not the primary motivation for the majority. Fifty percent (including 36% of married soldiers) considered the possibility of sexual relations, but 12% (including 20% of married soldiers) were mainly interested in drinking, and 22% (including 36% of married soldiers) claimed they went just for a woman's company. In view of the mercenary pre-occupation of the bar hostesses, they were inappropriate objects of platonic affection.

Seduction by prostitutes was an important feature of sexual participation. Over 13% of clinic patients claimed they were always seduced, and this was associated with limited education (those with more than 3 years secondary education contributed 17.5% to the seduced group and 38.5% to others, $P < 0.01$) and neuroticism ($N = 11.94$ to 9.79).

Intercourse was an impromptu experience for most soldiers, being never premeditated for 25% and only sometimes premeditated for 62%. Premeditated intercourse was less common among married soldiers (6% compared with 13.5% whereas it was never premeditated for 47% of married and 18% of single soldiers, $P < 0.01$).

Penis clutching was an aggressive form of seduction which influenced many otherwise reluctant soldiers to indulge in sex and risk venereal infection. Furthermore, impromptu sex in this situation frequently found the cautious soldier unprepared prophylactically. The

potency of this form of seduction can be gauged by its impact on groups normally restrained by strong sociological inhibitions. Thus, married soldiers contributed disproportionately to those entering bars for non-sexual purposes, but penis clutching was experienced more by married soldiers who acquired V.D. than by both single soldiers with V.D. or married soldiers who had not acquired V.D. Penis clutching in bars was experienced by 82% of married V.D. patients, 73% of single V.D. patients and 56% of married clinic patients without V.D. ($P < 0.01$). Only 14% of married V.D. patients compared with 35% of married patients without V.D. had never experienced this practice ($P < 0.001$).

Not surprisingly this practice occurred most commonly inside bars or brothels (to 77% of all clinic attenders), but 8% of patients had been molested in this manner in the street. One soldier recounted how he had been returning to the camp, just before curfew, one night when he was accosted at "syph" corner (Plate X), a short distance from his destination, and literally towed to the prostitute's room, missing the curfew and remaining with the prostitute from whom he acquired V.D.

One aspect of this particular war which favoured sexual promiscuity and the consequent increase in venereal disease was the amount of inactivity and boredom as fighting became more sporadic. This was recognized as a danger period by many Commanders in the American Forces and Command Health Reports, issued monthly by the American Army, frequently stressed this problem.

August 1969 - "Continued education of the troops plus greater emphasis on programs of recreation and diversion during lulls

in tactical operations should be stressed in an effort to reduce the incidence of these diseases."

"The increased incidence seen this month was noticeably a reflection of the increased number of venereal disease seen in just two squadrons.....both of which were tactically less active during July than the other squadrons... . Venereal disease rates climb almost predictably in units which have more free time, especially those units without structured diversion for the troops."

February, 1970 - "a feeling among various surgeons that rates can be reduced by having troops participate in more recreational and sporting facilities." "This increase was experienced country-wide by the Brigade.....and is attributed to extra free time allotted to personnel during the holiday period."

"The significant decrease in the V.D. rate for the 11th ACR is considered to be the result of increased field duty for troops in the Regiment."

This influence was even more noticeable among the Australian Forces which were localised in one small area. Figure 1 (Chapter I.2.2) demonstrates the consistent trends throughout the year at both a forward area and a support area. Also, the monthly values for 1970 were generally higher than the corresponding ones for 1969 when more active fighting occurred.

However, if diversionary activities are petty and unpopular tasks aimed at using spare time, rather than providing universally

enjoyable entertainment alleviating boredom, the overall morale of the unit may be further lowered and there is a tendency to escape to the brothels for relief. This occurred in some Australian units which were noted for their high V.D. rate.

The relationship of venereal disease to amount of leisure time is merely one facet of the obvious importance of opportunity as an influence on promiscuity and its sequelae. Despite wartime conditions, 71% of clinic patients had the opportunity for intercourse at least once a week and half of these could do so daily if they so desired. One approach to this problem was to place areas out of bounds and thus reduce the accessibility of the female population.

The American forces utilised this policy and claimed considerable successes:

September 1969 -

"Tan An City and the sources of contact remain off limits and command emphasis has been directed at more vigorous enforcement of this policy."

April 1970 -

"The CO, 8th Field Hospital, reports that gonorrhoea rates dropped from 314.86/1000/year to 167.81/1000/year when the city of Nha Trang was placed off-limits. Commanders should utilise off-limits restrictions freely when it is in the best interest of the health of the command."

June 1970 -

"The 25th Infantry Division reports a decline in the V.D. rate

from 100.5/1000/year to 56.0/1000/year. Intensive troop education programmes and stricter enforcement of off-limits policies are cited as significant factors contributing to the decrease."

Although the reductions of the V.D. rate by 50% by this method is impressive, the residual high level is equally significant. This limitation of the policy was well recognized:

August 1969 -

"A significant number of cases are coming from off-limits areas and along the roadside."

Furthermore, as one American Medical Officer wrote, "As a preventive-medical officer in Vietnam, I have watched the V.D. rate stay at a high level despite efforts to control the sources. Even nightly Military Police patrols have failed to keep "off-limit" areas GI free. If such efforts have worked in previous military conflicts be advised that this one is thus different in still another way" (Cooperman, 1970).

The "off-limits" policy failed, as did many other control policies, because it was no match for the combined ingenuity of the prostitutes and their prospective clients, which always triumphed over any barrier to their union. Some aspects of prostitute ingenuity have already been mentioned, but the Command Health Report of April, 1970 adds, "one report was received of a prostitute masquerading as a "sandbagger" in order to gain entry to a military compound. This incident emphasizes the continuing need for alertness, on the part of Commanders to prevent clandestine prostitution operations." The

February, 1970 report comments, "Battalion Surgeons noted an increase in cases since civilian female personnel began working in the living quarters on base camps."

Some prostitutes moved into the countryside to seduce the troops while they worked. Usually the prostitute was conveyed on motor scooter by her entrepreneur to the site where troops were working and, after a suitable agreement was arranged, either by the girl herself or by her escort, intercourse occurred on the roadside. Thirteen percent of clinic attenders had had intercourse under these circumstances and, for over 50% of these arrangements were made by the girl herself. In this situation it was often convenient to service a number of clients in rapid succession (see glossary - "gangy", "gang bang"), but this practice, while common on the roadside, was rare in other situations. On one occasion nine soldiers presented with gonorrhoea acquired from the same girl in one session. On other occasions some participants acquired V.D. while their associates who used the same girl remained free of infection.

Roadside intercourse was commonest among Engineers and others who worked on the roads. However, there were certain sociological factors associated with this behaviour (Appendix 13):

- (i) 31% of this group compared with 17% of other patients were under 21 ($P < 0.02$)
- (ii) 59% compared with 33% came from families of more than 4 children ($P < 0.001$)
- (iii) 23.5% compared with 37% had more than 3 years secondary

education ($P < 0.05$)

- (iv) they scored significantly higher for neuroticism ($M = 11.68$ to 9.96).

It was not uncommon for soldiers travelling in vehicles to stop on the roadside or at roadside cafes and partake of hurried intercourse or fellatio before continuing their journey. One soldier was treated who had acquired V.D., within days of his arrival in Vietnam, when he alighted from a leading vehicle in a slow moving convoy, had intercourse on the roadside and rejoined the convoy on a vehicle further to the rear. Faced with this outlook and behaviour, the task of denying opportunity for sex to such soldiers is a formidable, if not impossible, one.

This type of behaviour was well recognized by American sources and the Command Health report January, 1970 states "An interesting comment on venereal disease was made by the Surgeon, 20th Engineer Brigade. The brigade V.D. rate is quite high, $331.1/1000/\text{year}$. He states: 'In my travels, I get the impression that most of the carnal fraternization that leads to venereal disease occurs during the daylight hours usually devoted to work. If this is the case, one might expect to reduce the number of such exposures, and consequently the number of cases of venereal disease, by very close supervision of, and constant accounting for, each man in the work party by his immediate supervisor'." Apart from requiring supervisors for the supervisors, this plan is impracticable as a counter to the resourceful soldier determined to indulge his sexual desires.

An important factor contributing to aberrant behaviour was the feeling, to many, of the unreality of life in Vietnam - rather like a prison sentence to be served in the least unpleasant manner possible. This attitude was conveyed by such expressions as "Happiness is RTA (Return to Australia)", and referring to departure from Vietnam as "going back to the world." This, together with the ever present possibility of death, led to a fatalistic or dare-devil attitude by many. Against this background, disease and other unpleasantities were to be defied rather than feared. It was with a certain smugness that a soldier related how he had eaten a "hepatitis roll", visited "syph corner", or failed to wear a condom because it was like "having a shower with a raincoat on."

The relative affluence of the troop population contributed to increased promiscuity. With generous extra allowances, no tax commitment and very few outlets for spending, the average soldier had ample money to spend on entertainment. Alcohol was relatively cheap and the usually expensive luxury item of commercialised sex was reasonably priced. With this combination of circumstances the soldier could satiate his desires for both alcohol and sex without undue financial embarrassment, a situation not existing in his homeland.

The influence of the Vietnamese war environment is indicated by the fact that 53.5% of soldiers having intercourse in Vietnam had not intended to do so prior to arriving in the country.

CHAPTER II.3.5. TYPES OF SEXUAL BEHAVIOUR

A wide array of sexual entertainment was available in Vietnam, but intercourse, masturbation and fellatio were practised most commonly. Masturbation was the most frequent practice for 27% of soldiers, intercourse for 68% and fellatio for 3.5%. Masturbation was favoured relatively more by conscripts (33% compared to 23%, $P < 0.02$) and by the non-V.D. group (34.5%) more than by the V.D. group (20.5%, $P < 0.001$).

The commonest reasons for preference were enjoyment (53%) and convenience (30.5%), and only 13.5% were motivated by fear of V.D. Many of those citing convenience as motivation, practiced intercourse most commonly. Among the troop population intercourse and fellatio were the most socially acceptable practices and were readily purchased even in remote localities. Masturbation, by contrast, due to its low peer acceptance was not easily accomplished, as privacy was rare in circumstances where soldiers were quartered compactly in large barrack blocks.

1. INTERCOURSE

After prolonged separation from family and homeland, the sex drive proved too strong to make total abstinence a feasible goal for the majority of the troop population. Thus in Vietnam nearly two thirds of all troops had intercourse (65.5% in exploratory study; 64.2% of control series). This rate was higher for single soldiers (72%), but even the strength of marital vows only restrained 50% of soldiers. Statistically, therefore, intercourse with prostitutes in Vietnam was normal behaviour for the troop population studied. All other sexual practices, including complete abstinence, were performed by a minority of soldiers.

The intercourse patterns of conscripts and volunteers were similar, but married soldiers differed significantly from the single. The same proportion (60%) had intercourse on 2-10 occasions but a larger proportion of married (28% to 13%) had intercourse only once and a smaller proportion (10% to 26%) had intercourse more than 10 times ($P < 0.01$).

In all groups, those having frequent intercourse made a disproportionate contribution to those infected with V.D. Overall, 16% of the non-V.D. group compared with 27% of the V.D. group had intercourse more than 10 times ($P < 0.001$). With lower intercourse frequencies, differences between the V.D. and non-V.D. groups were not significant.

Sixty three percent of patients usually chose partners in a bar or massage parlour and 23% in a private home. This choice was not significantly affected by type of enlistment or marital state, and did not influence the incidence of venereal disease. In almost all cases (90%) introduction and subsequent intercourse were initiated by either the prostitute or the soldier. Taxi-drivers, mama sans, pimps and other intermediaries played an insignificant role in directly affecting liaison.

Selectivity of actual partner did have a marked effect, however. Those satisfied with any girl contributed 46% to the infected group compared with 12% to those without V.D., and those choosing the same girl every time contributed 31% to the latter and 23% to the former group ($P < 0.001$). This lack of selectivity was almost entirely due to single volunteers (52% of whom, in contrast to 15% of all other groups were

satisfied with any girl, $P < 0.001$).

Although all-night performances usually involved breaking curfew and illegal return to camp or recreation centre, only 41.5% of soldiers had exclusively "short time" contracts whereas 19% had solely all night contracts and 39.5% had both. Preference for type of contract did not differ with type of enlistment or marital state nor did it affect the incidence of venereal infection. Of those having all night contracts, 10% had sex once, 47% had sex 2-5 times and 43% more than 5 times. Intercourse more than 5 times a night was almost exclusive to single soldiers (33.5% to 1%, $P < 0.001$) and predominated in volunteers (38% to 8%, $P < 0.001$).

2. MASTURBATION

While most soldiers spoke quite freely about their sexual exploits with women, they were reluctant to discuss masturbation. This practice was not considered a particularly socially acceptable sexual outlet by the population under study. Consequently privacy was essential for its practice, and this was not always readily available, with soldiers living in crowded barracks. In contrast, intercourse and fellatio were able to be performed rather publicly. This situation, the direct opposite to that existing in Australia, may explain why 40% of clinic patients claimed to abstain from masturbation in Vietnam. The relative acceptance of intercourse and masturbation is typified by the patient who wrote, "Prefer intercourse to self abuse". On the other hand another soldier, whose main outlet was masturbation, considered this was the "natural outlet".

Notwithstanding its low acceptability, masturbation was practiced daily by 2.5% in the study group and weekly by 16.5%. Marital state had little influence on the frequency of masturbation and venereal disease was not closely related to this practice (15% of V.D. patients compared with 23% of non-V.D. patients masturbated at least weekly, $P > 0.05$). The 21-25 age group contained 80% of masturbators but 63.5% of non-masturbators and the over 25 group contained 3% and 8% respectively ($P < 0.001$). Frequent masturbation (at least weekly) was associated with significant neuroticism ($N = 11.52$ to 9.38).

Those having intercourse more than 10 times in Vietnam contributed 27% to the non-masturbation group compared with 18% to those masturbating ($P < 0.01$).

3. FELLATIO

This practice was both popular and common in Vietnam. This popularity was not only due to the enthusiasm of the soldiers but also to the preference of the prostitutes, who found this a most convenient way of plying their trade. For over 50% of the troops who experienced fellatio, it was always initiated by the girl.

Apart from in rooms set aside largely for sex, fellatio was widely practiced in both bars and massage parlours. In bars the client was usually sexually aroused manually and, after suitable price negotiations had been made, the act was concluded orally.

In the relatively more private surroundings of a massage parlour, soldier initiative became more prominent with desire to indulge previously unexperienced sensations (for 37% of soldiers). In some establishments

fellatio was performed by the masseuse, but in others a separate girl moved from cubicle to cubicle supplying the extras, after the massage had been completed. This latter practice was highly significant in creating problems both of venereal disease spread and tracing the source of such infection.

Forty per cent of soldiers experiencing fellatio had not intended to do so and a further 40% only sought this practice after arousal by the manual and oral stimulation of the masseuse. Failure to indulge in fellatio, at this stage, could prove traumatic. Not infrequently refusal would cause the enraged prostitute to violently wrench the erect penis causing substantial preputial tears.

A further cause of penile trauma was the strong desire of many soldiers, coupled with the unacceptance of prostitutes, to experience intra-oral ejaculation (25% always and 13% usually did so). At the onset of orgasm the soldier finally held the girl's head in close contact with his penis and often, in retaliation, the girl bit the penis violently. This produced an almost pathognomonic clinical picture of 2 or 3 uniformly spaced lacerations with surrounding infection and gross oedema of the prepuce. Healing was slow and painful and often required hospitalization.

Over 10% of patients had suffered penile trauma in this manner on one occasion and 5% had done so more than once. Trauma was much less common among married soldiers (4% to 20% of single soldiers, $P < 0.001$).

Table 19, however, shows that penile trauma was not significantly related to intra-oral ejaculation. However, intra-oral ejaculation

was associated with extraversion ($E = 13.76$ to 12.76).

TABLE 19. Relationship of penile trauma to intra-oral ejaculation.

	INTRA-ORAL EJACULATION			
	Always	Usually	Rarely	Never
Penis bitten	31 (45%)	14 (20%)	6 (9%)	18 (26%)
Penis never bitten	60 (40%)	45 (22.5%)	17 (8.5%)	58 (29%)

Further disability occurred from herpes genitalis most of which was acquired from fellatio. Several soldiers insisted on histories which could only implicate fellatio as the source of gonorrhoea.

Fellatio was practiced by more V.D. patients than non-V.D. patients (39% to 20%) and by more single than married soldiers (64% to 50%, $P < 0.01$).

Sociologically, it would appear that fellatio in Vietnam was a rather different entity than fellatio in the stable environment of the homeland. Although 61% of the troops experienced fellatio in Vietnam and this was with comparative strangers, only 29% had done so in Australia and almost invariably (23%) had a close acquaintance as partner. Fellatio in Australia was strongly associated with tertiary education (possessed by 11% with fellatio experience and 1.5% of others, $P < 0.001$) and extraversion ($E = 13.88$ to 13.05) but, in Vietnam, education and extraversion were not significant factors. This suggests that, although it

is the female with the less aesthetic role, this activity is essentially male initiated. In Australia, the combination of enlightened education, extraversion and security of an intimate relationship gives the male sufficient confidence to suggest this practice. In the Vietnamese prostitute environment where fellatio was openly presented, soldiers of any personality or education could indulge their desires without undue anxiety. The widespread social acceptance of this behaviour by his peers, in contrast to the taboos of the homeland, further facilitated this behaviour.

4. CUNNILINGUS

Although this practice was much rarer than fellatio, it was practiced by 12.5% of the soldiers studied. It was practiced more commonly by single soldiers (15.5% to 4%, $P < 0.01$) but was not related to age, social status, family size, religion, education or personality. This suggests that it may have been initiated more by the female than the male. This practice was almost completely confined to all night contracts which provided both the privacy and the time for variety of sexual behaviour.

5. ANAL INTERCOURSE

Only one soldier in the series had practiced anal intercourse with a prostitute, but a few other patients had mentioned this practice.

6. MANUAL STIMULATION

This was a very common method by which prostitutes stimulated customers. Although it was most frequently used as a prelude to other sexual behaviour, it was often continued to produce orgasm. This was most commonly performed in bars or massage parlours.

While venereal disease was no problem with this practice, penile trauma was not uncommon. Coronal or preputial tears from overenthusiastic operators were frequent, but the uncircumcised soldiers faced additional hazards. Some prostitutes particularly delighted in observing ejaculation and, at its onset, would thrust the prepuce forcefully towards the base of the penis and hold it in this position until ejaculation had subsided. A number of cases of paraphimosis occurred as sequelae (Plate XIIIa.). If seen within 12 hours the paraphimosis could usually be reduced but on some occasions a dorsal slit and subsequent circumcision was required.

7. HOMOSEXUALITY

Only 3% of the soldiers studied had homosexual experiences in Vietnam. The small number (14) precludes useful statistical analysis but:

- (i) Four claimed to be happily married.
- (ii) In none was homosexuality the most common sexual outlet viz. masturbation for 5, intercourse for 8 and fellatio for one.
- (iii) The absence of any with serious religious beliefs suggests that this might be a deterrent to overt homosexual practice.

However, a more potent deterrent was the traditional Army outlook on homosexuality. Most soldiers had an aggressive outspoken antagonism to homosexuals or homosexuality. Exposure of a homosexual would have resulted in widespread ridicule to such a degree that his

life would have been unbearable. In a confined camp area, with its lack of privacy, the risk of disclosure of any homosexual approach or union was too great for most homosexuals to accept.

The Vietnamese male, with his more feminine build and appearance, may have appeared attractive to some homosexuals. Furthermore, it was not an uncommon custom for Vietnamese males to behave towards one another in much the same way as women do in Western cultures (e.g. hold hands, walk arm in arm etc). This may have suggested that they were suitable homosexual partners. There were instances where soldiers seemed to be developing undesirable relationships with local males, but few troops had this opportunity anyway.

While all manner of heterosexual experience were more readily available and more socially accepted than in Australia, the opposite situation prevailed for homosexuality. The significant contribution of homosexuality to the venereal disease problem in most parts of the world was not replicated in this environment.

CHAPTER II.3.6. PSYCHOLOGICAL IMPACT OF THE SEXUAL ENVIRONMENTA. INTRODUCTION

In a stable community in peace time, neither the prostitute nor her client are likely to develop strong emotional attachment to each other. The prostitute has largely mercenary goals and is mainly interested in obtaining the greatest return for the least expended energy, both physical and emotional, whereas the client is interested in obtaining the type of physical satisfaction for which he has paid, and not in cementing any attachment to the object he has hired for transitory stimulation.

In contrast, prostitutes in Vietnam, being the only female company available to the soldiers, satisfied a number of roles. In addition to being convenient commercial sources of physical stimulation, they were friends, mistresses and potential wives to the troops they serviced. These roles were perpetuated by the many prostitutes who believed marriage to an Australian offered a more affluent and comfortable future than that which they could expect in their own country. These prostitutes often accepted gifts rather than money in return for their favours, and often connived to have intercourse secretly, for no fee, with their patrons. This practice was not without risk for the girls, as it deprived the establishment of income and was not tolerated by the mama san. When performed at the brothel it required both ingenuity and alacrity by both partners.

The troops themselves displayed a wide range of involvement:

- (i) A minority group abstained from physical involvement.
- (ii) Many soldiers were reluctant to indulge in intercourse.

with the local prostitutes, their physical desires being curbed, if barely so, by inculcated values of their upbringing and fear of the possible consequences of indulgence. The influence of alcohol, increasing absence from the homeland or blatant seduction by the prostitutes frequently disturbed this delicate balance between desire and repression. Under these circumstances the soldier often succumbed to one conflict only to be faced with another - guilt, shame and anxieties about possible physical or psychological sequelae to both his family and himself. The concept of the worldly soldier bragging of his sexual conquests was not valid in this environment. Only 3.5% were prone to such exaggeration of their feats, whereas 44% preferred not to discuss their behaviour, 12.5% were actively ashamed of their activities and 2% were prepared to deny they had had intercourse. Married soldiers contributed disproportionately both to those preferring not to discuss the subject (52% to 41%) and to those ashamed of their actions (24% to 9%).

The first sign of anxiety and guilt in these participants appeared as disturbed sexual function. Difficulty in obtaining or maintaining an erection was a very common problem, particularly for married soldiers. Aside from its psychological significance, this problem hindered effective condom usage. Even for those maintaining a satisfactory erection, delayed or absent ejaculation was frequent and

produced considerable penile trauma, as many prostitutes urged their clients to continue until ejaculation occurred.

(iii) Some soldiers had no misgivings in using prostitutes as a purely physical outlet, frequently and indiscriminately. These soldiers did not escape emotional involvement, but were disturbed less commonly and less severely. Their behaviour was not dissimilar to that in their homeland.

(iv) Many soldiers developed attachments at the "mistress" level. In its mildest form this attachment was demonstrated when a soldier always had intercourse with the same prostitute. With firmer attachments the soldier often paid for favours with gifts rather than money, and the relationship became recognized by other prostitutes and the mama san of the establishment.

Soldiers forming such liaisons were reluctant to concede that their particular girl was concurrently having intercourse with other customers. Their girl was different from all others, there were special mitigating circumstances why she was engaged in this particular work, and she had never previously formed an attachment similar to her present one. To suggest otherwise or merely referring to their girl as a prostitute, inevitably produced a hostile reaction in these soldiers. In fact, it was essential for these girls to continue their trade, as their income was already depleted due to the free service they provided to one or more soldiers.

In an effort to overcome this problem some soldiers formed partnerships in maintaining a girl. This was typified by one

such group of 4 soldiers from a forward area who established a girl in a flat, contributing equally to her upkeep and sharing her sexual favours. A common prank of soldiers aware of the particular liaison was to offhandedly mention, in the presence of one of the partners, how they had formed a close relationship with a prostitute in Vung Tau, and describe in lurid detail their erotic behaviour together. When asked to describe this prostitute the soldier would then give a detailed description of the particular girl the listener was maintaining. Although some soldiers were disturbed by this brand of humour most readily accepted it in good spirit.

However, most found the ultimate proof of their girl's "unfaithfulness" more difficult to accept. The disbelief when a soldier contracted venereal disease from his "mistress", was a pathetic testimony of the extent to which these soldiers were deluded in their concept of the relationship they had fostered. Other methods of escaping venereal disease by selective consideration of one's partner could be equally disastrous. One soldier had a "steady girl" who was 6 months pregnant and he confided that he felt he was certainly "on a safe thing", as even he had some mechanical difficulty in having intercourse with her at this stage. One month later, however, he was an infected but wiser man. Such cases clearly illustrate the maxim, unfortunately not universally

accepted, that any woman is a potential transmitter of venereal disease no matter how unlikely this may appear - either due to her social class, age, type of sexual contact offered or any other parameter one may choose.

- (v) Some soldiers demonstrated their degree of attachment by marriage to a prostitute.

Against this background, findings from the administered questionnaire and personality inventory provide a more detailed analysis of psychological involvement.

B. PERSONALITY

1. CONTROL SERIES

The control series was analysed internally in order to determine the relationship of personality to the various sociological parameters used.

- (i) Table 20 summarizes values of extraversion (E) and neuroticism (N) for groups divided by marital state, rank, indulgence in intercourse in Vietnam (i.e. and no-i.e.) and type of enlistment into the Army. Private soldiers had significantly higher extraversion scores (E = 13.30) than NCO's (E = 11.68) and those having intercourse were more extraverted (E = 13.27) than those abstaining (E = 11.63). Conscripted abstainers were more extraverted than volunteer abstainers (E = 12.20 to 10.67) but there was no difference in extraversion between the two intercourse groups. The volunteer intercourse group

was markedly more neurotic than the conscript group
($M = 10.30$ to 8.28)

TABLE 20. Values of E and N for groups divided by marital state, rank, indulgence in intercourse in Vietnam, and type of enlistment into the Army.

	VALUES OF E		VALUES OF N		NUMBER
	Mean	S.E.	Mean	S.E.	
MARRIED	12.17	0.55	9.38	0.64	58
SINGLE	11.95	0.32	9.00	0.39	148
PRIVATE	13.30	0.32	9.13	0.42	131
NCO	11.68	0.47	9.04	0.53	75
I.C.	13.27	0.36	9.35	0.42	134
NO-I.C.	11.63	0.47	8.55	0.56	72
CONSCRIPT					
i.c.	13.57	0.49	8.28	0.53	63
no-i.c.	12.20	0.58	8.26	0.67	45
VOLUNTEER					
i.c.	13.00	0.47	10.30	0.61	71
no-i.c.	10.67	0.73	9.22	0.89	27
TOTAL	12.70	0.29	9.10	0.52	206

(11) Table 21 summarizes values of E and N for groups subdivided by age, time in Vietnam, social status and aspects of the

parental home. Those older than 25 were significantly more introverted ($E = 10.72$) than the younger groups ($E = 13.08$ and 12.40) and those younger than 21 tended to be more neurotic ($E = 10.50$) than the older groups ($M = 8.81$ and 9.16).

The lower social strata (Congalton's groups 5-7) scored higher for neuroticism ($M = 9.41$) than the higher strata ($M = 8.10$).

(iii) There was a tendency to increasing neuroticism with increasing family size, those from families of more than 4 children being most neurotic ($M = 9.55$) and those from families of one or two children the least neurotic ($M = 8.09$). There were no marked trends with family order.

(iv) Table 22 summarizes the findings related to alcohol intake, education and belief in the curability of venereal disease.

The group abstaining from alcohol is so small to make its absolute values meaningless, but results from a larger series of venereal disease patients indicate that abstainers and social drinkers score almost identically for both extraversion and neuroticism.

There is a marked increase in extraversion with increasing alcohol consumption, with abstainers and social drinkers having the lowest scores ($E = 11.80, 11.72$) and very heavy drinkers the highest ($E = 14.96$). Very heavy drinkers who had also patronised a Vietnamese prostitute scored very highly for extraversion ($E = 16.00$).

TABLE 21. Values of E and N for groups subdivided by age, time in Vietnam, social status and aspects of the parental home.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		<u>NUMBER</u>
	Mean	S.E.	Mean	S.E.	
<u>AGE</u>					
Under 21	12.40	0.68	10.50	0.88	30
21-25	13.08	0.31	8.81	0.38	151
Over 25	10.72	0.86	9.16	0.97	25
<u>TIME IN VIETNAM</u>					
Under 3 months	13.15	0.58	9.50	0.68	41
3-6 months	13.23	0.54	9.59	0.61	65
Over 6 months	12.19	0.38	8.62	0.47	100
<u>SOCIAL STATUS</u>					
1-4	12.88	0.65	8.10	0.65	49
5-7	12.66	0.30	9.41	0.38	157
<u>PARENTS</u>					
Happily Married	12.86	0.32	9.03	0.38	146
Unhappy or Disrupted	12.46	0.72	8.18	1.02	28
Widowed or Deceased	12.25	0.76	10.19	0.85	32
<u>FAMILY SIZE</u>					
1 or 2	12.45	0.51	8.09	0.68	44
3 or 4	12.75	0.38	9.17	0.47	109
5 or more	12.66	0.60	9.55	0.62	53
<u>FAMILY ORDER</u>					
Eldest	12.29	0.40	8.52	0.49	89
Second eldest	12.67	0.56	9.78	0.69	55
Third eldest	13.30	0.79	9.30	0.75	30
Other	13.28	0.66	9.34	0.89	32

TABLE 22. Values of E and N for groups subdivided according to alcohol intake, education and belief in the curability of venereal disease.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		<u>NUMBER</u>
	Mean	S.E.	Mean	S.E.	
<u>ALCOHOL INTAKE</u>					
Abstain	11.80	1.80	5.80	2.01	5
Social	11.72	0.43	8.16	0.55	80
Regular	12.81	0.69	9.76	0.50	76
Heavy	14.26	0.84	10.00	1.25	19
Very heavy	14.96	0.64	9.54	0.85	26
<u>EDUCATION</u>					
Less than 3 yrs secondary	12.89	0.39	10.25	0.46	111
At least 3 yrs secondary	12.46	0.43	7.96	0.47	78
Tertiary	11.59	0.81	6.65	0.99	17
<u>BELIEF IN CURABILITY OF V.D.</u>					
Always	13.00	0.82	9.00	1.19	12
Usually	12.80	0.32	8.67	0.36	167
Often incurable	12.00	0.64	10.75	0.96	27

There was a similar trend for neuroticism but this was not as marked and did not continue with higher intake of alcohol. There was a clear distinction, however, between the scores for abstainers and social drinkers ($E = 5.80, 8.16$) and those for the heavier drinkers ($N = 9.76, 10.00, 9.54$).

Similarly a marked consistent gradation occurred with education. Tertiary education was associated with the lowest scores ($E = 11.59$, $N = 6.65$) and primary or minimal secondary education with the highest scores ($E = 12.89$, $N = 10.25$). These differences were significant for neuroticism but not for extraversion.

There was a tendency to increased neuroticism ($E = 10.75$ to 8.67 and 9.00) among those believing V.D. was often incurable but this was not statistically significant.

(v) Table 23 summarizes the E and N findings related to religion.

There were no differences for extraversion or neuroticism among those having intercourse, but, among the abstainers, those with serious religious beliefs scored lower for extraversion ($E = 10.54$) than those without serious beliefs ($E = 12.22$).

(vi) Table 24 shows the findings related to civil and military offences. Civil arrests were associated with high extraversion and neuroticism scores ($E = 14.10$; $N = 10.37$ compared with $E = 12.27$; $N = 8.70$). Those with more than 5 Army charges scored highly for extraversion ($E = 15.00$) compared with other groups ($E = 12.51$, 12.61).

(vii) DISCUSSION

a. The overall mean values for extraversion and neuroticism ($E = 12.70$, $N = 9.10$) do not differ significantly from

TABLE 23. Values of E and N for groups subdivided by parameters of religion.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		NUMBER
	Mean	S.E.	Mean	S.E.	
<u>RELIGION</u>					
Anglican	12.96	0.49	8.30	0.59	71
Catholic	12.91	0.48	9.68	0.53	66
Other Protestant	12.30	0.55	9.71	0.65	52
Other	11.59	0.81	8.59	1.29	17
<u>CHURCH ATTENDANCE VIETNAM</u>					
Yes	12.76	0.64	9.12	0.56	51
Never	12.69	0.30	9.09	0.38	155
<u>REGARD RELIGIOUS BELIEFS</u>					
Seriously (i.c.)	13.53	0.54	9.38	0.85	34
Not seriously (i.c.)	13.21	0.41	9.34	0.48	100
Seriously (no-i.c.)	10.54	0.61	8.64	0.94	22
Not seriously (no-i.c.)	12.22	0.60	8.38	0.65	50

TABLE 24. Values of E and N for groups divided according to military and civil offences.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		NUMBER
	Mean	S.E.	Mean	S.E.	
<u>CIVIL ARRESTS</u>					
Yes	14.10	0.44	10.37	0.62	49
No	12.27	0.32	8.70	0.38	157
<u>ARMY CHARGES</u>					
Nil	12.51	0.38	8.94	0.46	105
1-5	12.61	0.43	9.28	0.49	92
6 or more	15.00	0.70	9.00	1.41	9

those quoted by Eysenck (1964) ($E = 12.07$; $N = 9.07$). The tendency to a higher extraversion score is consistent with Eysenck's findings for an Army group ($E = 13.18$; $N = 9.09$).

- b. Abstainers and social drinkers emerge as a distinct, possibly homogeneous, personality group from heavier drinkers. These former groups show both low extraversion and low neuroticism scores. The latter groups have similar neuroticism scores which are significantly higher than those for abstainers and social drinkers. For extraversion, however, there is a steady gradation with increasing scores associated with increasing alcohol intake.
- c. The findings regarding religion, suggest that church attendance in Vietnam was probably of little religious or sociological significance. Most soldiers patronising prostitutes probably did not have strong religious convictions, even if they claimed this to be the case.
- d. Similar trends in personality scores occur both with other forms of behaviour, often considered deviant, and with parameters which have previously been associated with venereal disease patients.

Figure 1 demonstrates graphically this similarity in trends for venereal disease, alcohol intake, education, age and military and civil offences. Increased extraversion is associated with venereal infection, increasing alcohol intake, decreasing education, decreasing age, increasing numbers of military offences and civil offences. There is a general tendency for similar trends in neuroticism, although this is not marked for all parameters. Thus, increased incidence of venereal infection can be expected for those

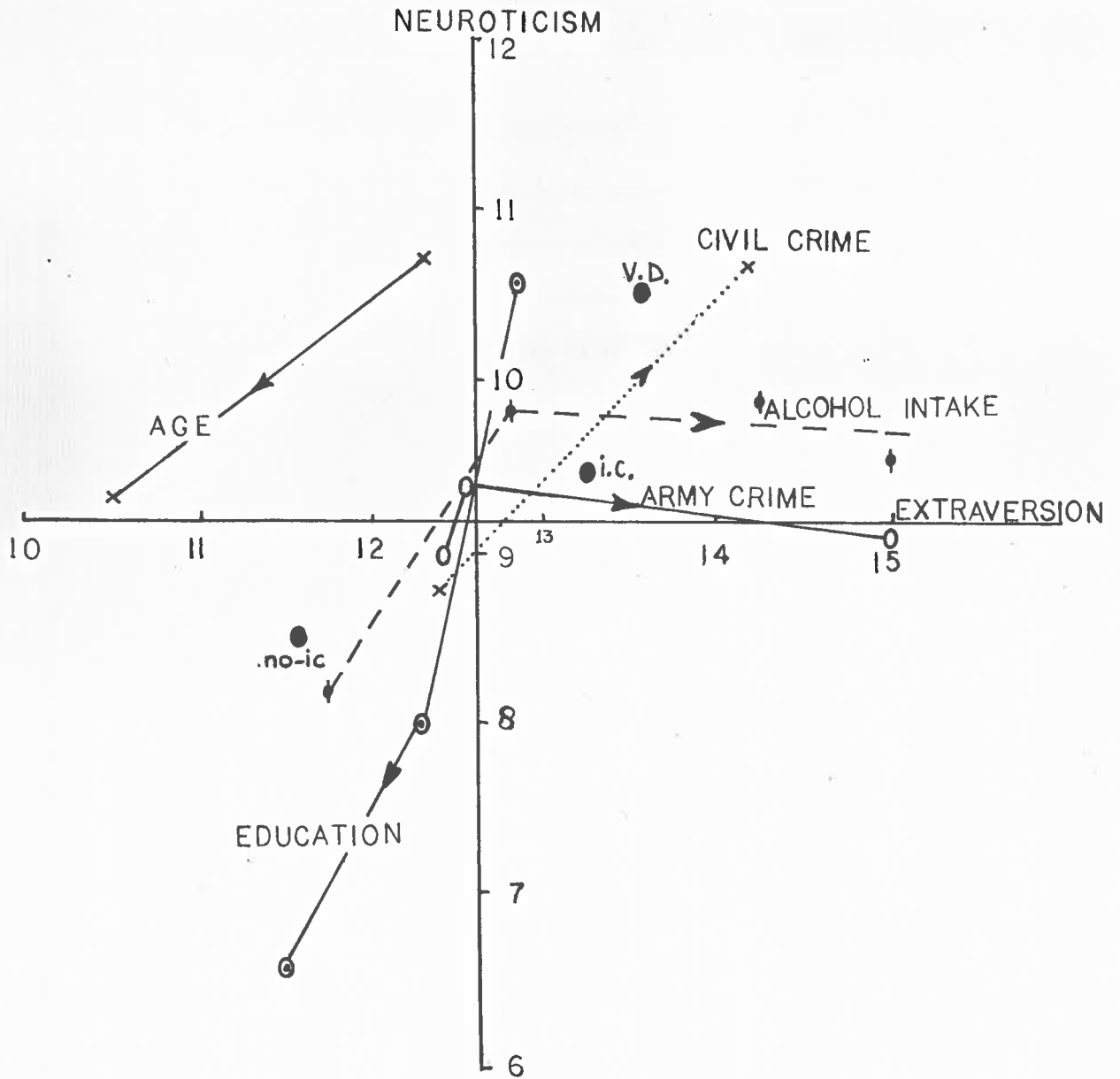


Figure 1. Extraversion and neuroticism trends for varying involvement in the prostitution-venereal disease environment compared with those for varying alcohol intake, education, age, military charges and civil offences.

with scores in the high extraversion - high neuroticism quadrant of the graph.

These findings suggest that the relationship of certain sociological parameters to venereal infection may be of a secondary nature, in that all are primarily related to the personality of the individual. The precise relationship between clinical categories of personality and inventory findings is not critical to this argument. Without defining the actual personality, it is possible to say that certain personality types, which can be represented by particular inventory scores, are prone to certain behaviour, which is generally recognized as antisocial, resulting in infection with venereal disease, civil arrests, frequent military charges and excessive alcohol intake. Possibly, further studies may produce similar findings for other behaviour patterns e.g. drug dependence, delinquency and criminal behaviour.

This further highlights the need to consider venereal disease as a behavioural problem, the control of which requires focus on the fundamental personality of the individual. Attempts to alter other parameters which also depend on personality may be inappropriate and meet with failure.

2. CLINIC SERIES

Table 25 summarizes the findings from the clinic series. Figure 2, showing some of the findings graphically, demonstrates that most sub-groups lie in the extraverted-neurotic quadrant. If a divergence of one unit in both extraversion and neuroticism is accepted as a suitable outer limit of normality, the only groups with essentially normal scores are:- overall

control group, the i.c. group, the no-V.D. group, and clinic patients who first had intercourse between the ages of 15 and 20.

TABLE 25. Values of E and N for groups from the clinic series.

	VALUES OF E		VALUES OF N		NUMBER
	Mean	S.E.	Mean	S.E.	
Patients with (V.D.)					
(1) Married	13.84	0.57	11.33	0.71	43
(2) Single	13.59	0.28	10.04	0.37	167
(3) Conscript	13.36	0.36	9.96	0.49	74
(4) Volunteer	13.80	0.33	10.48	0.43	136
Total	13.64	0.24	10.30	0.33	210
Patients without V.D. (no-V.D.)					
(1) Married	12.25	0.56	10.00	0.73	52
(2) Single	13.26	0.28	9.91	0.42	138
(3) Conscript	13.69	0.32	9.09	0.50	96
(4) Volunteer	12.26	0.39	10.80	0.52	94
Total	12.84	0.26	9.94	0.35	190

If the sequence no-i.c., i.c., no-V.D., and V.D. is taken as representing increasing involvement in the prostitution-venereal disease environment, there was a significant gradation of extraversion, with those abstaining from intercourse (no-i.c.) being the most introverted ($E = 11.63$) and the V.D. group the most extraverted ($E = 13.64$). There was no significant difference between the i.c. ($E = 13.27$) and the no-V.D.

($E = 12.84$) groups which were intermediate to these two extremes.

The single abstainers were significantly more introverted than the single-i.e. sub-group ($E = 11.95$ to 13.47), whereas the difference between the two married sub-groups ($E = 11.50$ and 12.72) was not significant. In the clinic patients the opposite prevailed. There was no significant difference between the single-V.D. and single-no-V.D. sub-groups ($E = 13.59$ and 14.05) but the married patients with V.D. ($E = 13.84$) were more extraverted than those without V.D. ($E = 12.25$).

In the no-V.D. group, the conscripts were more extraverted and less neurotic ($E = 14.05$, $N = 9.09$) than the volunteers ($E = 12.26$, $N = 10.80$) but there was no difference for either extraversion or neuroticism, due to type of enlistment, in the V.D. group ($E = 13.36$, $N = 9.96$; $E = 13.80$, $N = 10.48$).

There was a similar gradation for neuroticism with abstainers having the lowest score ($N = 8.55$) and V.D. sufferers the highest ($N = 10.30$). The most neurotic of all sub-groups was the married-V.D. one ($N = 11.33$) and the least neurotic the single-no-i.e. sub-group ($N = 8.30$).

(i) Past sexual experiences (Table 26)

- a. There were no overall differences either in neuroticism or extraversion between those who had patronised a prostitute in Australia ($E = 13.12$, $N = 9.88$) and those who had not ($E = 13.35$, $N = 10.26$). However, the volunteers with this experience were significantly more introverted and neurotic ($E = 12.64$, $N = 10.36$) than the corresponding conscripts ($E = 13.96$, $N = 8.77$).

TABLE 26. Extraversion and neuroticism scores of attenders at a venereal disease clinic subdivided according to past experience.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		<u>NUMBER</u>
	Mean	S.E.	Mean	S.E.	
<u>INTERCOURSE WITH PROSTITUTE IN AUSTRALIA</u>					
(1) Never					
Conscript	13.40	0.26	9.66	0.43	126
Volunteer	13.31	0.31	10.71	0.43	157
Total	13.35	0.21	10.26	0.30	283
(2) Once	13.08	0.45	9.38	0.47	75
(3) Multiple	13.21	0.61	10.86	0.82	42
(4) Once or more					
Conscript	13.96	0.53	8.77	0.63	44
Volunteer	12.64	0.47	10.56	0.56	73
<u>V.D. BEFORE VIETNAM</u>					
No	13.19	0.19	9.93	0.26	350
Yes	14.32	0.53	11.50	0.63	50
<u>AGE OF FIRST INTERCOURSE</u>					
Under 15	14.34	0.42	10.73	0.52	75
15 - 20	13.35	0.19	9.58	0.29	302
Over 20	10.40	0.86	10.91	1.08	23
<u>PROPHYLAXIS</u>					
Nil	13.61	0.54	10.00	0.82	39
Condom	13.46	0.38	9.89	0.50	85
Washing	13.22	0.24	10.24	0.33	224
Combination	13.55	0.51	10.24	0.70	49

- b. Patients who had contracted venereal disease prior to service in Vietnam were more extraverted and neurotic ($E = 14.32$, $N = 11.50$) than those who had not ($E = 13.19$, $N = 9.93$).
 - c. Extraversion showed a marked gradation with age of first intercourse. Those having intercourse before 15 were markedly extraverted ($E = 14.34$) and abstainers until after 20 were highly introverted ($E = 10.40$).
 - d. There were no significant differences in either extraversion or neuroticism among those utilising different forms of prophylaxis.
- (ii) Sexual practices in Vietnam (Table 27)
- a. Those having intercourse in the open countryside were more neurotic than the others ($N = 11.68$ to 9.96).
 - b. Increased masturbation was associated with markedly increased neuroticism ($N = 11.52$ to 9.38) but the tendency to introversion was not significant ($E = 13.25$ to 12.96).
 - c. Extraversion was a significant feature of those experiencing fellatio in Australia ($E = 13.88$) but was not otherwise related to fellatio in Vietnam ($E = 12.95$ to 13.16).
 - d. Surprisingly those performing cunnilingus on Vietnamese prostitutes showed almost identical scores for extraversion and neuroticism as those who had not ($E = 13.35$ to 13.17 ; $N = 10.12$ to 10.17).

TABLE 27. Extraversion and neuroticism scores of V.D. clinic patients subdivided according to sexual practice.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		NUMBER
	Mean	S.E.	Mean	S.E.	
<u>INTERCOURSE IN COUNTRYSIDE</u>					
Yes	13.95	0.54	11.68	0.65	57
No	13.23	0.22	9.96	0.26	343
<u>MASTURBATION IN VIETNAM</u>					
Never	13.25	0.30	9.38	0.42	154
Monthly	13.34	0.26	10.11	0.36	166
Weekly	12.96	0.46	11.52	0.56	71
Daily	12.67	0.93	11.33	1.24	9
<u>FELLATIO</u>					
Not in Vietnam					
(1) Not in Aust.	12.95	0.32	10.23	0.46	126
(2) In Aust.	13.86	0.49	9.93	0.80	42
In Vietnam					
(1) Not in Aust.	13.16	0.29	9.78	0.41	148
(2) In Aust.	13.89	0.40	10.54	0.54	84
<u>CUNNILINGUS IN VIETNAM</u>					
No	13.35	0.18	10.12	0.27	347
Yes	13.17	0.55	10.17	0.60	53

(iii) Psychological impact of prostitution on clinic attenders

(Table 28)

The relationship of some sociological factors to the psychological impact is shown in Appendix 16.

TABLE 28. Extraversion and neuroticism scores of attenders at a venereal disease clinic subdivided according to psychological impact of patronising prostitutes.

	VALUES OF E		VALUES OF N		NUMBER
	Mean	S.E.	Mean	S.E.	
<u>MARRYING VIETNAMESE</u>					
Not likely	13.52	0.20	10.03	0.29	302
Possible	13.19	0.39	10.27	0.51	79
Definitely	10.75	1.12	11.42	1.40	18
<u>GUILT FROM SEX</u>					
Never					
(1) Married	13.69		10.00		13
(2) Single	13.62		8.56		150
Total	13.63	0.78	8.70	0.35	163
Sometimes					
(1) Married	13.67	0.67	9.59	0.81	36
(2) Single	13.27		10.47	0.52	89
Total	13.38	0.31	10.22	0.44	125
Often					
(1) Married	12.52	0.59	11.09	0.72	44
(2) Single	13.20		12.66	0.61	61
Total	12.91	0.35	12.00	0.48	105
<u>WORRY OVER V.D.</u>					
Never					
Sometimes					
(1) Married	12.80		11.20	1.03	30
(2) Single	13.36		9.13	0.33	190
Total	13.15	0.24	9.42	0.32	220
Always					
(1) Married	13.21		10.43	0.63	56
(2) Single	13.80		11.98	0.42	97
Total	13.59	0.28	11.41	0.40	153

TABLE 28. (Continued)

	VALUES OF E		VALUES OF N		NUMBER
	Mean	S.E.	Mean	S.E.	
<u>ACCEPTED CURE</u>					
Always	14.23	0.30	9.70	0.40	129
Mild Doubt	12.95	0.45	10.09	0.58	66
Disbelief	14.00	1.00	12.00	1.22	9
<u>CHECKING GENITALIA</u>					
Never					
(1) Married	13.45		11.35	1.14	20
(2) Single	13.74		8.23	0.58	53
Total	13.66	0.43	9.02	0.53	73
A Little					
(1) Married	12.81		10.19	1.46	16
(2) Single	13.53		9.18	0.51	80
Total	13.28	0.36	9.34	0.48	96
A Lot					
(1) Married	13.30		10.30	0.65	50
(2) Single	13.57		11.14	0.43	132
Total	13.50	0.26	10.91	0.36	182
<u>WORK AFFECTED</u>					
Not at all	13.39	0.19	9.74	0.26	329
Improved	12.82	0.63	11.10	0.79	49
Impaired	13.29	0.88	13.57	1.08	21

a. Soldiers with a strong inclination to marry Vietnamese were markedly more introverted ($E = 10.79$) than the others ($E = 13.42$) but the tendency towards neuroticism was not statistically significant ($N = 10.09$ to 11.42).

- b. Married soldiers experienced guilt over their behaviour much more than single soldiers, the former contributing 9%, 27% and 45% to those never, sometimes and often feeling guilty, respectively, ($P < 0.001$) but the increased guilt produced by low education (less than 3 years secondary school) and the acquisition of venereal disease was less significant ($P < 0.05$). Guilt was not significantly affected by family size, stability of parental home or type of entry into the Army. Overall there was a marked increase in neuroticism corresponding to increasing guilt ($M = 8.70, 10.22, 12.00$) but no significant changes in extraversion ($M = 13.63, 13.38, 12.91$). However, the married soldier showed a tendency to introversion with increasing guilt ($M = 13.69, 13.67, 12.52$). The increased neuroticism with guilt was a far more marked feature in single soldiers ($M = 8.56, 10.47, 12.66$) and was barely significant for the married ($M = 10.00, 9.59, 11.09$).
- c. Degree of worry over the possible acquisition of venereal disease was strongly related to marriage, married soldiers contributing 27%, 15% and 36% to those never, sometimes and always worrying, respectively ($P < 0.001$) and less significantly increased in those coming from families with more than 5 children, this latter group contributing 16.5%, 21% and 31% to those never, sometimes and always worrying, respectively ($P < 0.05$). Extraversion was not related

to degree of worry nor to marital state within these degrees. Increasing worry was associated with increasing neuroticism ($N = 8.78, 9.42, 11.41$) but again this was largely associated with the single soldier ($N = 8.78, 9.13, 11.98$).

- d. Checking the penis for the presence of urethral discharge was not related to any of the sociological variables presented nor with any changes in extraversion. This practice was associated with increasing neuroticism ($N = 9.02, 9.34, 10.91$), particularly in single soldiers ($N = 8.23, 9.18, 11.14$). There was a tendency for the reverse trend with the married ($N = 11.35, 10.19, 10.30$), although not significant because of the small numbers.
- e. Differences with varying degrees of acceptance of reassurance following infection were not marked.
- f. Married soldiers contributed a significantly higher proportion (56.5% compared with 24% of those whose work was unaffected) of those whose work was hindered by the psychological reaction to their behaviour and a smaller proportion (13.5%) of those whose work was improved ($P < 0.01$).

Extraversion was not related to effect on work performance but those whose work was unaffected were the most stable ($N = 9.74$) compared with significant neuroticism of those whose work was improved ($N = 11.10$) and those whose work suffered ($N = 13.57$).

(iv) Miscellaneous values (Table 29)

- a. Neither extraversion nor neuroticism were significant determinants of a soldier's intentions to have sex before arriving in Vietnam.
- b. Soldiers who were always seduced by prostitutes were more neurotic ($M = 11.94$) than those who always initiated sex themselves ($M = 9.79$).
- c. V.D. sufferers who did not intend to have further intercourse in Vietnam obtained higher neuroticism scores ($M = 10.92$) than those who did ($M = 9.00$). This relationship did not exist among patients who had not had V.D.
- d. Those who practiced intra-oral ejaculation during fellatio were significantly more extraverted than those who did not, but there was no difference in neuroticism between the two groups.

(v) Discussion

Sixty-four percent of the troops under study had intercourse with a prostitute in Vietnam. Even for married privates and NCO's this rate was 50% and for single soldiers it reached 70%. Thus, the abstainer was in the minority and, particularly for single soldiers, could be considered statistically abnormal. The tables and Figure 2 clearly demonstrate this overall phenomenon. The abstainer and the clinic patient with venereal disease tend to be abnormal at opposite ends of the scale, whereas the group of clinic attenders without venereal disease

TABLE 29. Extraversion and neuroticism scores of clinic attenders subdivided according to intentions before arrival in Vietnam, degree of seduction and intentions for further sex in Vietnam.

	<u>VALUES OF E</u>		<u>VALUES OF N</u>		<u>NUMBER</u>
	Mean	S.E.	Mean	S.E.	
<u>INTENTIONS BEFORE ARRIVING IN VIETNAM</u>					
Intended to have sex	13.15	0.39	10.09	0.44	101
No intention to have sex	13.04	0.23	10.40	0.35	212
No firm views	14.03	0.35	9.33	0.54	76
<u>INTENTION TO HAVE FURTHER SEX IN VIETNAM</u>					
No - V.D.					
Likely	13.08	0.64	10.08	0.86	36
Possibly	13.14	0.80	10.27	0.95	22
Unlikely	12.86	0.30	10.09	0.43	132
V.D.					
Likely	13.50	0.56	9.00	0.64	48
Possibly	13.62	0.78	9.48	1.08	29
Unlikely	13.70	0.29	10.92	0.38	137
<u>INITIATION OF SEX IN BAR OR PARLOUR</u>					
Always seduced	13.30	0.41	11.94	0.67	59
Sometimes seduced	13.02	0.30	10.35	0.42	130
Always own initiative	13.54	0.26	9.79	0.35	196
<u>INTRA-ORAL EJACULATION</u>					
Usually or Always	13.76	0.28	9.76	0.40	159
Rarely or Never	12.76	0.39	10.15	0.51	89

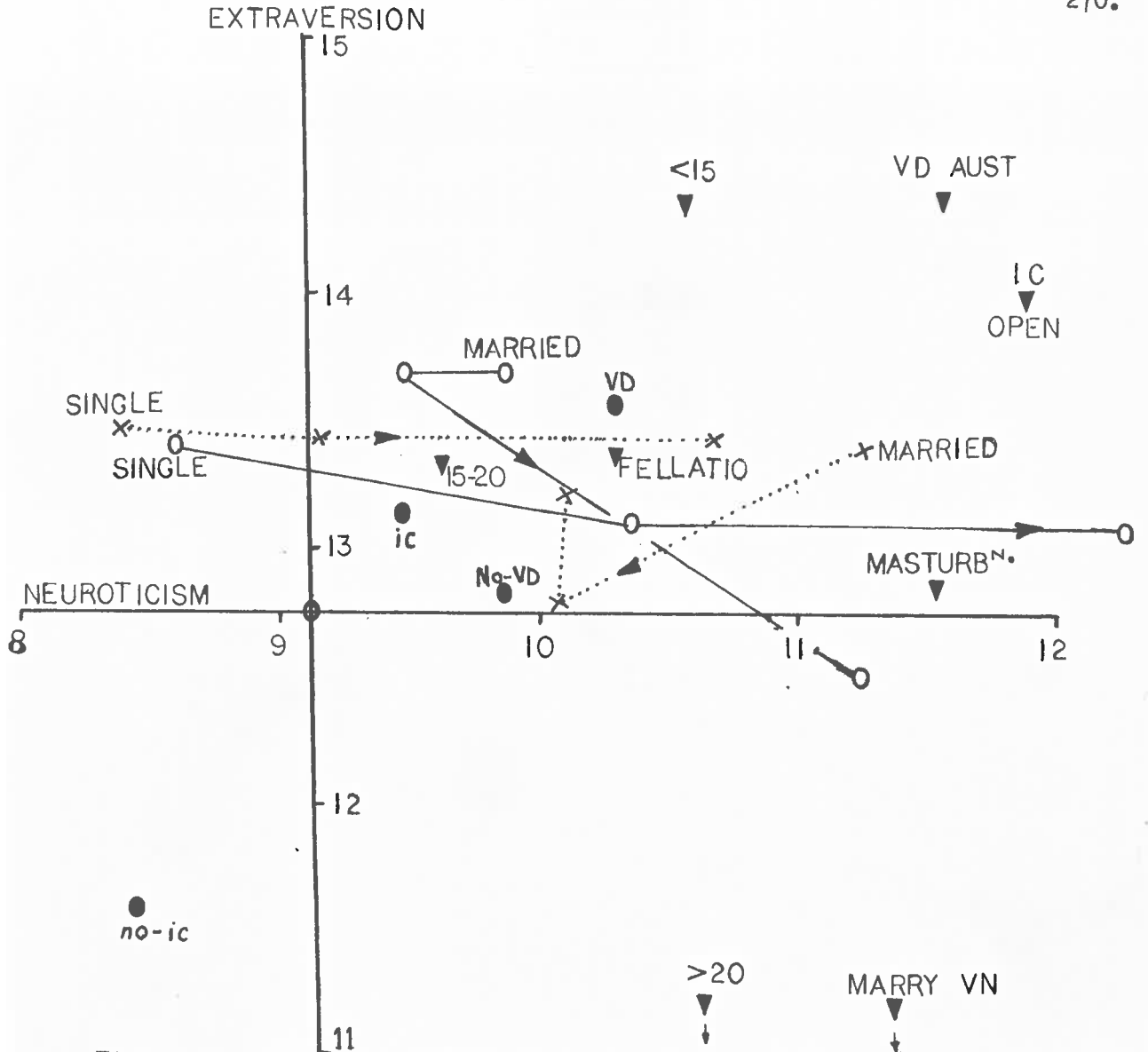


Figure 2. Extraversion-Neuroticism trends for various groups:

- (i) ● Subgroups of control series (ic and no-ic) and of clinic series (VD and No-VD).
⊕ Overall mean of control group.
- (ii) ▼ Divisions within the clinic series.
 - (a) Age of first intercourse (<15, 15-20, >20)
 - (b) Venereal infection in Australia
 - (c) Those practising fellatio
 - (d) Frequent masturbators
 - (e) Those keen to marry Vietnamese
 - (f) Those having intercourse in the open
- (iii) —○— Degrees of guilt of married and single soldiers
 ...×... Degrees of checking genitalia of married and single soldiers

do not differ greatly from all the other soldiers who had intercourse, and both fall between the two extremes. It is only by further division within these groups that significant abnormalities appear. This contrast in behaviour under stable and wartime conditions is further evidenced by the fact that 71% of clinic attenders had not patronised prostitutes in their home environment, and only 10% had done so more than once. Furthermore, previous contact with prostitutes did not differ greatly for conscripts (26%) or volunteers (32%). The soldier with previous venereal disease comprised only 12.5% of the clinic attenders and this group was very significantly more extraverted and neurotic ($E = 14.32$, $N = 11.50$) than the remainder of the patients. These figures clearly suggest that the average type of patient encountered in the present study was quite different from that encountered in clinics in Australia.

Universal enjoyment was not a feature of sexual experience in Vietnam. 20.5% always enjoyed the experience but 42.5% only did so on some occasions, 10% were always unaffected emotionally and 7.5% experienced disgust or shame on at least some occasions. The last was a marked feature for married soldiers, 36% of whom experienced these feelings compared with 18% of single soldiers ($P < 0.001$).

The relatively normal personality scores for those performing cunnilingus on prostitutes are surprising. The impression that this behaviour is fairly deviant is supported by its low incidence (13%) even among clinic attenders. Evidently it has its origins in other sociological factors or personality differences not detected by the

inventory used.

Four percent of soldiers were definitely keen to marry Vietnamese, 19.5% considered the possibility favourably and 58% would never consider such action. Only one conscript, compared with 17 volunteers, was keen for such a marriage ($P < 0.001$). The married soldier's attitude towards such union was strongly influenced by the acquisition of V.D. In the no-V.D. subgroup, 38% of married soldiers and 15% of single soldiers considered such a marriage favourably, whereas in the V.D. subgroup only 14% of married soldiers and 29% of single soldiers thought likewise ($P < 0.001$).

The tendency to marked introversion and neuroticism of those keen to marry Vietnamese is in keeping with clinical impression. This question, although literally much less specific, was designed to detect those who had become emotionally involved with prostitutes, some to the extent of undertaking the extraordinarily complicated and expensive process of arranging marriage and emigration of their Vietnamese partner.

This assumption is supported by the close correlation of desire to marry Vietnamese and feelings towards sexual partners in Vietnam. Those experiencing emotional rapport with their prostitute partners contributed 60% to those viewing marriage favourably but only 27% to those viewing it unfavourably and those with no feelings towards their partner contributed 69%, 40% and 21% to those viewing marriage unfavourably, favourably and very favourably, respectively ($P < 0.001$). Furthermore, those strongly considering further intercourse in Vietnam contributed 15.5% to those with little desire to marry Vietnamese but 63% to those

with strong desires ($P < 0.001$). It is true that not all marriages were to prostitutes, some soldiers had social access to other levels of the Vietnamese population and some suitors deviated from the general picture, but these were definitely in the minority in the population under study. Typically, those who became involved in this way were introverted, poorly integrated personalities who had often taken solace in the shallow affectionate relationship as a defence against their inability to cope with a stressful environment. Almost invariably there had not been any penetrating consideration of the problems which would be encountered on return to Australia. Interviews with these couples often revealed a pathetic situation. Not infrequently the girl had little knowledge of English, was often pregnant and in some cases had venereal disease, for occasionally these girls continued to ply their trade despite their so-called permanent attachment. Unfortunately, none of these unions was reviewed but it would be surprising if they had a high success rate.

C. VENERONEUROTIC REACTION

The term venereophobia, often used to describe these conditions, seems inappropriate. It implies considerable less diversity of the syndrome than is encountered in practice and the dread of venereal disease in these cases is not as irrational as that in most phobias. Although classification as an obsessive type phobia might seem justified, it is probably best considered as a purely obsessive-compulsive condition often containing strong hypochondriacal elements. Venereophobia would be best

reserved for conditions where conventional exposure to venereal disease had not occurred e.g. dread of infection from toilet seats, towels or other objects.

Obviously not all cases of psychopathology or neurotic reaction encountered in patients at V.D. clinics can be categorised under this syndrome. Repeated venereal infection may represent a relatively insignificant facet of the incorrigible sociopath who is a social hazard due to his more general behavioural maladjustment.

Illustrative of this group was a talented artistic 22 year old single conscript who was noted for his promiscuity. His standard technique was to have intercourse four or five times a night, always with a different prostitute. None of these girls provoked any emotional reaction in him and he even disclaimed any significant physical pleasure from the acts. He was quite indifferent to venereal disease which he had contracted five times in Vietnam, saying that it was one of the risks associated with his behaviour, prophylactics were inconvenient and that it was merely a matter of obtaining treatment when he became infected. He became attracted to a Vietnamese shop assistant who refused intercourse with him, although he related some of his endeavours to achieve this goal. He proceeded with plans to marry his first resistance but this did not deter him from periodically continuing his old ways. This patient obviously had a compulsive element to his sociopathic personality but in all aspects including management and prognosis he is outside the scope of venereoneurosis.

This man clearly illustrated Wittkower's (1948) description of

the habitually promiscuous, "Habitually promiscuous individuals never reach full sexual maturity, each of their numerous sexual affairs has a playful character and resembles masturbatory gratification more than a mature union, the multiplicity of their affairs points to a search for the unobtainable".

Many other emotions commonly encountered in venereal disease patients clearly do not constitute a neurotic reaction to venereal disease. Hostility and aggression were frequently displayed, particularly at the first attendance. "I'll get the moll", an aggressive threat directed at the prostitute, was a common reaction when infection with venereal disease was confirmed. Officers and Warrant Officers often revealed their anxiety by a very aggressive presentation to the doctor. In turn the more sensitive soldier often reacted with hostility towards senior officers who sought both their pleasure and treatment privately and escaped the humiliation experienced by himself. This hostility was very severe and was often voiced at venereal disease lectures as well as at the clinic. It was a barrier to rapport with the patient and was certainly a severe obstacle to any control campaign.

There were several instances of married soldiers, having abstained from intercourse for one year, who succumbed in the closing weeks of their tour (two of these acquired venereal disease). The anxieties experienced in the ensuing weeks by these soldiers were entirely rational and hardly constitute a neurosis although it might be argued that their initial actions contained a masochistic element or were the result of some personality weakness.

Thus, the designation, venereoneurotic reaction, may be confined to those persons who, having been exposed to venereal disease, are pre-occupied with bodily processes which they imagine indicate the onset or incomplete cure of venereal disease, and who, in addition, may perform persistent irrational acts designed to confirm or negate their fears. Guilt or shame over unacceptable behaviour, worry of the consequences of infection and acute anxiety or depression may contribute to this state. However, the more severe reactions are usually noted where there is less justification for these feelings i.e. the behaviour is classically irrational. Reluctance to accept rational reassurance is, therefore, a marked feature.

A certain degree of anxiety and guilt is to be expected as a normal response in some cases. The complete absence of psychological reaction may be just as abnormal as over-reaction. It is not surprising that the effect on married soldiers was greater than on single soldiers. Thus married soldiers accounted for 45% of those suffering a lot of guilt compared with only 9% of those who did not experience any guilt ($P < 0.001$). Married soldiers also contributed disproportionately to those worrying about possible infection ($P < 0.001$) and to those whose work was adversely affected ($P < 0.01$). It will be noted from figure 2, however, that married and single soldiers showed a quite different association between degree of psychological reaction and personality scores. Thus for married soldiers a moderate amount of guilt was associated with a tendency to stability ($\bar{N} = 9.59$) and marked guilt feelings appeared in the mildly neurotic ($\bar{N} = 11.09$). In contrast increasing guilt in the single soldier

was associated with markedly increased neuroticism ($M = 8.56, 10.47, 12.56$). A similar contrast is noted for the checking of genitalia for infection. The completely indifferent married soldier presents a neurotic score ($M = 11.35$), with more stable scores ($M = 10.19, 10.30$) associated with some concern. For the single soldier indifference is associated with stability ($M = 8.23$) and increasing concern with increasing neuroticism ($M = 9.18, 11.14$). Hence the degree of neurosis is not so much related to the overall amount of concern but rather to the degree to which this concern is irrational.

Table 28 also shows that very few clinic attenders were completely free of psychological reaction to their infection or possibility of infection. Forty-one percent never experienced guilt, 7% never worried about the possibility of venereal disease, 44% always accepted the doctors prognosis and 18% never checked their genitalia for possible infection. This aspect is highly relevant in considering the merits of treatment facilities which make no effort to acknowledge the psychological component in their patients' presentation. Despite this psychological involvement 82% considered their work output unaffected and 12% thought their behaviour improved their effectiveness.

Severe psychological reaction to venereal disease was rare compared with the milder anxiety states. In a one year period, less than 2% of those seen for psychological reasons (464) could be regarded as severe and all these were married. There were no proven suicides although there was the possibility of venereoneurosis as a cause in one case. There were 3 cases of severe depression. Two of these were

soldiers whose wives had recently had children in Australia and the third claimed little recollection of his act due to his drunken state at the time. All 3 showed signs of marked recovery within 2 weeks. The remainder of this group consisted of soldiers who refused to return home despite an assurance that their venereal disease was cured. Lengthy periods of reassurance had little impact on their attitude. They returned home within one or two months of their due departures but none was followed up.

A variety of symptomatology may be associated with venereoneurosis but the component problems encountered are conveniently considered in two groups - those features associated with a venereal infection (i.e. in the recovery period) and those completely unrelated to venereal disease. While there is overlap of these two groups, both etiology and management usually differ significantly.

1. COMPONENTS ENCOUNTERED IN VENEREONEUROSIS

(i) Not associated with venereal disease

a. Urethrorrhea.

The appearance of any urethral discharge, even a minute quantity of clear serous fluid, at any time following intercourse was considered a grave omen by most soldiers. This often occurs in association with defaecation, but in other cases may be experienced at various intervals following unsatisfied sexual stimulation or sexual involvement where the patient was so intoxicated that he was not particularly certain of the exact nature

of any acts which had occurred.

In the latter circumstances confusion with non-specific urethritis may occur if the discharge is copious.

b. Dysuria.

Mild transitory episodes of dysuria are common in soldiers who become dehydrated in the tropical climate. In the period following intercourse, however, any such symptom is often brought into sharp focus against the background of repeated past experience.

Following microurine examination, for the reassurance of both doctor and patient, ample hydration and alkalisation of the urine usually produce rapid disappearance of this symptom.

c. Fenile pain.

A wide range of distribution and type of pain were encountered but it was always episodic and of short duration. Both its occurrence and the intensity of pain were greater in married and higher ranking soldiers. This was probably the most common neurotic symptom among married officers. Reassurance and valium provided successful therapy, the latter possibly due mostly to placebo effect.

d. Serological tests.

As a result of the complete faith of most soldiers in serological tests as the infallible predictive as well

as retrospective indicator of all forms of venereal disease, attendances to request this test far outweighed those for any other single complaint. As attendance usually occurred within a few days of intercourse and syphilis was exceedingly rare in this environment (0.25% of all attendances) most requests were refused. This testing, on request without medical indication, was confined to those returning to Australia and, although this limited the number performed to a small fraction of those requested, in a one year period this accounted for 24% of new attenders at the clinic. This compared with 23% for those presenting with symptoms for which no obvious pathology was detected and 14% for those with gonorrhoea, the commonest single venereal disease.

e. Penile structures.

Just as some soldiers presented with penile pain as a result of close analysis of their sensations, others presented because of structures which had been located by equally thorough visual scrutiny. The slightest irregularity in pigmentation or skin surface was often considered of awesome significance. Skin tags, hair follicles and sebaceous cysts commonly caused concern and slight protrusion of the coronal papillae often prompted the request for treatment of "penile warts".

(ii) Associated with venereal disease

a. Persistent urethral discharge.

Not infrequently intermittent urethral discharge follows cure of venereal infection. Classically, this discharge is clear or milky, occurs in small quantities at infrequent intervals, may be markedly aggravated by vigorous exercise or excess alcohol and is unaccompanied by other symptoms.

Acceptance of this symptomatology as indicative of persistent venereal disease, with subsequent antibiotic therapy, leads to the involvement of the patient in an extended process, of multiple investigations, diverse drug therapy and considerable emotion, which mostly terminates with both doctor and patient dissatisfied. Penile massage or swabs inserted into the urethra to obtain culture samples will usually be sufficient to maintain a small amount of discharge and confirm the patients fears that his venereal infection has not been cured.

If this situation prevails for a lengthy period it becomes difficult to convince the patient that his preoccupation and anxiety are responsible for the perpetuation of spurious indicators of non-existent disease.

b. Adherent meatus.

A variant of persisting urethral discharge is the complaint of a drop of discharge protruding from the urinary meatus, or adherent lips of the meatus on waking each morning.

c. Penis Squeezing.

This practice was highly significant both as a marker of venereoneurosis and as a direct cause of some symptoms already discussed. Typically a soldier would squeeze his penis for several minutes from once to twenty or thirty times a day checking for a urethral discharge. Most commonly the penis was not milked from base to meatus but merely squeezed vigorously around the glans or distal end of the shaft.

In milder anxiety cases soldiers only performed this practice when showering, prior to urination or when in bed. In more severe cases however, the soldier would retire, perhaps routinely every 15 minutes, or alternatively whenever he experienced any sensation, imagined or real, in his penis, and carry out this check throughout the day. The net result was a complete disruption of the soldier's activities. This practice was so common (53% of soldiers performed it frequently) that the overall effect on the work force was most marked.

When performed by patients recovering from venereal urethritis this added mechanical irritation is usually sufficient to produce some exudate at the meatus and confirm the soldier's fears of persistent venereal disease.

2. MANAGEMENT AND PROGNOSIS

Patients with conditions not associated with venereal disease readily accepted reassurance, following a simple explanation, and treatment where indicated, of their symptomatology.

The management of patients recovering from a venereal infection

can be much more difficult and their problems are readily aggravated by inadequate care. Initially a thorough history and examination is necessary to assess the exact nature of any complaint. Not infrequently, however, patients were referred who, in response to their claim that a "drip" was still present, had been prescribed successive courses of one antibiotic after another. Apart from being totally ineffective, this action tends to re-inforce the patient's conviction in his persisting infection. Repeated squeezing of the penis plus the insertion into the urethra of swabs to obtain culture material often ensured the persistence of a small amount of discharge.

It is equally useless to dismiss the patient, with or without examination, with the comment that there is nothing wrong with him. Obviously if this was the case he would not have presented initially. He requires thorough explanation of his symptoms in terms that he can understand and a direct account of his prognosis. If he is dismissed without adequate detail of these he will almost certainly return. In limited cases placebos were utilised as an adjunct to reassurance but their secondary role was always explained to the patient. Their overall role is limited and without appropriate explanation they tend to undermine reassurance. A further appointment for review of the patient's symptoms, demonstrating that the patient's complaints are not being brushed aside, is also beneficial.

By far the greatest impact was made by predicting, in general terms, the course of symptoms when a patient was initially treated for venereal disease. By mentioning the approximate time for cessation of

the urethral discharge and possible appearance of the transitory symptoms already discussed, the doctor imparts to the patient a feeling of security and overall competence in the management of venereal disease. A number of soldiers believed that some venereal disease was incurable and that very little was known about some aspects of these diseases. While in some ways the latter may be true, any suggestion of its validity must be minimized in the eyes of the neurotic patient. Patients were also instructed of the possible exacerbation of symptoms by frequently squeezing the penis, excess alcohol and vigorous exercise in the initial stages of their infection. They were reassured that a thorough assessment of their progress would be made at their surveillance visits and that they should not be unduly concerned in the interim. This routine was time consuming, approximately 15 minutes per patient, but when adopted with all patients resulted in a dramatic fall in attendances for venereoneurosis. In the 4 months following its introduction, monthly attendances for the problem fell successively from 97 to 60, 44, 21 and 16.

As a preventive measure it is important to counter policies that create dread of venereal disease in the population. This is a popular approach of some leaders who often encourage medical officers to emphasize the disastrous disability following infection and the incurability of "certain strains". There is little doubt that this approach has an insignificant influence in reducing the incidence of venereal disease, but it is a potent source of psychological disturbance following exposure to infection and it can promulgate a credibility gap,

particularly with intelligent soldiers who may have greater background knowledge and discrimination than their leaders.

Departure from the war environment does not automatically terminate any neuroses developed nor confer immunity from future neurosis as a result of war time experiences. Medical presentation in the homeland may present problems of both diagnosis and management for the unwary physician. A history of venereal exposure (whether or not actual venereal infection occurred is not particularly relevant) may not be forthcoming (particularly if the soldier is married or of high rank) and consequently its etiological role may be unsuspected. The possibility of this condition should always be considered in any psychological or bizarre apparently organic problems dating from overseas service. Where disturbed sexual function is a presenting feature, it is highly probable that venereoneurosis is a factor.

CHAPTER II.3.7. THE ROLE OF ARMY LEADERSHIP INTHE CONTROL OF VENEREAL DISEASE

"In essence, the Australian Army Officer leadership requirement is an officer who is trained in and understands the essential causes of human behaviour....."

Maj. W.L.H. Smith (1971)

Table 30 outlines the interview responses of 10 Commanding Officers from the area under study. These men had widely divergent views on the prostitution venereal disease environment. At least one had, himself, acquired venereal disease in Vietnam. None regarded venereal disease in Vietnam as very serious and 3 thought it was not serious at all. They all regarded their own units as having a similar problem to that in the Army generally, although, in fact there was wide divergence in the incidence of venereal disease among different units. The universal justification for the optimistic outlook was that the unit only had one or two cases every week. For a unit of 50 men, of course, this represented a yearly rate of 100 to 200%.

Not one of those interviewed had any previous experience of a similar situation, nor a real grasp of the current problem. However, 6 of the 10 had a fairly common-sense, constructive attitude to the subject. The approaches of the remaining 4 were considered dubious as they placed most stress on such factors as control by abstinence and moral counselling, lectures designed to terrify soldiers of the consequences of V.D., dissemination of the names of those infected and subsequently sole control by the unit. It is significant that these 4

included 3 from those units which consistently had the highest V.D. rates. Several soldiers from one of these units volunteered that they visited town frequently solely because they were "fed up" with the unit and its officers.

The attitude and behaviour of Military Commanders and some members of the Medical Corps were contributing factors operating against any effective reduction in the impact of venereal disease. Most had no knowledge of the efforts to counter this problem in other localities, and thus had limited appreciation of the sociological phenomenon with which they were confronted. Secondly, they believed current control of venereal disease was effective.

Appendix 26 outlines one of the better writings on the subject by a Military Commander. He correctly identified the influence of alcohol and disregard of prophylaxis as major problems, and provides some commonsense recommendations. However, he outlines and shows misplaced faith in a system, theoretically sound, which was unsuccessful for reasons already discussed (Part I, Section 3). He further asserted, "Vung Tau is understood to be the only city in the Republic of Vietnam where concerted and consistent practical efforts are being made to properly control local bar girls and reduce V.D. among servicemen". This was incorrect as such efforts were made in other areas of Vietnam and, although the Vung Tau campaign had no long term influence on the V.D. rate, at least one of these others (at Can Tho) reduced the V.D. rate to one third of its initial level in 4 months. Furthermore, his assertion that the V.D. rate in girls attending the V.D. Clinic had

TABLE 30. The responses of 10 Commanding Officers to statements introduced during interview.

<u>SERIOUSNESS OF V.D.</u>	<u>IN OWN UNIT</u>	<u>IN ARMY GENERALLY</u>	
Very serious	-	-	
Serious	7	7	
Not serious	3	3	
<u>COMPARED WITH OTHER ILLNESSES, V.D. IS</u>			
Most serious	-		
Less serious than battle casualties	-		
Less serious than medical casualties	-		
Least serious	10		
<u>IF SERIOUS, WHY?</u>		<u>VALUE OF LECTURES</u>	
Destroys health of men	-	Very valuable	-
Depletes manpower of Unit	3	Valuable	7
Morale	-	Not valuable	3
Pressure from Superiors	2	<u>LECTURES SHOULD BE GIVEN BY</u>	
<u>MAIN CONTROL SHOULD BE</u>		Medical Officers	7
Abstinence and moral approach	2	Padres	-
Prophylaxis - washing or condom	-	Unit Officers	3
Legalised Brothels	2	All	-
No control	2	<u>CONTENT OF LECTURES</u>	
Other	4	Terrify	4
<u>RESPONSIBILITY OF CONTROL</u>		Prophylaxis	5
Medical	2	Other	1
Provost	-	<u>PRESSURE ON SOLDIER WITH V.D.</u>	
Unit	4	Punishment if get V.D.	-
Other	-	Punishment if repeated V.D.	-
Combined	4	Sent home if repeated V.D.	-
<u>SHOULD UNIT KNOW IF A SOLDIER HAS V.D.</u>		No action	7
Yes	7	Other	3
No	3		

"dropped from 80% at the beginning of 1970 to between 15%--20% in August 1970" is not valid because the diagnostic criterion used (the presence of polymorphs in a vaginal smear) was medically unacceptable.

There were several important policies of leaders which contributed to inadequate V.D. control:

1. DISCLOSURE OF NAMES

Seven of the ten Commanders favoured knowing the names of those members who acquired V.D. Two of these were almost fanatical in their efforts to achieve this aim. One refused to cooperate in any overall campaign or have Medical Officers lecture his unit unless this request was granted. The soldiers in this particular unit were aware of their Commander's endeavours and were very anxious about the outcome, many patients saying they would not attend the Australian clinic if this policy was introduced.

In Saigon the drift of Australian V.D. patients to outside facilities, largely because of this uncertainty of secrecy, was quite marked and occasioned a letter from the Australian Services to the Allied controlling body requesting that U.S. Medical facilities not treat Australian personnel (Appendix 31).

Not all Commanders were impressed with the virtues of name disclosure and one wrote to subunits (Appendix 27) in 1969, "Some OC's may point to the withholding of the names of members contracting V.D. as the reason for the increase, but this argument cannot be substantiated by facts as there have been only isolated cases of re-infection". However, a successor to this man wrote to Headquarters in 1971 (Appendix

28), "Finally I have been concerned at my inability to obtain the names of individuals who contract V.D."

Probably the best writing by a Medical Officer on this subject (Appendix 32) presented venereal disease in perspective and effectively countered demands for dispensation with normal professional secrecy.

Usually the reasons offered in favour of disclosure were:-

- (1) To enable the Commanding Officer to interview V.D. patients and encourage them to change their habits. This moralistic counsel would demonstrate to the soldier that sex with a prostitute was a poor substitute for marital intercourse.
- (2) Certain soldiers occupied key positions and, if these were among V.D. patients, a definite security risk was involved due to the intimate contact with the local populace.
- (3) "Uncertainty as to the sort of problem to be faced - for example CO's have not known whether the incidence of V.D. in their units indicated that a large number of soldiers were exposing themselves to infection, or a small number of soldiers, constantly indulging in intercourse, were being re-infected" (Appendix 28).
- (4) "The fact that, while some officers have contracted V.D. I do not know who they were. I might therefore choose wrongly in selecting an officer for a special place in a programme designed to emphasise the moral, emotional and psychological consequences of V.D., and make a complete mockery of such a programme from its inception". (Appendix 28).

For a number of reasons, these arguments are not valid:

- (1) The inadequacy of Commanding Officers to give such counselling is indicated by the inappropriate choice of the moralistic approach which had little impact on the troop population. This study shows that moralistic factors provided insignificant restraint. Most liaisons were not premeditated and resulted from impromptu decisions, often strongly influenced by alcohol or seduction by prostitutes, which were often contrary to the soldier's basic ethical code, anyway. Those episodes which were premeditated indicated a deliberate flouting of the conventional ethical code. Some of these were motivated by the desire for types of stimulation not so surely available from closer acquaintances, including wives. It was inappropriate to tell these soldiers that this sex was a poor substitute for conventional marital relations.

As over 70% of patients only contracted venereal disease once, any influence of interviews after infection would be directed at less than 30% of patients. Furthermore, this approach tends to perpetuate the emotionalism associated with V.D. and accentuate the feeling that this infection is different from all other illnesses. It is true that it is a behavioural disease but "A patient with malaria or an avulsed ring finger could also apply just as well (in both these latter cases there is a degree of personal and

unit responsibility)" (Appendix 32). Certainly alcoholism or repeated drunkenness is a severe behavioural disease and yet there was never any suggestion that these people should be routinely counselled.

- (2) It was irrational to think that the person who acquired V.D. would be any greater security risk than those soldiers who had intercourse with prostitutes but escaped the disease. In any case, several weeks after contact had occurred seems an inappropriate time to be concerned about any security leak. Furthermore, "It is considered that acute alcoholism would pose a more serious threat to security than the performance of sexual intercourse (when the individual is probably less loquacious)" (Appendix 32).
- (3) There was no need to be uncertain of the sort of problem to be faced. This specific question was answered by his predecessor, "there have only been isolated cases of re-infection" (Appendix 27).
- (4) Had this officer known the names of all fellow officers patronising prostitutes he would, most likely, have been rather more perturbed.

From the aspect of leadership, it seemed hypocritical to draw a distinction between those acquiring V.D. and those having intercourse without physical sequelae.

Apart from the invalidity of the reasons offered in support of name disclosure, there were several reasons why this practice was particularly undesirable:

- (1) It is difficult to obtain the full confidence and cooperation of a patient if he has any doubts about the secrecy of his management. With many venereal disease patients, this rapport is difficult to develop under the most favourable conditions, without interposing unnecessary barriers.
- (2) A doctor may find it difficult to defend his action legally, if complications arose from the improper use of such disclosure. This difficulty is accentuated by the discrepancy between statutory definition of venereal disease (syphilis, gonorrhoea and chancroid) and that accepted medically (which includes a number of other conditions e.g. non-gonococcal urethritis).
- (3) Quite apart from legal considerations, many doctors would be reluctant to divulge such information, purely on personal ethical grounds. The integrity of some persons receiving this information was not above reproach and it is not unlikely that, on occasions, this information, possibly in distorted form, would eventually reach wives or fiances in Australia. The resultant social disturbance would be far more disastrous than the initial venereal infection.
- (4) For the above reasons, disclosure tends to encourage self medication, failure to report venereal infection or seeking treatment at some other facility.

2. LECTURES AND FILMS DESIGNED TO TERRIFY SOLDIERS

Four of the ten commanders interviewed supported this principle. In writing to sub-units regarding films, one Commander wrote, "Some ghastly, but effective, coloured photographic slides of recent Australian cases are also expected to be available" (Appendix 29).

Some Commanders had the habit of briefing Medical Officers regarding the desirable content of any lectures they gave. These directions almost invariably contained mention of the "incurable strain" and the appearance of disastrous disease of the brain and heart many years after exposure, even though initial infection may have been asymptomatic. Preoccupation with syphilis, and its sequelae before the introduction of antibiotics and proper surveillance, was a feature of the Military Commanders' approach to V.D. An administrative instruction on venereal disease in 1969 (Appendix 30) dealt almost exclusively with syphilis and included, "Syphilis is occurring in steadily increasing numbers in this country, and more and more cases are being contracted in Vung Tau". In the whole of 1970 there were 5 cases of syphilis in Australian troops and only 2 of these were acquired in Vung Tau. Indisputably syphilis was of no importance as a public health problem.

This Military attitude demonstrated a completely irrational approach to solving the V.D. problem, stimulated many requests for syphilis serology, and contributed to the high incidence of venereoneurosis.

3. EXAMPLE OF OFFICERS

Although most officers made some effort to conceal their sexual exploits and considerably greater effort to conceal venereal infection,

the extent of officer participation was fairly widely known among the troop population. Officers of the rank of Captain and below usually arranged treatment at the clinic at special times, but Majors or more senior ranks were either treated at outside facilities or arranged therapy through an intermediary.

Officer involvement and favoured treatment aroused great hostility among the troops, and this was openly displayed at both lectures and in the clinic, and proved a barrier to rapport between doctor and patient. Rapport was further hindered by the involvement of Military Police in contact tracing. Because of their position of authority, this group was generally offered the favours of prostitutes free of charge, and a number, including some involved in brothel control, accepted these favours and, in turn, several contracted venereal disease. The Military Commander's comment that officer participation might "make a complete mockery of such a programme from its inception" (Appendix 28) displayed his own lack of awareness of the extent of current involvement.

4. MEDICAL INVOLVEMENT

The clinical management of venereal disease was inadequate, largely due to a combination of inexperienced Medical Officers and outdated Medical direction. The instruction on venereal disease, current at the time (Appendix 33), had little applicability to the Vietnam situation in 1970, and modifications had been suggested in 1967 (Appendix 35).

Due to this lack of response, Medical Headquarters in Saigon issued a number of instructions during the 3½ year interim. One written

in 1968 (Appendix 34) provided some relevant practical guidelines.

Important features of this direction were:

- 1) Attention drawn to the requirement for larger doses of penicillin for gonorrhoea.
- 2) Direction against the arbitrary use of diverse antibiotics for non-specific urethritis.
- 3) Unqualified disapproval of podophyllin for venereal warts - a dangerous practice in this environment.
- 4) Curbs on routine admission for venereal disease - an impractical policy.
- 5) Early referral to a central clinic when there was poor response to treatment.

Most of the subsequent treatment problems arose due to disregard of this directive. It is significant that a further directive in 1971 (Appendix 37), designed to alleviate some of the practical deficiencies which then existed, covered many of the same topics as this earlier directive.

SUMMARY

In essence, Army leaders had little insight into the extent and true nature of the venereal disease problem. This defect was compounded by the general lack of understanding and rapport with the troops they commanded. Perpetuation of the problem was ensured by the belief in an unwieldy control system which produced negligible return for the effort expended. The real impact of prostitution remained unrecognized because no independent assessment of the problem was made.

CHAPTER II.3.8. MISCELLANEOUS FINDINGS

1. AGE OF FIRST INTERCOURSE

The exploratory study showed that only 6 out of 376 (1.6%) soldiers had not had intercourse and these were all conscripts. A further 4 (1.1%) had not had intercourse prior to coming to Vietnam. Only 6 (1.6%) other soldiers had not had premarital intercourse. These figures (Premarital intercourse by 95.7% of the population and abstinence in Australia by only 2.7% of this age group) clearly demonstrate the relaxed sexual restrictions in the population from which the group was drawn.

The earliest age of intercourse was 11 and a considerable number had intercourse in their early teens, with a mean age of 17 for the first experience. The findings on clinic attenders were not dissimilar to those of the general population. Overall 18% had intercourse before 15, 73.5% first had intercourse in Australia between 16 and 20 years and 7.5% after the age of 20. Five per cent first had intercourse in Vietnam. Eleven per cent of conscripts compared with 23% of volunteers first had intercourse before 15 years ($P < 0.001$).

Appendix 7 outlines the relationship of certain sociological factors to the age of first intercourse. There is a tendency to earlier intercourse with increased family size, with those coming from families of more than 4 children contributing 45.5%, 35.5% and 21% to those first having intercourse before 15, from 15-20 and greater than 20, respectively ($P < 0.10$).

There was a tendency for later introduction to intercourse in the more educated, with those having more than 3 years secondary education

contributing 48.5%, 35% and 29% to the groups having intercourse after 20, between 15 and 20 and before 15, respectively.

Those having intercourse more than 10 times in Vietnam made a disproportionate contribution to the under 15 and 15-20 groups at the expense of the greater than 20 groups (23%, 23 and 3%, respectively $P < 0.01$).

The most striking feature was the marked extraversion ($E = 14.34$) of those having intercourse before 15 and the marked introversion ($E = 10.40$) of those delaying intercourse until after 20. Those first having intercourse between 15 and 20 were the most stable ($E = 9.58$) and had an average extraversion score ($E = 13.35$). Family order and seriousness of religious beliefs were not associated with age of first intercourse.

2. INTERCOURSE WITH PROSTITUTES IN AUSTRALIA

Approximately 20% of all clinic attenders had patronised a prostitute in Australia on one occasion, and 10% had done so more than once. These proportions did not differ appreciably between the sub-groups.

Appendix 6 shows the relationship of various background factors to this behaviour. There was a tendency for clients to come from larger families (soldiers from families of 5 or more children contributed 49% of multiple attenders compared with 35.5% of those who had never patronised a prostitute in Australia, $P > 0.10$). Intercourse more than 10 times in Vietnam was experienced by 34% of those who had been clients more than once in Australia, but only by 17.5% of those who had never

been clients ($P < 0.02$). Despite this relationship, association with prostitutes in Australia, although related to frequency of venereal disease in Australia, was unrelated to venereal infection in Vietnam.

Age, social status, seriousness of religious beliefs, education and personality were not significant factors in distinguishing clients from non-clients.

In general, experiences in Vietnam were a significant deterrent to visiting prostitutes in the future. Although 52 patients (14%) would visit a prostitute before coming to Vietnam only 26 (6%) felt they were prepared to do so on returning to Australia. Actual infection with venereal disease provided added deterrance for married soldiers only.

None of those who had been infected contemplated further intercourse with a stranger whereas 10% of other married clinic patients were prepared to do so. The attitude to promiscuity, other than with prostitutes, was unaffected by experiences in Vietnam.

3. VENEREAL DISEASE PRIOR TO SERVICE IN VIETNAM

Approximately 10% of all soldiers had experienced venereal infection before coming to Vietnam, but the incidence for volunteers was double that of conscripts (12.5% to 6.5%). None of the 30 married conscripts had been previously infected.

The incidence among the selected clinic group was slightly higher (14%), but, again, volunteers were affected twice as frequently as conscripts (18% to 9%, $P < 0.01$).

Appendix 8 shows the relationship of certain factors to previous

venereal infection. Social status, family size, religious beliefs and education were not significant contributing factors but the age of first intercourse and intercourse with prostitutes were very significant.

A prostitute had been visited more than once by 8% of those without previous venereal infection compared with 24% of those who had acquired infection ($P < 0.001$). Over 32% of the infected compared with 15.5% of the non-infected first had intercourse before the age of 15 ($P < 0.01$).

Those with a past history of venereal disease were more extraverted and neurotic than the others ($E = 14.32, N = 11.50$ to $E = 13.19, N = 9.93$).

4. CIRCUMCISION

74% of troops were circumcised and these were evenly distributed between conscripts and regular soldiers. This factor was significant in that circumcision afforded some protection from chancroid infection. Thus, among chancroid patients only 23% were circumcised whereas among gonorrhoea patients the incidence (60%) approximated to that in the general population.

5. REST AND RECREATION LEAVE

Rest and Recreation leave provided an entirely different environment to conditions in Vietnam. Furthermore, the pattern of those attending Asian centres differed distinctly from those returning to Australia.

Ninety five percent of those visiting Asian centres had intercourse and this experience was universal for those visiting Bangkok

and Taipei. Eight percent of those having intercourse acquired venereal disease but there was a wide variation in incidence among the different centres viz. 30% in Bangkok, 7% in Hong Kong and nil in Taipei.

Of the 49% of clinic patients who had taken leave, 73.5% had intercourse during this period. The highest incidence (91%) was among married soldiers who mostly (92.5%) had intercourse with their wives. However, 69% of single soldiers had intercourse and for 62% this was with prostitutes in Asia and for 33% with their girl friends or fiancés.

6. PARENTAL APPROVAL

Parental disapproval is accepted as one of the restraints tending to discourage promiscuous liaisons in one's home environment. Conversely, absence of this restraint in a foreign environment is likely to favour sexual promiscuity. One might, therefore, expect differences between behaviour in Vietnam and Australia to be greatest among those for whom parental disapproval is strongest.

Paternal indifference (42.5%), compared with disapproval (40%) and approval (8.5%), was the commonest response anticipated by the soldiers. Approval was anticipated less by married soldiers (2%) than by single soldiers (10.5%) ($P < 0.01$), and a greater proportion of conscripts than volunteers envisaged disapproval (45.5% to 35%, $P < 0.05$).

Due to overwhelming maternal disapproval (83%), compared with approval (3%) and indifference (9.5%), there were no significant differences due to marital state or type of enlistment.

Appendix 18 outlines some factors influencing parental approval. Maternal approval (72%) was more common than disapproval (22%) in

families of more than 5 children ($P < 0.001$), but a similar trend, with family size, for paternal approval was less marked ($P < 0.10$).

Social status, religious beliefs and education were not appreciable determinants of parental approval.

It might be anticipated, therefore, that loss of a mother might be a significant factor in encouraging promiscuous behaviour in a home environment. Furthermore, maternal feelings were completely reversed (approval being more common than disapproval) for those coming from large families. In this situation it is possible that the maternal ties are weaker than in smaller families. Promiscuity may be encouraged by any conditions which weaken maternal influence, either partially or completely.

SECTION II.4. CONCLUSIONS

Sexual participants in a war environment can be divided into 2 general groups. The smaller group, including a preponderance of professional soldiers, contains those who tend to be promiscuous in any situation, and merely continue their normal type of behaviour in a different locality. Sociological parameters associated with this promiscuous behaviour have been elicited (age, enlistment, marital state, alcohol intake, education, family size, military and civil offences).

The majority of participants, however, are overall sociologically indistinguishable from the remainder of their parent community. They enter the war theatre without any intention of sexual participation but find that the war environment severely strains their stability. Inactivity, boredom and oppressive leadership superimposed on the physical and psychological stresses of war, coupled with absence of the stabilising restraints of the home environment, induces a changed outlook or baseline ethical code. Under these circumstances, chastity is almost inevitably outmatched by the influence of alcohol and prostitute seduction. Types of sexual behaviour normally encountered in a minority group becomes experienced by a majority of the population.

A number of sociological factors elicited by this study place involvement in the venereal disease environment in perspective:

- (i) Soldiers having intercourse in Vietnam outnumbered abstainers by almost 2 to one.
- (ii) The majority of soldiers (53%) having intercourse had no intention of doing so prior to visiting Vietnam.

- (iii) Sexual experiences were never premeditated for 25% of soldiers and only sometimes premeditated for a further 62% of soldiers. Of those visiting bars where sex usually occurred, only 16% did so with the intention of engaging in sexual behaviour.
- (iv) Alcohol influenced 50% of soldiers into having intercourse and was the entire influence for a further 10%.
- (v) In 50% of cases involvement was solely due to blatant seduction by the prostitutes. Thus, 77% of soldiers had been physically molested (penis clutching), and for 20% this had occurred more than 5 times.
- (vi) Fellatio, a practice advocated by the prostitutes, was experienced by 61% of soldiers. For over half of these soldiers (37% of total), this was an entirely new experience. For 40% of soldiers, seductive stimulation during massage was the sole reason for participation.

Figure 1 demonstrates diagrammatically the effects of environmental influence both on the sexual output of a community and on the total impact of this behaviour. It shows how markers of this impact, e.g. venereal disease, may not be comparable in different environments - due both to other components of the total impact, and to other factors with differential influences on the marker in the different environments.

The venereal disease incidence in a stressful environment is much greater than in a stable environment for two reasons. Firstly, reduced prophylaxis and indiscriminate in selecting partners render

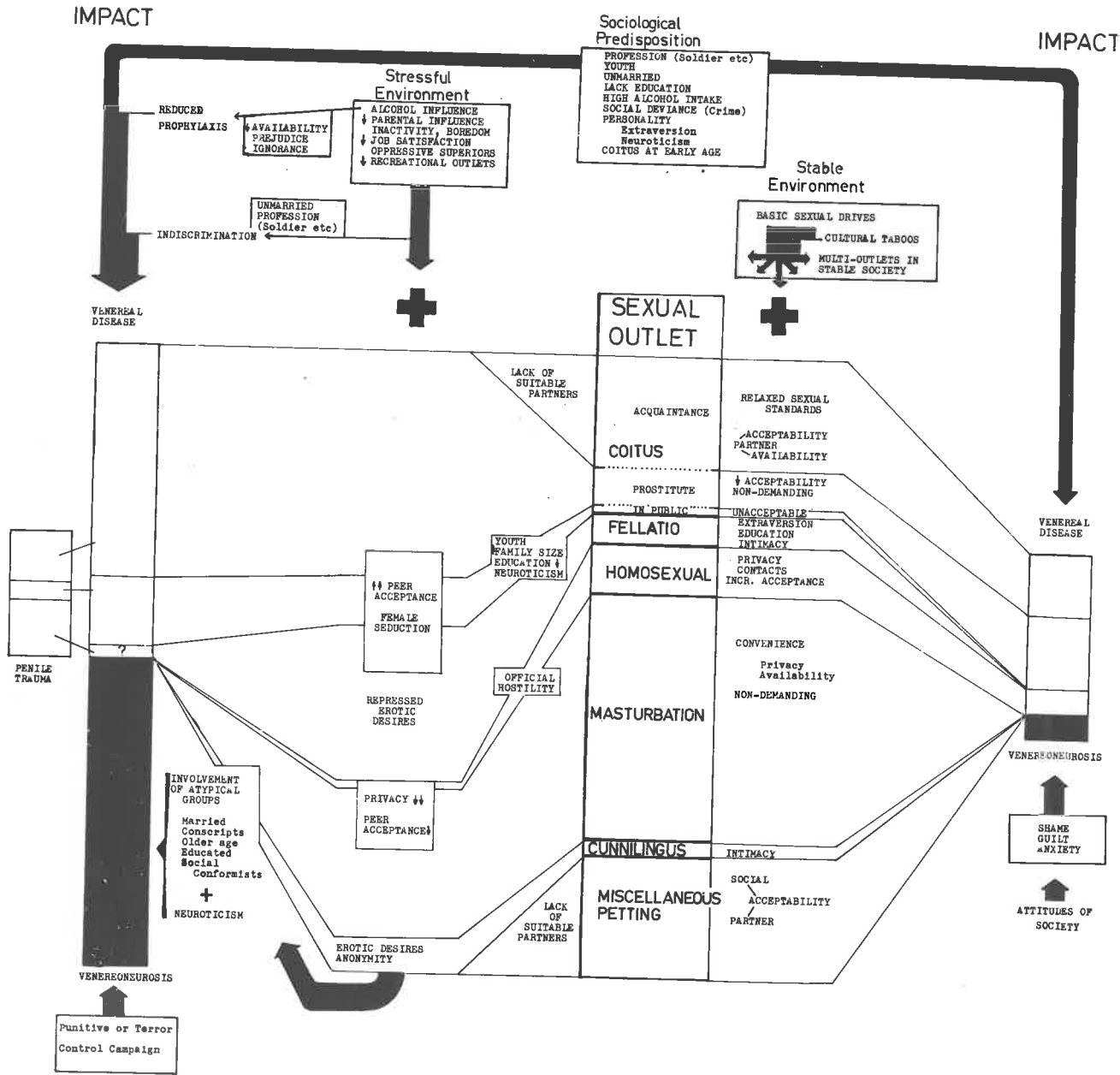


Figure 1.

The effects of environmental influence on sexual outlet and the total impact of this behaviour.

the population particularly susceptible to venereal infection. Secondly, in the stressful environment relatively safe sexual practices of the homeland are replaced by others which are associated with venereal disease.

Masturbation and miscellaneous petting make a large contribution to sexual outlet in a stable environment, the former because it can be conveniently practiced in private and does not demand the development of a social relationship with another individual, and the latter because it is very acceptable to both society and prospective partners; but are curbed in wartime because there are no suitable partners for petting, and lack of privacy coupled with low peer acceptance makes masturbation more difficult. Similarly homosexuality which is gaining increasing social acceptance can be practiced in a stable environment where contacts and privacy are available, but is much more difficult without privacy or peer acceptance, particularly in the Army where there is such official hostility against it. In the wartime environment, coitus, fellatio and cunnilingus contribute a greater proportion of the sexual outlet, the last two because they have limited acceptability and hence require an intimate relationship in a stable environment, but can be practiced anonymously with a cooperative commercial partner. Thus, erotic desires which have been previously suppressed can be satisfied.

More significantly, there is a dramatic change in coitus pattern, whereby prostitution and multiple intercourse on the roadside completely eclipse the relatively safer less promiscuous pattern of the homeland. Public intercourse which is socially unacceptable in a stable environment is much more common due to female seduction and

relative peer acceptance. However, even these influences only convert a limited section of the troop population - the young, those from large families, the uneducated and the neurotic. Prostitution provides a very large proportion of the outlet because it is the accepted outlet in this type of environment where more intimate relationships are not possible.

This greatly increased incidence of venereal disease does not, however, show the impact of the environment in its true perspective. Due to the involvement of a large proportion of the population in practices foreign to its ethical code, venereoneurosis, and to a lesser extent penile trauma, makes a substantially greater contribution to the total impact, decreasing the relative significance of venereal disease.

The overall field of venereoneurosis, while completely ignored by the medical services was the largest single component of the total impact. The degree of psychological involvement is indicated by:

- (i) Seventy three per cent of soldiers feeling disgust or shame in association with intercourse.
- (ii) Twenty six per cent always felt guilty following intercourse, whereas 30% sometimes felt guilty.
- (iii) Forty per cent always worried and 53% sometimes worried about the possibility of contracting venereal disease.
- (iv) Over 31% doubted reassurance given by a doctor and 4.5% frankly disbelieved such assurances.
- (v) Following intercourse, 53% of soldiers checked their genitalia a lot for signs of venereal disease whereas 27% checked frequently.

Notably guilt was experienced significantly more by those who did not acquire V.D. than by those who did. Hence, venereal infection may be seen by some as expiation of their guilt. Furthermore, venereal infection may sometimes be a relief as the crisis is faced openly and cure of infection heralds the conclusion of the episode. Those escaping infection continue to worry, checking their genitalia and experiencing shame, not knowing the duration of their penance, and continually troubled by the possibility that infection is affecting their bodies in other ways without external manifestation.

Gauging the impact of prostitution by the venereal disease rate (even if this was known accurately) is shown to be inappropriate. Closer objective study of the environment reveals many other facets contributing to the total impact and places venereal infection in proportion.

ANNEX I. Appendix 1.

BACKGROUND TO THE VIETNAMESE PEOPLE AND VIETNAM CONFLICT

The early Viet people probably originated from the lower Valley of the Yang-tse Kiang in Southern China. Expelled southward by more powerful tribes they settled around the Red River Delta about the 3rd century B.C. In their search for more land and food these people trekked south over the Indo-Chinese Central mountain chain and came in contact with aborigines of the Indo-Chinese peninsula. The centuries of mixing between the Mongoloid people of the north and the Melano-Indonesians of the south produced a relatively homogenous race - the Viet. In addition to the Viet there are a number of ethnic minorities, the largest of which is the Chinese, numbering about 1 million, of whom about 3000 still retain their Chinese nationality. Essentially merchants, they established Saigon's twin city - Cholon, the commercial centre of the Chinese colony of South Vietnam. Another group of 700,000 referred to by the French as Montagnards live in the western high plateaux. They include the Muong, the Rhade, the Jarai, the Sanhar and the Sedang. The Cham living along the South East coast near Phan Rang and the Khmer in the Mekong delta contribute another 400,000 to the total population of 17 million.

Throughout the past 2000 years of recorded history the Vietnamese have been sustained by a sense of ethnic identity and cultural cohesion. They have shown intense pride in maintaining national and political independence for centuries despite difficult periods of foreign occupation. They take equal pride in their unique cultural heritage, regarded by them as an irrevocable proof of their selective talent for absorbing foreign

civilization without losing their distinct Vietnamese identity. It is not possible, therefore, to understand the Vietnamese today without considering the ways they have repeatedly withstood the buffeting of external forces throughout history.

The independent Kingdom of Nam Viet, which comprised a large part of South China, was established by Trieu Da who proclaimed himself King in 208 B.C. 111 B.C. marked the beginning of the three periods of Chinese occupation, ending in 939 A.D., when King Wu Ti overwhelmed Nam Viet despite fierce resistance.

The first national dynasty was founded by General Ngo Quyen in 939 A.D. when he routed the Chinese invaders in the famous battle of Bach Dang. The national dynasties were marked by repeated assaults from the Chinese who made a concerted effort to destroy the national identity of the people. Literary, artistic and historical works were either destroyed or removed to China. Chinese classics were taught in the schools and Chinese attire and hair style imposed on the women. Native Customs and religious rites were replaced or forbidden and private wealth was confiscated and sent to China. In the fifteenth century the greatest of the Vietnamese Emperors, Le Thanh Ton (Le Loi) evicted the Chinese administrators, overwhelmed Champa to the South, and established an administration run on Chinese lines and using Chinese writing. Succeeding leaders were weaker, however, and the country became divided between the Trinh in the north and the Nguyen, with their capital at Hue, in the South. By 1613 the cleavage was so acute that the Southerners built two walls at latitude 18° North dividing the country into Tongking in the North and Cochin

China in the South.

The first European interest in the country was shown in the sixteenth century with the arrival of the Portuguese and Spanish. In the seventeenth century Dutch and English merchants established depots in Hanoi and French Catholics started missions which were the origins of today's 2 million Vietnamese Catholics. The missionary Alexander de Rhodes (1591 - 1660) devised the first Romanisation of the Vietnamese language (quoc ngu) and education through this medium, eliminating the Chinese script, was a stimulant to nationalism.

The nineteenth century marked an intense persecution of Vietnamese Christians and between 1827 and 1858 130,000 were killed. The arrival of a Franco-Spanish naval expedition in 1858 heralded the beginning of the French conquest and Saigon was taken in 1859. Francis Garnier led the French against Chinese mercenaries, the Black Flag Society, in Tonking and took Hanoi in 1873 but was killed later in the same year. France acquired protector status over Vietnam by the Treaty of Saigon in 1874. Following the intervention of Chinese troops, war between France and China broke out on May 19, 1883. However, when China renounced all its claims over Vietnam by the Treaty of Tientsin (June 9, 1885) France gained undisputed possession of all of Vietnam.

Nationalism became a feature in twentieth century Vietnam. The first rising of nationalists occurred in Tonking in 1908 and the movement was intensified after World War I. Tonking had two extreme nationalist parties, the Nationalist Party of Vietnam and the Communist Party. The latter was established in 1930 by Nguyen That Thanh (Nguyen Ai Quoc or

Ho Chi Minh) and expanded in 1931 to become the Indochinese Communist Party.

As a result of World War II the French in Indochina became divided. In 1940 a Vichy admiral, Jean Decoux, became governor-general in Vietnam and cooperated with the Japanese. In 1941 the Vietnamese communists founded the Vietnam League for Independence, commonly called the Viet Minh, which supplemented Western Guerilla activity against the Japanese. In March 1945 the Japanese proclaimed Vietnam an independent state under Emperor Bao Dai. The Potsdam agreement (1945) allocated the responsibility for taking over the north and south from the Japanese to Nationalist China and the British respectively. Before these forces could arrive however, the Viet Minh, led by Ho Chi Minh, proclaimed the Democratic Republic of Vietnam on September 2, 1945 and began to function as a provisional government.

Incoming French troops relieved the British early in 1946 in the South, but resistance was met to French return in the North. Incidents between French and Viet Minh troops multiplied, with the French shelling the North Vietnamese port of Haiphong and on December 19th, 1946, when Viet Minh forces throughout Vietnam attacked French garrisons, the Indochina war began. This war continued until the French were crushed at Dien Bien Phu on May 7, 1954. The Geneva international conference (United Kingdom and Russia-joint chairmen-United States, Red China, Cambodia, Laos, North and South Vietnam) agreed that the Viet Minh and French forces should cease fire and withdraw to either side of a military demarcation line (17° North).

During the regrouping, civilians were to be allowed to move to whichever side of the line they wished. An International Control Commission under an Indian chairman and with Canadian and Polish members was to supervise regroupings and elections which were to be held by 1956. Foreign military advisers were restricted to a maximum of eight hundred. The United States and South Vietnam did not sign the Geneva Agreement.

In 1955 Bao Dai was deposed and Ngo Dinh Diem became the first president of the Republic of Vietnam. This regime became unpopular after its persecution of the religious sects - Hoa Hoa, Cao Dai and Buddhist monks and nuns - and was finally overwhelmed in 1963 and Ngo Dinh Diem and his brother Ngo Dinh Nhu killed. Instability continued, as new governments were repeatedly overthrown, until 1965 when Air Vice Marshall Nguyen Cao Ky became premier.

On December 20th, 1960 the South Vietnamese National Liberation Front (NLF) was formed as a political organisation (containing both communist and non-communist elements). Militarily this movement was represented by the Viet Cong whose strength rose rapidly from 25,000 in 1963 to 280,000 in late 1966. Included in these numbers was a rising proportion of North Vietnamese infiltrators.

Following the Geneva Conference, the United States provided military advisers to South Vietnam and by 1961 these exceeded 700. In 1962 helicopter pilots arrived and in March 1965 the first ground forces, the 173rd Airborne Brigade, were deployed. Australia sent 30 advisers in 1962 and combat troops in 1965. By late 1966 there were over 380,000 United States and over 4000 Australian and New Zealand troops in South Vietnam. The number of Australians in the country gradually increased to over 8,000 and then declined in 1971 until virtually all Australian troops were withdrawn at the end of this year. Between 1962 and 1972,

49,783 Australians served in Vietnam, 494 were killed and it is estimated that there were 100,000 medical attendances associated with venereal exposure.

ANNEX I. Appendix 2. Army documentation and surveillance of venereal disease instructions.

SUMMARY OF VD SURVEILLANCE DOCUMENTATION

1. On first visit to RAP:-
 - a. Note in F Med 5 that F Med 16 has been raised.
 - b. Complete Blocks 1 - 10 and 14 - 21 of F Med 16.
 - c. Record as new case or reinfection for monthly return.
 - d. Note members R&R and/or RTA month.
 - e. Note date of review on F Med 16 for recall filing.

2. On RTA before completion of Surveillance:-
 - a. Enter summary on F Med 5 including, diagnosis treatment subsequent pathology results and the fact that surveillance is incomplete.
 - b. Endorse final entry on F Med 16 "Surveillance Incomplete summary entered on F Med 5" and date and sign.
 - c. Endorse on front of F Med 16 date of RTA, the proposed new unit, if known, and in which command this is located.
 - d. Forward F Med 16 promptly to ADMS HQ AFV.

3. On completion of surveillance:-
 - a. Enter summary on F Med 5 including diagnosis, treatment, subsequent pathology results and the fact that surveillance is completed.
 - b. Endorse Block 13 "Surveillance complete - Summary entered on F Med 5 and date and sign.
 - c. Forward F Med 16 to ADMS HQ AFV.

DOCUMENTATION AND SURVEILLANCE OF VENEREAL DISEASEDocumentation to be Used

1. All cases of venereal disease in AFV are to be documented on F Med 16.

System

2. On the first attendance of the member whom a diagnosis of venereal disease is made and treatment prescribed, the medical officer is to raise an F Med 16 and:-
 - a. Complete all detail available on the cover including status of the patient.
 - b. Enter legibly the diagnosis and the course of treatment to be given.
 - c. Enter the date of the next and subsequent surveillance attendances, indicating against the appropriate date when SEROLOGICAL tests are due.
 - d. Indicate that the initial serological sample has been taken.
3. The schedules of surveillance/serological required are to be duplicated on to the appropriate size slips and pinned to F Med 5. A supply of these is to be prepared in advance.
4. F Med 16 is to be "filed" in treatment centre/RAP's by the date of NEXT ATTENDANCE in a "CURRENT" file. A suitable box and date tags is to be improvised.
5. Should a patient fail to attend on the required date the F Med 16 is to be transferred to a "DEFAULTER" section of the "current" file (a cardboard subdivision will suffice for this) and enquiries made as to the cause of non attendance. If only temporarily away a revised date is to be arranged and F Med 16 returned to the "current" section. If the member has been admitted to a medical unit for another reason his F Med 16 is to be passed to that unit.
6. The "defaulter" section is to be checked at regular intervals to ensure patients are not overlooked and to check whether or not they have left the unit/theatre.
7. At the patient's last attendance for active disease treatment, the medical officer is to abstract a summary of the F Med 16 onto F Med 5, listing on both serology tests and examinations, with dates, required to complete surveillance.

8. On the patient's last attendance for routine serology, after the sample has been taken and despatched and the necessary entries made on F Med 16 and F Med 5, F Med 16 should now be filed under the heading "SEROLOGY RESULTS". This again can be a cardboard subdivision of the "current" file.
9. When the result is received it is to be recorded on F Med 16 and F Med 5. If this indicates that surveillance is complete the F Med 16 is to be endorsed "SURVEILLANCE COMPLETED" after the necessary details have been recorded on F Med 5, and forwarded to ADMS AFV for checking and onward transmission to DGMS (CMRO) ANQ for inclusion in the members Central Medical Records. Such cards are to be parcelled up separately and despatched at monthly intervals.
10. Should any serology result indicate that further treatment eg, for syphilis is required, the F Med 16 is to be returned to the "current" section of the file and treatment initiated with details entered as in para 2 above.
11. Should the member leave the theatre before surveillance and serology is completed (medical clearance procedures and periodic examination of "defaulters file" should provide these names). The F Med 16 is to be endorsed "Report to (UNIT) (Command)" and the entry signed and dated. The F Med 16 is to be forwarded to ADMS for onforwarding.
12. Should the member require surveillance whilst on leave prior to taking up posting, F Med 16 is to be so endorsed, with the command in which he will be when surveillance is due.
13. Under no circumstances are incomplete cards to be forwarded for CMR unless endorsed eg "Member Deceased". Defaulters cards are to be forwarded to ADMS who will ensure any further action required is indicated.

Late Serological Results

14. Should the results of serological examination not be received until after the member has left the theatre these are to be forwarded with full regimental details (No, Rank and last unit) to ADMS AFV together with the destination of the member.

MEDEVAC and Surveillance

15. Should the member, while still under surveillance, be evacuated through medical channels for another condition eg, wounding, the despatching medical unit is to ensure that F Med 16 and F Med 5 (duly completed) are enclosed in the member's F Med 4 or in the clinical case note folder.

ANNEX I. Appendix 3. Classification by locality.

VD FIGURES FOR THE WEEK ENDING _____ 70

VD FIGURES FOR THE WEEK ENDING _____ 70 AT R&R COUNTRIES

HONG KONG	
BANGKOK	
TAIPEI	
SAIGON	
SYDNEY	
AUSTRALIA	

ANNEX I. Appendix 4. Form for weekly notification of venereal disease to units.

There were _____ new cases of venereal disease from your
unit week ending _____.

ANNEX I. Appendix 5. Monthly Signal notification.

PRECEDENCE - ACTION PRIORITY	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 02 0100Z	MESSAGE INSTRUCTIONS OCT 70
om 1 Aust Field Hospital			PREFIX GR
AUST FORCE VIETNAM			SECURITY CLASSIFICATION RESTRICTED
			ORIGINATOR'S NUMBER MED 76

For ADMS (.) Medical in confidence (.)

Va details relevant to IALSG comm Sep 70 (.)

ALFA (.) Officers 2 comm ORs 36 (.)

BRAVO (.) Gonorrhoea 21 comm N.S.U. 17 (.)

CHARLIE (.) HQ Coy 11 comm 17 Const 7 comm 110 Sigs 3 comm

5 Coy 5 comm 2 AOD 3 comm 1 AFM 1 comm

102 Fd Wksp 2 comm Amen & Welf 1 comm

55 EWFS 3 comm 2 BAR 1 comm TFMA 1 (.)

REFERS TO MESSAGE

DRAFTER'S NAME

OFFICE

TELE No.

ANNEX I. Appendix 6. Attachment for documents of soldiers returning to Australia.

S.T.C.
1 AUST FD HOSP.
DATE.....

ADMS
HQ. A.F.V.

REGT NO. _____ RANK _____ NAME _____
UNIT _____

THIS MEMBER HAS BEEN/WILL BE POSTED TO _____

ABOUT _____

ENCLOSED F MED 16 FOR DISPOSAL.

ANNEX I. Appendix 7. Classification of weekly V.D. by disease.

NO. OF VD. (NEW) FOR THE WEEK ENDING _____ 69. is:

SYPHILIS _____

GONORRHOEA _____

NSU _____

TOTAL _____

TOTAL _____

VD. ADMISSIONS ONLY.

SYPHILIS _____

GONORRHOEA _____

NSU _____

TOTAL _____

TOTAL _____

VD. NOT ADMITTED.

SYPHILIS _____

GONORRHOEA _____

NSU _____

TOTAL _____

TOTAL _____

TOTAL VD. OF ALSG AREA.

SYPHILIS _____

GONORRHOEA _____

NSU _____

TOTAL _____

TOTAL _____

TOTAL VD. FOR THOSE NOT IN THE I. ALSG AREA.

SYPHILIS _____

GONORRHOEA _____

NSU _____

TOTAL _____

TOTAL _____

TOTAL FOR THE WEEK IS _____

STC. _____

ANNEX I. Appendix 8. Classification by country, rank and unit.

STC.

1 AUST. FD. HOSP.
VUNG TAU.

V.D. FIGURES FOR THE WEEK ENDING _____ 70

CLASSIFICATION BY RANK..... Officers _____

OR's _____

Total _____

CLASSIFICATION BY DISEASE..... SYPHILIS _____

GONORRHOEA _____

NSU _____

Total _____

CLASSIFICATION BY COUNTRY..... HONG KONG _____

BANGKOK _____

TAIPEI _____

SVN _____

AUSTRALIA _____

Total _____

CLASSIFICATION BY UNIT..... HQ COY _____

17 CONST. SQN _____

110 SIG SQN _____

5 COY _____

etc. _____

TOTAL _____

ANNEX I. Appendix 9. MEDICAL STATISTICS - AUSTRALIAN FORCES VIETNAM
1968 - 1970, Cases/1000/month in brackets.

Month	No. Troops	Malaria	Pyrexia Unknown Origin	V.D.
Jan 1968	6790	10 (1.47)	12 (1.77)	241 (35.5)
Feb	7010	7 (1.00)	15 (2.14)	88 (12.6)
Mar	7202	4 (0.60)	4 (0.60)	136 (19)
Apr	6376	2 (0.31)	3 (0.47)	132 (20.6)
May	6574	1 (0.15)	15 (2.28)	133 (20.23)
Jun	7500	3 (0.4)	15 (2)	171 (22.8)
Jul	7515	20 (2.66)	50 (6.65)	189 (22.8)
Aug	7405	37 (4.99)	24 (3.24)	97 (13.09)
Sep	7471	40 (5.36)	18 (2.40)	139 (18.6)
Oct	7207	258 (35.7)	23 (3.1)	142 (19.7)
Nov	6818	103 (15.1)	5 (0.7)	117 (17.17)
Dec	6841	3 (0.44)	13 (1.9)	91 (13.3)
Av. 1968		(5.7)	(2.4)	(21.0)

		Malaria	FUG	Diarrheal Disease	V.D.
Jan 1969	6893	3 (0.44)	14 (2.03)	44 (6.38)	124 (17.9)
Feb	6909	1 (0.14)	4 (0.59)	11 (1.59)	79 (11.2)
Mar	6732	2 (0.29)	9 (1.32)	25 (3.73)	87 (12.8)
Apr	6877	5 (0.74)	17 (2.50)	49 (7.10)	127 (18.6)
May	6917	1 (0.14)	40 (5.79)	66 (9.71)	82 (11.9)
Jun	6812	0	45 (6.62)	67 (9.85)	91 (13.4)
Jul	6814	2 (0.29)	32 (4.70)	28 (4.11)	100 (14.1)
Aug	6799	3 (0.44)	25 (3.68)	31 (4.6)	125 (18.4)

(15)

		Malaria	FUC	Diarrheal Disease	V.D.
Sep 1969	6781	3 (0.44)	16 (2.35)	36 (5.3)	118 (17.4)
Oct	6746	3 (0.44)	39 (5.82)	32 (4.77)	137 (20.4)
Nov	6946	6 (0.86)	40 (5.71)	26 (3.71)	153 (21.9)
Dec	6865	0 (3.9)	27 (3.9)	13 (1.8)	143 (20.8)
Av. 1969		(0.40)	(3.75)	(5.24)	(16.6)
Jan 1970	6852	4 (0.58)	19 (2.9)	22 (3.2)	132 (19.5)
Feb	6832	4 (0.56)	20 (2.9)	13 (1.9)	95 (13.9)
Mar	6842	22 (4.3)	59 (8.6)	19 (2.7)	163 (22.8)
Apr	6853	29 (4.2)	5 (1.3)	38 (5.5)	149 (20.0)
May	6755	6 (0.9)	6 (0.9)	25 (3.7)	115 (17.0)
Jun	6777	7 (1.0)	20 (2.9)	30 (4.4)	156 (23.9)
Jul	6770	21 (3.1)	6 (0.9)	38 (5.6)	169 (24.9)
Aug	6849	4 (0.5)	16 (2.1)	30 (3.9)	169 (24.0)
Sep	6812	0	18 (2.6)	10 (1.5)	169 (24.9)
Oct	6813	1 (0.1)	20 (2.9)	15 (2.2)	157 (23.8)
Nov	6111	1 (0.1)	27 (4.4)	10 (1.6)	207 (30.0)
Dec	5948	1 (0.1)	35 (5.8)	4 (0.6)	289 (47.3)
Av. 1970		(1.3)	(3.0)	(5.1)	(24.3)

ANNEX I. Appendix 10. SELECTED DISEASE RATES UNITED STATES FORCES IN VIETNAM
1968-1970

All rates are cases per 1000 average troop strength per year (cases/
1000/year)

	MALARIA	DIARRHEAL	GONORRHOEA	SYPHILIS	OTHER V.D.	TOTAL V.D.
1968						
Jan	20.6	35.9	240.1	2.7	11.9	254.7
Feb	15.0	31.0	132.9	0.4	14.9	148.2
Mar	11.3	51.2	127.1	1.1	16.0	144.2
Apr	17.5	53.3	186.0	1.3	15.8	203.1
May	22.4	67.2	165.2	1.9	22.8	189.9
Jun	26.8	58.2	189.4	3.0	17.2	209.6
Jul	29.9	43.2	189.2	2.0	22.3	213.5
Aug	29.7	29.7	163.8	1.9	22.8	188.5
Sep	30.7	30.7	171.5	2.4	20.4	194.3
Oct	31.5	31.7	177.5	2.5	19.2	199.2
Nov	28.4	32.0	184.1	2.0	22.4	208.5
Dec	26.6	29.5	167.4	1.5	20.5	189.4
Ave	24.2	41.1	174.5	1.9	18.9	195.3
1969						
Jan	20.1	33.9	195.4	1.7	21.1	218.2
Feb	15.1	30.7	163.7	1.7	14.6	179.0
Mar	10.0	35.5	156.6	1.9	10.6	169.1
Apr	14.3	34.7	168.4	1.6	14.2	184.2
May	20.3	46.5	175.4	0.6	17.2	193.2

1969	MALARIA	DIARRHEAL	GONORRHOEA	SYPHILIS	OTHER VD	TOTAL VD
Jun	23.7	44.4	158.9	0.5	18.4	177.8
Jul	23.0	43.3	176.0	3.5	21.0	200.5
Aug	18.8	40.3	187.9	0.6	12.9	201.4
Sep	30.7	34.5	204.0	1.4	20.8	226.2
Oct	25.4	26.8	173.2	1.1	17.4	191.7
Nov	28.8	26.4	186.0	4.4	16.6	207.0
Dec	25.1	30.7	177.4	4.8	17.5	199.7
Ave	21.3	35.8	176.9	2.0	18.4	195.8
<hr/>						
1970						
Jan	17.2	27.0	201.6	3.0	15.2	219.8
Feb	10.7	32.4	178.1	1.2	12.5	191.8
Mar	12.0	33.6	173.6	6.2	16.8	196.6
Apr	12.5	36.5	181.9	2.5	10.2	194.6
May	18.4	45.5	179.3	6.1	18.1	203.5
Jun	31.4	54.4	217.5	5.0	20.8	243.3
Jul	25.4	57.2	261.8	1.4	14.0	277.2
Aug	33.7	41.5	202.3	1.2	27.5	231.0
Sep	33.1	37.2	240.9	1.2	25.7	267.8
Oct	32.3	34.5	224.6	2.4	17.4	244.4
Nov	21.4	17.0	236.3	0.7	19.7	256.7
Dec	22.3	41.2	215.4	1.2	17.7	234.3
Ave	22.5	38.2	209.4	2.8	18.0	230.1

ANNEX I. Appendix 11. Memo of 26th April 1969.

SUBJECT: Control of Venereal Disease in Vung Tau

1. Pursuant to our recent discussion regarding control of venereal disease in Vung Tau, I have discussed this problem with LTC Hurley, Commanding Officer, 1st Australian Field Hospital, and with members of my staff.
2. Any program for the control of venereal disease must consider prevention of the disease as well as the appropriate treatment once the disease has been contracted. The source of infection must be identified and proper control measures instituted. In an area such as Vung Tau this necessitates close liaison and cooperation between Free World Military resources and the local authorities, both medical and civil.
3. When discussing venereal disease consideration must be given to the various types of the disease present. Control measures suitable for one type may not necessarily be adaptable to another type. In Vung Tau the major cause of VD is gonorrhoea. Two (2) to ten (10) cases of syphilis have been seen monthly. Other diseases such as lymphogranuloma venereum and chancroid are also seen. Each of these diseases presents different problems in diagnosis, treatment and prevention.

a. Gonorrhoea: 150 to 300 cases of gonorrhoea are diagnosed monthly at the 345th General Dispensary. In the male there is little difficulty in diagnosing gonorrhoea, since he is practically always acutely symptomatic with a purulent penile discharge. A diagnosis can be easily made by simply staining a smear and observing the typical intracellular bacteria.

In the female, however, diagnosis is extremely difficult. Not infrequently she is completely asymptomatic and is unaware she is diseased. Because of the numerous bacteria that normally are found in the female vagina, diagnosis of gonorrhoea cannot generally be made by examining stained smears, and cultures must be relied upon. These cultures require special media and handling. Even with the best of techniques probably only about fifty (50) percent of the female carriers of gonorrhoea can be identified. Improper treatment of gonorrhoea, especially using inadequate amounts of penicillin, can lead to the development of penicillin-resistant strains. Care must be taken to insure that treatment for both males and females is adequate.

b. Syphilis: From a medical standpoint syphilis is a much more serious disease than gonorrhoea and can lead to permanent disability and even death. When initially contacted syphilis often goes unnoticed by the patient. However, if a serology is obtained one (1) to three (3) months after contact, a positive test is strongly indicative of active disease (in a person with prior known negative serology). Unfortunately, the standard serologic test for syphilis is non-specific in that a positive

test may be obtained in patients with totally unrelated disorders. More refined (but expensive and time-consuming) tests are available to distinguish the true positive from the false positive patients. These tests can be applied in the case of positive serologies in US Military personnel but cannot be applied to the Vietnamese females because of the technical problems involved in the tests. For this reason any Vietnamese female who demonstrates a positive serology must be considered to have active syphilis. Treatment of syphilis necessitates adequate amounts of penicillin and followup examinations for at least six (6) months.

c. Other Diseases: These other diseases, chancroid and lymphogranuloma venereum, are usually symptomatic in both the male and the female. The exact diagnosis is dependent upon special lab tests which are available for only US Military. However, a presumptive diagnosis can be made in the female who can then be identified as a potential source of disease.

4. With this background information the following control measures are recommended:

a. Free World Military Forces

(1) Lectures conducted by medical personnel in the prevention of VD: A series of such lectures is currently in progress.

(2) Contact reporting of cases diagnosed in Free World Military medical facilities: Attempts to obtain contacts have been frustrating because of the difficulty in identifying positively the female contacts. Often an individual has had contact with two (2) or more girls and can barely remember where the contact was made, much less is able to identify the precise girl.

(3) Availability of prophylactics: All units have been encouraged to make condoms freely available to EM prior to going on pass.

(4) Continual command emphasis.

b. Vietnamese Civil Authorities

(1) Identification of females: A method of positive identification of all prostitutes should be developed. This could well be a card similar to the US Army ID card and should contain a picture, name, ID number, signature, and place of work. If a girl changes her place of work this should be noted on her ID card. An identical card should be kept on file by the controlling authority. In addition each girl should be required to wear an identifying number while at work. This would greatly assist in developing contact reports.

(2) Each girl should be required to have a monthly serology and a monthly pelvic exam. Cultures should not be done routinely but

only when indicated by the clinical findings. This examination would preferably be done by one central examining office to insure control.

(3) All girls reported as contacts from Free World medical facilities should be examined immediately and treated appropriately. Any girl found to have disease, whether by routine monthly examination or by contact reporting, should have her ID card withdrawn until such time as she is declared free of disease.

(4) All treatment of VD in the Vietnamese females should be performed at one central location to insure control and adequacy of treatment.

(5) Madams, owners of bars, restaurants, hotels, etc., should insure that the prostitutes under their control insist upon the proper use of condoms. Latrine and washup facilities should be readily available.

(6) The role of the US Army and other Free World Forces should be to provide technical assistance and advice as requested.

ANNEX I. Appendix 12. Account of meeting of 21st May, 1969.

SUBJECT: Venereal Disease Program in Vung Tau

1. At 1400 hours, 21 May 1969, a conference was held at the MACCORDS office on the proposed VD control program for Vung Tau. Attending were:

- a. Mr. Miller, MACCORDS
- b. Dr. Vanderhoof, Director of Public Health, Region III
- c. Dr. Lum, Vung Tau Public Health
- d. COL Jefferson, Surgeon VTSAC
- e. MAJ Hazel, 1st Australian Field Hospital

2. The following points were established:

a. On 31 May 1969 a team of five (5) Vietnamese health officials will arrive in Vung Tau from Saigon. This team will be composed of one (1) physician and four (4) technicians. They will remain approximately two (2) weeks and will be prepared to run card tests for syphilis on 2,000 to 3,000 bar girls. In conjunction with this team Dr. Vanderhoof will arrange for one (1) physician from his office to be present, and COL Jefferson will arrange for GPT Fisherman to be present from the 20th Preventive Medicine Unit.

b. Dr. Lum informed Dr. Vanderhoof that in order to continue the program he would require an additional technician and a supply of the syphilis detection kits. Dr. Vanderhoof assured Dr. Lum that he would see that these requirements were met.

c. Dr. Lum requested assistance from COL Jefferson and MAJ Hazel in performing VDRL tests on those individuals found to have positive tests by the screening method. This is necessary because of the number of false positive tests encountered with the screening test. It was estimated that approximately ten (10) percent of the girls tested would require VDRL. COL Jefferson and MAJ Hazel agreed to perform VDRLs on all serum referred; these are to be identified by number rather than by name.

d. The most practical way of controlling gonorrhoea was felt to be through contact reporting. Increased efforts will be made to get contact reports in both Australian and US medical facilities. Attempts will also be made to obtain contact reports from combat units who send people to Vung Tau on R & R. Girls identified

as contacts will be instructed to report to the Le Loi Hospital for treatment. The burden of insuring compliance will be upon the owner of the establishment where the girl worked. Failure to comply may result in the establishment being placed off limits by VTSAC. No girl will be allowed to work in an establishment who has not had a check for syphilis and who has not been issued a certificate by the public health authorities.

e. Continuing efforts will be made to educate American and Australian personnel in protective measures against VD. They will also be told that they should ask to see the girl's certificate and should make every effort to identify her if VD is contracted. Each girl in each establishment is to wear an identifying number in order to facilitate contact reporting.

f. Dr. Lum stated that at the time of testing for syphilis each girl would be given a brochure on the nature of VD and its dangers and also on how to prevent the disease. It was suggested that lectures also be given the girls on these subjects.

g. In addition to tests for syphilis, each girl and employee of eating establishments will be required to have a chest film and brief medical examination. These will not be done at the Le Loi Hospital because of the logistical problem but are to be performed by their private physicians.

ANNEX I. Appendix 13. List of Out of bounds bars.

OUT OF BOUNDS

ABC HOTEL :	THANH THAI Street
Reason :	Serious incidents
Duration :	Indefinitely
CANARY HOTEL :	THANH THAI Street
Reason :	Serious incidents
Duration :	Indefinitely
DAI LA THIEN HOTEL :	NGUYEN THAI HOC Street
Reason :	Vietnamese Police request
Duration :	Indefinitely
AS YOU LIKE IT :	RACH DUA
Reason :	Excessive VD
Duration :	Indefinitely
ALL STEAMBATH :	LE LOI Street
Reason :	Mayor's request
Duration :	Indefinitely
BEAUTIFUL BAR :	PHAN THANH GIAN Street
Reason :	Excessive VD/Non Med-checks
Duration :	Indefinitely
TU DO BAR :	PHAN THANH GIAN Street
Reason :	Excessive VD
Duration :	Indefinitely
THANH CANH :	23 NGUYEN THAI HOC Street
Reason :	Excessive VD
Duration :	Indefinitely

ANNEX I. Appendix 14. Letter of 18th August 1967 regarding venereal disease control in Hong Kong.

MEDICAL REPORTS - AUSTRALIAN TROOPS
R AND R IN HONG KONG

1. A Combined Allied Services Anti-Vice Bureau (CASAB) has been established in Hong Kong. Lt V. Steiner, 121 Sig Sqn HK Det is the AMF representative on the Bureau. Lt Steiner has reported to this headquarters that at the last meeting on 7 Jul 67 the Chairman (Brig Hinde) requested him to contact HQ AFV and remind them of the verbal agreements made previously regarding AMF participation in the system for reporting VD contracted in Hong Kong by troops on R & R. This headquarter has no knowledge as to when and with whom these verbal agreements were made.

2. The system in operation which the US and other allied forces are using, is that the HQ of that force in Vietnam signals Hong Kong regarding VD contacts. To facilitate the passage of this information, a proforma system is employed. This proforma details the place of contact - the name of the bar, the name of the bar girl etc. A copy of the proforma is attached for your information. The usefulness of this system depends almost entirely on timely information. The US Forces are very good in this respect and report contacts immediately. In this way CASAB through the DAPAM HQLF is able to find the offending bar and bar girl or prostitute or whatever, and take the necessary medical action. The very good results achieved by CASAB are a direct product of careful policing and quick follow-up action on reports. When one considers that the rate for these diseases are lower here than in Aust cities, it indicates just how well the system operates. However, unless all units take part in the programme then there must obviously be a weak link in the chain which makes up this system. It is for this reason that the AMF have been requested to take a more active part in the reporting programme.

3. It would seem wise for AFV to co-operate in the CASAB SCHEME. Lt Steiner will remain the AMF representative on CASAB (until reposting) and he may be contacted at the following address:- Lt V. Steiner
121 Sig Sqn Det
COS Little Sai Wan
BFPOL HONG KONG

Should further information be required, or should there be a requirement from your point of view to make any representation to CASAB. It would be appreciated if you would deal direct with Lt Steiner with information on copies to this headquarters.

4. An assurance that AFV will co-operate would be appreciated as soon as possible for the Information of the next meeting of CASAB as an indication of AMF INTEREST.

ANNEX I. Appendix 15. Long Trace report.

VD CONTACT TRACE REPORT

Disease.....Hospital Ref No.....
 Service.....Date patient reported.....
 Date of patients previous contacts.....
 Name of contact.....
 Nationality.....Speaks English.....
 How and where is she employed.....
 Her usual 'beats' (Brothels, Bars etc).....
 Description:- Age.....Height.....Hair.....
 Style of hair (Fullest possible description).....
 Features, Complexion etc.....
 Characteristics by which she may be recognised (Scars, tatoos etc).....

 Dress (Colour, type, shoes, or other details).....
 Circumstances:- Date & time you met her.....Mrs. on.....
 Where.....Were you Drunk.....
 Did you know her before YES/NO If YES Date & place of relations (if any).....Place.....
 Who introduced her to you PROPOSITIONED/SELF INTRODUCTION/TAXI DRIVER/MAMASAN/PIMP/OTHER (Specify).....
 Time & Place relations occurred:- Date.....Time.....hrs.....
 BAR/BROTHEL/PRIVATE HOUSE/SHACK/OPEN PLACE/HOTEL/APARTMENT/MESSAGE PARLOR (Specify).....
 Give address or best indication possible.....

 NOTE: Use reverse side for sketch if necessary
 Payment:- Asked for: /Y//N.....Given: /Y//N.....
 Contraceptive used:- YES/NO Lecture YES/NO



COMBINED ALLIED SERVICES ANTI-VICE BUREAU HONG KONG
VD CONTACT TRACE REPORT

1. Disease.....
 2. CASAB Ref No.....
 3. Service.....
 4. Date (INT/PHS).....
 5. Name of contact.....
 6. Nationality.....
 7. Speak English? Good/Fair/Poor
 8. How and where is she employed.....
 9. Her usual 'Beats', Brothels, Bar etc.....
 10. Description: Age.....Height.....Build.....Hair.....
 11. Style of hair: (Fullest possible description).....
 12. Characteristics by which she may be recognised, i.e. scars etc.....
 13. Features, complexion etc.....
 14. Dress: (Colour, type, shoes or other details).....
 15. The circumstances: Date & time you met her.....Hrs. on.....
Where?.....Were you sober/under influence/Drunk?
Did you know her before? Yes/No If yes 'Yes', Date of last
relations (if any).....Place.....
Who introduced her to you? Taxi driver, Rickshaw, Mamasan, Pimp.
Other (Specify).....
 16. Time & Place Relations Occurred: Date.....Time.....Hrs.....
Brothel/Private house/Shack/Open Place/Hotel/Rooftops/Apt
Any other (Underline as applicable).
Give address or best indication you can.....
- Note: Use reverse side for sketch if necessary.
17. Payment: Asked for : HK\$ / US\$.....Given HK\$ / US\$.....
 18. Contraceptive: Yes / No
 19. Lecture: Yes / No

ANNEX I. Appendix 17. Brief trace report.

HELP US CUT DOWN THE V.D. RATE

VENEREAL DISEASE INTERVIEW FORM

Disease.....Gonorrhoea / NSU / SYPHILIS

Date Reported Sick.....

Name of Medical Unit.....

CONTACT IDENTIFICATION: Relations occurred Date:...../...../

City or Town Name:.....

Contact's Name:.....

Address Work:.....

Address Private:.....

WHERE DID RELATIONS OCCUR:.....

DESCRIPTION

Age:.....Height:.....Hair Colour.....

Hair Length:.....

Any other Details:

.....

CHARACTERISTICS (Scars, Tattoo, Gold Teeth, Rings, Chains etc.

.....

.....

.....

PAYMENT

Asked for \$VN.....

Given \$VN.....

CONTRACEPTIVE USED:.....

Have you had a VD Lecture:.....

Were You: Sober / Under influence / Drunk

Note: If address not known use reverse side of form for sketch, put in what you know.

ANNEX I. Appendix 19. Form used for collating data from trace reports.

FORM A.

1.	Gonorrhoea	0		
	N.S.U.	1		
	Other	2		
2.	Sober	0		
	Under influence	1		
	Drunk	2		
3.	Knew Before			
	Yes	0		
	No	1		
	If yes			
4.	Introduction		4(a) Town	
	Propositioned	0	Vung Tau	0
	Self introduction	1	Saigon	1
	Taxi driver	2	Cat le	2
	Mama san	3	Baria	3
	Pimp	4	Long Hai	4
	Other	5	Countryside	5
			Other	6
5.	Relations occurred			
	Bar	0		
	Private House	1		
	Hotel	2		
	Brothel	3		
	Massage parlour	4		
	Open place	5		
	Restaurant or cafe	6		
	Other	7		
6.	Asked for		7. Given	
	Nil	0	.....	0
	1-500 Piastre	1	.....	1
	501-1,000 P	2	.....	2
	1,001-1,500	3	.....	3
	1,501-2,000	4	.....	4
	2,001-2,500	5	.....	5
	2,501-3,000	6	.....	6
	More than 3,000 P	7	.....	7
8.	Condom used			
	Yes	0		
	No	1		

ANNEX I. Appendix 20. Complete analysis of Trace reports. Question numbers and alternatives refer to Form A (Appendix 1)

Q. 1. GONORRHEA (312)

Q. 2.	SOBER (96)						UNDER INFLUENCE (56)					DRUNK (60)						
Q. 5.	0	1	2	3	4	6	0	1	2	3	4	0	1	2	3	4	5	7
Q. 6.																		
0	-	9	1	-	1	1	-	10	-	-	1	1	1	1	-	-	-	-
1	3	6	1	1	2	2	11	6	1	-	5	-	2	-	-	5	-	-
2	7	9	-	2	1	2	11	13	2	1	3	5	8	1	-	3	-	-
3	5	5	4	-	2	-	5	13	3	1	2	1	3	2	1	-	-	1
4	-	8	7	1	1	-	4	25	13	-	-	3	8	3	-	-	2	-
5	-	-	1	-	-	-	-	2	-	-	-	-	3	-	-	-	-	1
6	1	1	6	-	-	-	-	8	13	-	-	1	4	3	-	-	-	-
7	-	1	3	-	1	1	-	2	1	-	-	-	-	-	-	-	-	-
Q. 7.																		
0	-	9	1	-	1	1	-	5	-	-	-	1	1	-	-	-	-	-
1	4	8	1	2	2	2	12	8	2	-	7	-	2	-	-	6	-	-
2	9	7	1	1	1	2	14	24	3	1	2	7	8	1	-	2	-	-
3	2	6	4	-	2	-	4	16	4	1	2	1	6	2	1	-	-	1
4	1	7	7	1	1	-	1	18	11	-	-	2	5	3	-	-	2	-
5	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	1
6	-	1	8	-	-	-	-	6	12	-	-	1	2	3	-	-	-	-
7	-	1	1	-	1	1	-	-	1	-	-	-	-	-	-	-	-	-
Q. 8.																		
0	1	5	2	-	-	1	-	3	-	-	-	-	3	-	-	-	-	-
1	15	34	21	4	8	5	31	76	33	2	11	11	23	10	1	8	2	2
Q. 7 compared with Q. 6																		
SAME	78						SAME 114					SAME 45						
MORE	-						MORE 22					3						
LESS	18						LESS 20					12						

NSU (176)

Q1.

Q2.	SOBER (54)					UNDER INFLUENCE (82)							DRUNK (40)						
	0	1	2	3	4	0	1	2	3	4	7	0	1	2	3	4	7		
	-	4	-	-	-	-	3	1	-	1	-	2	2	1	-	-	-		
	3	-	-	1	10	-	1	1	1	3	-	2	-	-	2	2	-		
	2	11	-	-	2	3	7	1	-	3	-	2	6	1	1	-	1		
	-	5	-	-	-	4	11	2	-	-	-	-	3	-	-	-	-		
	3	7	-	-	-	3	15	4	2	-	-	2	3	3	-	-	-		
	-	-	1	-	-	-	2	1	-	-	-	-	1	-	-	-	-		
	-	2	2	-	-	-	7	2	1	-	1	-	3	2	-	-	-		
	-	1	-	-	-	-	-	1	1	-	-	-	1	-	-	-	-		
	-	2	-	-	-	-	3	-	-	1	-	1	2	1	-	-	-		
	3	3	-	1	9	-	3	1	1	3	-	2	-	-	2	2	-		
	3	10	-	-	3	3	8	2	-	3	-	2	6	1	1	-	1		
	-	7	-	-	-	4	8	1	-	-	-	-	4	1	-	-	-		
	2	6	-	-	-	3	16	4	2	-	-	-	2	2	-	-	-		
	-	-	1	-	-	-	2	1	-	-	-	3	1	-	-	-	-		
	-	1	2	-	-	-	6	4	1	-	1	-	3	2	-	-	-		
	-	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-		
	-	1	-	-	2	-	3	-	-	-	-	-	-	-	-	-	-		
	8	29	3	1	10	10	43	13	5	7	1	8	19	7	3	2	1		
	SAME	44				SAME	75					SAME	33						
	MORE	5				MORE	4					MORE	2						
	LESS	5				LESS	3					LESS	5						

(32)

OTHER (12)

Q. 2.	SOBER (1)	UNDER INFLUENCE (11)		
Q. 5.	1	1	2	4
Q. 6.	1	2	1	1
Q. 7.	1	2	1	1
Q. 8.	1	5	3	1
Q. 7 compared with Q. 6. SAME 1		SAME 8 LESS 3		

ANNEX I. Appendix 21. Sociological questionnaire presented to patients at a special treatment clinic.

1. This questionnaire is completely confidential, the results will be analysed statistically and no Army record will be kept of individual questionnaires.

2. It is part of an important research project from which highly significant conclusions may be drawn so it is imperative that you are absolutely truthful in your answers. It is a serious study and it is hoped that the findings will be of help to other soldiers meeting the problems of venereal disease for the first time.

3. (i) The questions should be answered in order from beginning to end.

(ii) Read the whole question CAREFULLY then encircle the number alongside the statement which is MOST CORRECT in your case. Do not spend a long time on each question, merely give the answer you think most appropriate in your case after a brief consideration. Thus you should encircle one number and only one number for each question. EVERY QUESTION SHOULD BE CONSIDERED.

(iii) Some questions have 'other' as one alternative. Where this applies, you are asked to specify i.e. briefly write on the lines provided, the answer to the question in your case.

(iv) If there are any terms or questions you do not understand ask me and I will explain. Be quite certain that you understand all the questions that are asked.

NOW BEGIN ANSWERING THE QUESTIONS.

I. GENERAL.

1.	Rank.		
	Private soldier	0	
	NCO	1	
2.	AGE.		
	20 or less	0	
	21-25	1	
	26-30	2	
	Greater than 30	3	
3.	Time in Vietnam.		
	Less than 3 months	0	
	3-6 Months	1	
	Greater than 6 months	2	
4.	ENLISTMENT.		
	Compulsory National serviceman	0	
	Volunteer or Regular soldier	1	
5.	Marital State.		
	Single unattached	0	
	Single with steady girl	1	
	Single with fiance	2	
	Happily Married	3	
	Unhappily Married	4	
	Separated	5	
	Divorced	6	
	Widowed	7	

II. BACKGROUND AND HABITS.

6.	Racial origin.		
	Australia	0	
	United Kingdom	1	
	Mediterranean	2	
	New Zealand	3	
	Maori	4	
	Other	5	
	if other, specify		
7.	Father's occupation		
		
	if no father, Mother's occupation		
		

- 7 (a) Parents are.
- | | |
|----------------------------|---|
| Happily Married | 0 |
| Unhappily Married | 1 |
| Separated | 2 |
| Divorced | 3 |
| Other, if so specify | 4 |
8. Number in family (i.e. Your brothers and sisters)
- | | |
|---------------------------------|---|
| Only child | 0 |
| Two children in family | 1 |
| Three children | 2 |
| Four children | 3 |
| Five children | 4 |
| More than five children | 5 |
| if more than five specify | |
9. Family rank - You are the
- | | |
|-------------------------|---|
| Eldest (First) | 0 |
| Second eldest | 1 |
| Third eldest | 2 |
| Fourth eldest | 3 |
| Fifth eldest | 4 |
| Other | 5 |
| if other, specify | |
10. Parentage
- | | |
|------------------------------|---|
| Adopted | 0 |
| Fostered | 1 |
| Natural Parents | 2 |
| Institution upbringing | 3 |
11. Alcohol intake before coming to Vietnam
- | | |
|--|---|
| Never drank at all | 0 |
| Drank only at social functions | 1 |
| Drank regularly several days a week | 2 |
| Under influence at least once in 2 weeks | 3 |
| Under influence more than once a fortnight | 4 |
12. Religion
- | | |
|-------------------------------------|---|
| Church of England (Anglican) | 0 |
| Roman Catholic | 1 |
| Other Protestant Denomination | 2 |
| No religion | 3 |
| Other (if so, specify) | 4 |

13.	Church attendance in Vietnam	
	Weekly	0
	Monthly	1
	Infrequently	2
	Never	3
14.	I take my religious beliefs seriously	0
	I don't take my religious beliefs too seriously	1
15.	Education.	
	No secondary schooling	0
	1 - 3 years secondary schooling	1
	4 - 6 years secondary schooling	2
	Tertiary education	3
16.	Charged while in Army.	
	Never	0
	Once	1
	2 - 5 times	2
	6 - 10 times	3
	More than 10 times	4
17.	Civilian arrests.	
	Yes	0
	No	1

III. EDUCATION AND ATTITUDES ON V.D.

18.	Have you attended a talk or film/lecture on V.D.	
	Never	0
	Once	1
	More than once	2
19.	If attended talk or film	
	Given by a doctor at least once	0
	Always by other person e.g. padre	1
20.	Do you believe	
	V.D. can always be cured	0
	V.D. can usually be cured	1
	Often V.D. cannot be cured	2
21.	Before joining the Army you practically knew	
	All about V.D.	0
	Most facts about V.D.	1
	Very little about V.D.	2
	Nothing about V.D.	3

22. Compared with your knowledge before joining the Army you know
 Much more about V.D. 0
 A little more about V.D. 1
 No more about V.D. 2
23. Seriousness of V.D.
 No V.D. is serious 0
 Some V.D. is serious 1
 All V.D. is serious 2
24. The most serious V.D. is
 Syphilis 0
 Gonorrhoea 1
 N.S.U. 2
 All equally serious 3
 Other or don't know 4
 if other, specify
25. Washing of penis or urinating after intercourse
 Usually prevents all V.D. 0
 Usually prevents some types of V.D. 1
 Occasionally prevents some types of V.D. 2
 Never prevents any types of V.D. 3
 Don't know 4
26. Wearing a condom (French letter)
 Usually prevents all V.D. 0
 Usually prevents some types of V.D. 1
 Occasionally prevents some types of V.D. 2
 Never prevents any types of V.D. 3
 Don't know 4
27. Influence of lectures on attitude to intercourse in Vietnam
 No influence 0
 Some influence 1
 Stopped you having sex with another person 2
28. Intercourse with prostitute in Australia.
 Never 0
 Once 1
 More than once 2
29. Before coming to Vietnam you would have intercourse
 Never 0
 Only with close acquaintance 1
 With anyone but not prostitutes 2
 With anyone including prostitutes 3

30. On returning to Australia you would be prepared to have intercourse
- Never 0
 - Only with close acquaintance 1
 - With anyone but not prostitutes 2
 - With anyone including prostitutes 3
- IV. SEXUAL HABITS AND VENEREAL DISEASE.
31. Age of FIRST intercourse
- Never 0
 - Less than 15 1
 - 15 - 20 (In Australia) 2
 - 15 - 20 (In Vietnam) 3
 - Greater than 20 (In Australia) 4
 - Greater than 20 (In Vietnam) 5
32. Intercourse before coming to Vietnam
- Never 0
 - Once 1
 - 2 - 10 times 2
 - More than 10 times 3
33. V.D. before coming to Vietnam
- Never 0
 - Gonorrhoea only 1
 - N.S.D. only 2
 - Syphilis only 3
 - More than one form of V.D. 4
34. Sexual experiences in Vietnam have been
- Mainly homosexual 0
 - Some homosexual 1
 - Never homosexual 2
35. Have you ever been in massage parlour or bar in Vietnam
- Yes 0
 - No 1
36. If yes, did you usually go
- Just for woman's company 0
 - Possibly to have sex 1
 - Definitely to have sex 2
 - Other reason 3
37. Frequency of intercourse in Vietnam.
- Never 0
 - Once 1
 - 2 - 10 occasions 2
 - More than 10 occasions 3

38. If never in Vietnam, the MAIN reason is;
- Faithful to wife or girlfriend 0
 - No opportunity 1
 - Fear of V.D. 2
 - Religious principles 3
 - Inconvenient 4
 - Fear of being unsuccessful 5
 - Dislike Vietnamese 6
 - Other 7
- if other, specify
39. If never in Vietnam, do you
- Pretend you have and brag about it 0
 - Pretend you have and remain reserved 1
 - Deny that you have when asked 2
40. If you have had intercourse in Vietnam do you
- Often talk about it and exaggerate a little 0
 - Often talk about it in a matter of fact way 1
 - Prefer not to talk about it 2
 - Feel ashamed but don't deny it 3
 - Deny it 4
41. Opportunity for intercourse in Vietnam
- Possible every day 0
 - Possible at least once a week 1
 - Possible at least once a month 2
 - Possible less than once a month 3
42. Type of partner in Vietnam
- Re sexual relations in Vietnam 0
 - Usually in a bar or parlour 1
 - Usually in a private home 2
 - Only genuine sweetheart 3
 - Usually in countryside or village 4
 - Variable 5
43. Selection of partner
- Not applicable 0
 - Same girl every time 1
 - Select from 2 - 5 girls 2
 - Any girl 3
44. If select 2 - 5 girls
- Always same bar or parlour 0
 - Always private home 1
 - Variable 2

45. Influence of alcohol on deciding to have intercourse.
- Never had intercourse 0
 - Never drinking 1
 - Usually drinking but no influence 2
 - Contributed sometimes 3
 - Always contributed 4
 - Always entire influence 5
46. Prophylaxis i.e. Preventing V.D. by washing or wearing French letter
- Have not had intercourse 0
 - Never any prophylaxis 1
 - Condom (French letter) sometimes 2
 - Condom always 3
 - Wash sometimes 4
 - Wash always 5
 - Other or combination of above 6
 - if other, specify
47. If ever omit prophylaxis, Main reason is,
- Drunk at time 0
 - Decreases pleasure 1
 - Not available at time 2
 - Forgot 3
 - Other 4
 - if other, specify
48. Venereal Disease in Vietnam.
- Never had intercourse 0
 - Never had V.D. 1
 - Gonorrhoea only 2
 - N.S.U. only 3
 - Syphilis only 4
 - Penile sore or warts only 5
 - More than one type of V.D. 6
 - if more than one, specify
49. Frequency V.D. in Vietnam.
- Never 0
 - Once 1
 - 2 - 5 times 2
 - More than 5 times 3
50. Recurrence of V.D. (came back after treatment)
- Never had V.D. 0
 - No recurrence 1
 - Recurred once 2
 - Recurred more than once with same infection 3

51.	Complications of V.D.	
	Never had V.D.	0
	Persistent drip for more than one month	1
	Burning for more than one month	2
	Both the above	3
	Other	4
	No complications	5
	if other, specify	
52.	Initiation of sex in bar, parlour or home	
	Never had sex in bar, parlour or home	0
	Always persuaded by girl	1
	Sometimes persuaded by girl	2
	Always on own initiative	3
53.	Initiation of sex in countryside or village	
	Never had sex in country or village	0
	Always initiated by girl	1
	Always by a third person	2
	Sometimes initiated by third person	3
54.	Incidence of penis clutching by girl other than during massage.	
	Never happened to you	0
	Happened on the street only	1
	In a bar or parlour once to five times	2
	In a bar or parlour more than 5 times	3
	Both in bar and on the street	4
55.	Types of sex in Vietnam.	
	Never had sex in Vietnam	0
	Only had sexual intercourse	1
	Other sorts of sex as well as intercourse	2
	Other sorts of sex but not intercourse	3
	if other, specify	
56.	Intention to have sex before visiting town on occasions when sex occurred.	
	Never had sex in Vietnam	0
	Never intended	1
	Sometimes intended	2
	Always intended	3
57.	If never or sometimes, why?	
	Seduced by girl only	0
	Influenced by alcohol only	1
	Influenced by friends only	2
	Just changed mind	3

- | | |
|--|---|
| Combination of above | 4 |
| Some other influence | 5 |
| if combination or other, specify | |
| 58. enjoyment of sex in Vietnam. | |
| Never had sex | 0 |
| Always enjoyed experience | 1 |
| Sometimes enjoyed experience | 2 |
| Always disgusted or ashamed afterwards | 3 |
| Sometimes disgusted or ashamed afterwards | 4 |
| Always unaffected emotionally | 5 |
| Other feelings | 6 |
| if other, specify | |
| 59. What would Father's attitude to you having intercourse in Vietnam. | |
| Approve | 0 |
| Disapprove | 1 |
| Indifferent | 2 |
| Don't know | 3 |
| 60. What would be Mother's attitude. | |
| Approve | 0 |
| Disapprove | 1 |
| Indifferent | 2 |
| Don't know | 3 |
| 61. Feelings towards sexual partner in Vietnam. | |
| Never had sexual partner | 0 |
| Usually felt warmth towards girl | 1 |
| Usually despised girl | 2 |
| Usually felt strongly in love with girl | 3 |
| Usually no feelings towards girl | 4 |
| 62. Intentions before arrival in Vietnam. | |
| Intended to have sex and have | 0 |
| Intended to have sex and haven't | 1 |
| Did not intend to have sex and have | 2 |
| Did not intend to have sex and haven't | 3 |
| No views one way or other | 4 |
| 63. Before sex do you check whether girl has attended a V.D. clinic | |
| Never had sex | 0 |
| Never check | 1 |
| Sometimes | 2 |
| Usually | 3 |
| Always | 4 |

64.	Have you been on R & R.	
	Yes	0
	No	1
65.	If yes, did you have intercourse.	
	Yes	0
	No	1
66.	If yes, was this with	
	Your wife	0
	Fiance or girlfriend	1
	Prostitute in Asia	2
	Prostitute in Australia	3
	Other	4
	if other, specify	
67.	Do you intend to have intercourse in Vietnam in future.	
	Certainly	0
	Probably	1
	Possibly	2
	Unlikely	3
	Certainly not	4
68.	Fee for sex.	
	Never had sex in Vietnam	0
	Usually decided before sex	1
	Usually decided during sex	2
	Usually decided after sex	3
	Usually no fee	4
69.	If have had sex in Vietnam, length of time with girl	
	Always short time i.e. girl left immediately afterwards	0
	Always allnighter (or greater than 2 hours)	1
	Both short time and allnighters	2
70.	Fee paid for short time.	
	Never had short time	0
	Usually 1,000 Piastre or more	1
	Usually 500 - 1,000 Piastre	2
	Usually less than 500 Piastre	3
	Usually free	4
71.	Fee paid for allnighter.	
	Never had allnighter	0
	Usually 2,000 Piastre or more	1
	Usually 1,000 - 2,000 Piastre	2
	Usually less than 1,000 Piastre	3
	Usually free	4

72. Guilt from sexual relations in Vietnam.
Never had sex 0
Never felt guilty 1
Sometimes felt guilty 2
Often felt guilty 3
73. Sexual performance in Vietnam.
Never had sexual relations 0
Never impaired 1
Has been impaired i.e. delayed or absent ejaculation
if impaired, specify 2
74. If impaired, you experienced these problems in Australia
Never 0
More frequently 1
Less frequently 2
Equally frequently 3
75. After sex you worry that you might have caught V.D.
Never had sex 0
Never worry 1
Sometimes worry 2
Always worry 3
76. If a girl has a card to say she is seen at the Le Loi clinic
in Vung Tau, does this mean
She has got V.D. 0
Has not got V.D. 1
Is less likely to have V.D. 2
Don't know 3
77. In the days following intercourse, you
Never make a point of checking your genitals 0
Squeeze penis several times checking for discharge. 1
Kept checking penis a lot 2
Never had intercourse 3
78. You have taken drugs or antibiotics to PREVENT getting V.D.
Never 0
Sometimes 1
Frequently 2
Always 3

79.	After contracting V.D. decided	
	Never had V.D.	0
	Never to have sex in Vietnam again	1
	To have sex again but always take precautions	2
	Not to alter sexual behaviour	3
80.	You have had blood test for syphilis in Vietnam	
	Never	0
	Once	1
	More than once	2
81.	When told by Doctor that V.D. cured	
	Never had V.D.	0
	Always accepted his judgment completely	1
	Had mild doubts	2
	Disbelieved his judgment at least once	3
	Never told that V.D. cured	4
82.	Number of times had sex during allnighter	
	Never had allnighter	0
	Usually only once	1
	Usually 2 - 5 times	2
	Usually more than 5 times	3
83.	Frequency of masturbation in Vietnam	
	Never	0
	About once a month	1
	About once a week	2
	About once a day	3
84.	Frequency of fellatio ('Head job' or 'suck') in Vietnam	
	Never	0
	Once	1
	2 - 10 times	2
	More than 10 times	3
85.	If fellatio practiced in bar or parlour	
	Always initiated by girl	0
	Always initiated by self	1
	Sometimes initiated by girl	2
86.	Experienced fellatio before coming to Vietnam	
	Never	0
	With close acquaintance only	1
	With stranger only	2
	With both stranger and close acquaintance	3

87. Intention to have fellatio when this occurred in Vietnam
- | | |
|---|---|
| Never had fellatio | 0 |
| Never intended | 1 |
| Intended during massage or manipulation | 2 |
| Intended before leaving camp | 3 |
88. During massage or fellatio
- | | |
|---|---|
| Penis never bitten or wrenched | 0 |
| Penis bitten or wrenched on one occasion | 1 |
| Penis bitten or wrenched more than one occasion | 2 |
| Never had massage or fellatio | 3 |
89. During fellatio (Head job)
- | | |
|--|---|
| Never had fellatio | 0 |
| Always ejaculated into girl's mouth | 1 |
| Usually ejaculated into girl's mouth | 2 |
| Barely ejaculated into girl's mouth | 3 |
| Never ejaculated into girl's mouth | 4 |
90. In Vietnam you have practiced cunnilingus (Oral contact with girl's vagina - going the growl)
- | | |
|-----------------------------|---|
| Never | 0 |
| Once | 1 |
| 2 - 5 occasions | 2 |
| More than 5 occasions | 3 |
91. Most frequent sexual practice in Vietnam
- | | |
|--------------------------|---|
| No sexual practice | 0 |
| Masturbation | 1 |
| Intercourse | 2 |
| Fellatio | 3 |
| Homosexual | 4 |
| Other | 5 |
| if other, specify | |
92. Main reason for most frequent type of sexual practice
- | | |
|--|---|
| Never any sexual practice in Vietnam | 0 |
| Most convenient | 1 |
| Most enjoyable | 2 |
| Fear of V.D. from others | 3 |
| Other | 4 |
| if other, specify | |
93. Your work has been affected by sexual relations
- | | |
|---|---|
| Never had sexual relations | 0 |
| Not affected at all | 1 |
| Improved due to relaxation or other reason | 2 |
| Deteriorated due to anxiety or other reason | 3 |

94. Total time lost from work attending sick parade for V.D. or suspected V.D.
- | | |
|-------------------------|---|
| Nil | 0 |
| Up to one day | 1 |
| 2 - 7 days | 2 |
| 1 - 2 weeks | 3 |
| More than 2 weeks | 4 |
95. Total time in hospital with V.D. in Vietnam
- | | |
|-------------------------|---|
| Nil | 0 |
| 1 - 7 days | 1 |
| 1 - 2 weeks | 2 |
| 2 - 4 weeks | 3 |
| More than 4 weeks | 4 |
96. If you were single would you consider marrying a Vietnamese
- | | |
|------------------|---|
| Never | 0 |
| Unlikely | 1 |
| Possibly | 2 |
| Definitely | 3 |
97. Total time in hospital in Vietnam for illnesses OTHER THAN V.D.
- | | |
|-------------------------|---|
| Nil | 0 |
| 1 - 7 days | 1 |
| 1 - 2 weeks | 2 |
| 2 - 4 weeks | 3 |
| More than 4 weeks | 4 |
98. Attended RAP or Doctor in Vietnam OTHER THAN FOR V.D.
- | | |
|-------------------------------------|---|
| Never | 0 |
| For one complaint only | 1 |
| For two separate complaints | 2 |
| For three separate complaints | 3 |
| For more than 3 complaints | 4 |
-

ANNEX I. Appendix 22. 17 questionnaires were excluded from analysis because of omissions or inconsistencies. Ten of the patients involved had not had intercourse in Vietnam. The characteristics of this group are outlined below.

CHARACTERISTIC	CATEGORY AND FREQUENCY	
RANK	Private - 15	NGO - 2
AGE	20 or less - 4	21 - 25 - 13
TIME IN VIETNAM	Less than 3 mths.-7	3-6 mths - 1 More than 6 mths - 9
ENLISTMENT	National Service - 7	Regular - 10
MARITAL STATE	Single - 11	Happily Married - 6
RACIAL ORIGIN	Aust. - 14	U.K. - 1 Maori - 1 Other - 1
SOCIAL STATUS	I - 1	IV - 1 V - 4 VI - 10 VII - 1
PARENTS	Happily Married - 12	Divorced - 2 Other - 3
NUMBER IN FAMILY	Two - 4	Three - 3 Four - 4 Five - 1 More than 5-5
FAMILY RANK	Eldest - 9	Second - 2 Third - 3 Fourth-2 Other -1
PARENTAGE	Adopted - 1	Natural - 16
ALCOHOL INTAKE	Never - 1	Social - 9 Regular - 4 Under influence-3
RELIGION	Anglican - 4	Catholic - 5 Other Protestant Denom.-8
CHURCH ATTEND.	Weekly - 1	Monthly - 2 Infrequently - 4 Never - 10
RELIGIOUS BELIEFS	Seriously - 9	Not seriously - 8
EDUCATION	1 - 3 yrs. -9	4-6 yrs. - 5 Tertiary - 3
CHARGED IN ARMY	Never-9	Once - 2 2 - 5 - 5 6-10 - 1
CIVILIAN ARRESTS	Yes - 3	No - 14
ATTENDED V.D. LECTURE	Never - 1	Once - 3 More than once - 13

<u>RANK</u>	<u>SERVICE & MARITAL STATE</u>	<u>No.</u>	<u>PREV. V.D.</u>	<u>1st I.C. Range</u>	<u>I.C. Mean</u>	<u>CIRCUM.</u>	<u>I.C. ONCE</u>	<u>I.C. MULTIPLE</u>	<u>PROPHYL.</u>	<u>ALCOHOL INFL.</u>	<u>V.D.</u>
<u>OFFICERS</u>	Married	16	-	17-25	21	12	3	-	-	3	-
	Single	8	-	15-18	17	6	3	-	1	-	-
	<u>TOTAL</u>	24				18	6	-	1	3	-
<u>NCO</u>	<u>CONSCRIPT</u>										
	Married	6	-	12-18	16	6	3	-	3	3	-
	Single	32	3	14-18	16	25	4	16	5	8	2
	<u>TOTAL</u>	38	3			31	7	16	8	11	2
	<u>VOLUNTEER</u>										
	Married	85	12	13-23	17	65	15	27	15	12	12
	Single	44	5	14-20	17	31	8	24	4	9	12
	<u>TOTAL</u>	129	17			96	23	51	19	21	24
<u>PRIVATE</u>	<u>CONSCRIPT</u>										
	Married	24	-	16-20	17	15	7	4	4	4	1
	Single	93	5	13-22	17	67	7	63	8	15	23
	<u>TOTAL</u>	117	5			82	14	67	12	19	24
	<u>VOLUNTEER</u>										
	Married	28	3	11-24	15	16	6	11	7	5	1
	Single	64	8	14-21	17	52	19	32	9	15	15
	<u>TOTAL</u>	92	11			68	25	43	16	20	16
<u>TOTAL</u>		400	36			295	75	177	56	74	66

ANNEX II. Appendix 2. Fees for Sexual Stimulation.

Two sources of this information, the questionnaire and trace reports, gave compatible information on fees, although the two are not closely comparable, as only the former divided the liaisons into "short time" and lengthier contracts. Six to eight percent of soldiers did not pay for their sex and this was a more common feature for liaisons in a private home (9.5% compared with 3.5% for other establishments). This group probably consisted of longstanding relationships rather than episodes of on-the-spot benevolence by the prostitutes. This is supported by the higher incidence of this group (10%) among soldiers who were sober at the time of the act. As these patients all acquired V.D., it also highlights the fact that such steady relationships did not insure against infection.

A "short time" with a prostitute usually cost 500-1000 piastres (\$4-8) for 43.5% of patients and more than this for 32.5%. For lengthier liaisons, 46% of soldiers usually paid more than 2000 piastres (\$17), whereas 36% usually paid 1000-2000 piastres. In general terms, therefore, a short contract cost approximately 8 to 10 dollars and an all night liaison 17 to 20 dollars.

There was a marked variation in charges according to establishment. Hotels were clearly the most expensive with 34.5% of contracts costing more than 2,500 piastres (compared with 1% for bars, 8.5% in private homes and 2% in massage parlours). Massage parlours were by far the cheapest (61% costing less than 500 piastres) reflecting the impromptu transitory nature of stimulation in these establishments.

It would be misleading to consider these fees as the only source of income, or even the main one, to the prostitutes or establishments which managed them. Sale of liquor, at inflated prices, provided considerable additional revenue to the bars but probably the main income for both prostitutes and bars was derived from entertainment fees. As a cup of "tea" for a hostess cost 400 piastres and the unwary could find himself providing 4 or 5 such drinks in 15 minutes, this trade offered more lucrative possibilities than the relatively laborious process of sexual stimulation. In addition to more money for less work, the prostitute was not exposed to venereal infection. Hence some prostitutes were reluctant to engage in sexual activity, or set exorbitant prices for their service, and concentrated solely on income from 'Saigon tea' sales.

ANNEX II.- Appendix 3. Summary of Sociological parameters of the control series, V.D. and no-V.D. groups (all divided into conscripts and regular soldiers).

	CONTROL						NO-V.D.				V.D.			
	CONSCRIPTS		REGULAR		TOTAL		CONSCRIPT		REGULAR		CONSCRIPT		REGULAR	
	115 (51%)		111 (49%)		226		105 (49%)		108 (51%)		86 (37%)		145 (63%)	
Q.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.0	91	79	49	44	140	62	89	85	55	51	75	87	85	58.5
1	24	21	62	56	86	38	16	15	53	49	11	13	60	41.5
2.0	-	-	31	28	31	13.7	1	1	26	24	1	1	57	39
1	113	98	53	47.5	166	73.5	103	98	61	56.5	85	99	70	48.5
2	2	2	8	7	10	4.4	1	1	11	10	-	-	11	7.5
3	-	-	19	17.5	19	8.4	-	-	10	9.5	-	-	7	5
3.0	23	20	23	21	46	20	15	14	15	14	14	16	15	10.5
1	39	34	34	30.5	73	32	28	27	40	37	22	26	40	27.5
2	53	46	54	48.5	107	48	62	59	53	49	50	58	90	62

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
5.0	49	42.5	33	30	82	36.4	46	43.5	36	33.5	51	59	72	49.5
1	25	22	11	10	36	16	19	18	22	20.5	13	15	16	11
2	22	19	19	17	41	18	22	21	10	9.5	12	14	17	11.5
3	17	14.5	45	40.5	62	27.4	17	16.5	36	33.5	10	12	37	25.5
4	1	1	-	-	1	0.4	1	1	4	3	-	-	1	1
5-7	1	1	3	2.5	4	1.8	-	-	-	-	-	-	2	1.5
6.0	90	78	94	85	184	81	85	81	88	82	64	74.5	110	76
1	11	9.5	11	10	22	9.7	9	8.5	9	8.5	9	10.5	22	15
2	3	2.5	-	-	3	1.4	2	2	2	1.5	5	6	3	2
3	1	1	2	1.5	3	1.4	1	1	3	2.5	-	-	2	1.5
4	-	-	1	1	1	0.7	-	-	1	1	1	1	3	2
5	10	9	3	2.5	13	5.8	8	7.5	5	4.5	7	8	5	3.5
7.1	7	6	2	1.5	9	4	2	2	1	1	-	-	4	3
2	2	2	2	1.5	4	1.8	-	-	-	-	-	-	1	1
3	9	8	6	5.5	15	6.7	9	8.5	9	8.5	3	3.5	7	5
4	11	9.5	10	9	21	9.4	17	16	9	8.5	16	18.5	24	16
5	28	24.5	41	37.5	69	30.3	20	19	27	25	21	24.5	30	21
6	45	39	36	32.5	81	35.7	34	32.5	44	40.5	37	43	47	32

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
7.7	13	11	14	12.5	27	12.1	23	22	18	16.5	9	10.5	32	22	
7(a).0	94	82	62	56	156	69	84	80	77	71	68	79	102	70	
1	3	2.5	3	2.5	6	2.7	3	3	2	2	-	-	5	3.5	
2 & 3	11	9.5	13	11.5	24	10.6	8	7.5	14	13	8	9	20	14	
4	7	6	33	30	40	17.7	10	9.5	15	14	10	12	18	12.5	
8	0	1	1	4	3.5	5	2.2	3	3	5	4.5	2	2.5	8	5.5
1	28	24.5	17	15	45	19.8	24	23	16	15	24	28	23	16	
2	33	29	30	27	63	28	20	19	20	18.5	13	15	27	18.5	
3	29	24.5	23	21	52	23	25	24	20	18.5	22	25	29	20	
4	10	9	10	9	20	8.8	15	14	13	12	9	10.5	19	13	
5	14	12	27	24.5	41	18.2	18	17	34	31.5	16	19	39	27	
9	0	49	42.5	44	39.5	93	41	39	37	40	37	33	38.5	44	30.5
1	29	25.5	29	26	58	25.6	26	25	25	23	32	37	51	35	
2	21	18	17	15.5	38	17	17	16	15	14	10	12	21	14.5	
3	8	7	11	10	19	8.4	12	11.5	13	12	5	5.5	14	9.5	
4	3	2.5	1	1	4	1.8	3	3	5	4.5	2	2.5	6	4	
5	5	4.5	9	8	14	6.2	8	7.5	10	9.5	4	4.5	9	6.5	

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
10.0,1,3	2	2	9	8	11	4.7	-	-	4	3.5	3	3.5	7	5
2	113	98	102	92	215	95.3	105	100	104	96.5	83	96.5	138	95
11.0	4	3	3	2.5	7	3.1	6	5.5	3	3	1	1	2	1.5
1	43	37.5	41	37	84	37.6	37	35.5	53	49	28	32	52	36
2	43	37.5	34	30.5	77	34	43	41	37	34	36	42	68	47
3	9	8	12	11	21	9	10	9.5	15	14.5	10	12	14	9.5
4	16	14	21	19	37	16.3	9	8.5	10	9.5	11	13	9	6
12.0	39	34.5	32	29	71	32	40	38	36	33.5	33	38.5	60	41.5
1	33	28	35	31.5	68	30	28	26.5	33	30.5	28	32.5	28	19.5
2	32	28	32	29	64	28	34	32.5	28	26	19	22	50	34.5
3	8	7	8	7	16	7	1	1	10	9	4	4.5	5	3.5
4	3	2.5	4	3.5	7	3	2	2	1	1	2	2.5	2	1
13.0	5	4.5	3	2.5	8	3.6	2	2	3	3	2	2.5	3	2
1	1	1	1	1	2	0.9	2	2	3	3	2	2.5	4	2.5
2	19	16.5	24	21.5	43	19	22	21	20	18	14	16	27	18.5
3	90	78	83	75	173	76.5	79	75	82	76	68	79	111	77

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14.0	32	28	25	22.5	57	25.2	19	18	22	20	15	17.5	21	14.5
1	83	72	86	77.5	169	74.8	86	82	86	80	71	82.5	124	85.5
15.0	-	-	4	3.5	4	1.8	6	5.5	7	6.5	-	-	5	3.5
1	49	42.5	71	64	120	53	48	45.5	70	65	52	60.5	101	70
2	46	40	34	30.5	80	35.4	47	45	27	25	23	27	38	26
3	20	17.5	2	2	22	9.8	4	4	4	3.5	11	12.5	1	0.5
16.0	77	67	42	38	119	52.7	60	57	39	36	34	39.5	31	21.5
1	28	24	31	28	59	26	26	25	25	23.5	33	38.5	35	24
2	8	7	29	26	37	16.4	16	15	34	31.5	16	18.5	57	39.5
3	1	1	6	5.5	7	3.1	3	3	4	3.5	2	2.5	14	9.5
4	1	1	3	2.5	4	1.8	-	-	6	5.5	1	1	8	5.5
17.0	31	27	27	24.5	58	25.6	17	16	23	21	24	28	33	23
1	84	73	84	75.5	168	74.4	88	84	85	79	62	72	112	77
18.0	2	2	11	10	13	5.8	4	4	4	3.5	4	4.5	6	4
1	31	27	30	27	61	27	30	29	32	29.5	28	32.5	42	29
2	82	71	70	63	152	67.2	71	67	72	67	54	63	97	67

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19.0	96	83.5	81	73	177	82.3	86	86	84	82	71	85	118	85
1	17	14.5	21	19	38	17.7	15	15	19	18	13	15	21	15
20.0	10	9	9	8	19	8.4	12	11.5	15	14	13	15	25	17
1	92	80	84	76	176	78	84	80	81	75	69	80.5	108	75
2	13	11	18	16	31	13.6	9	8.5	12	11	4	4.5	12	8
21.0	6	5	6	5.5	12	5.3	-	-	3	3	-	-	-	-
1	25	22	16	14.5	41	18.2	18	17	11	10	13	15	20	14
2	46	40	41	37	87	38.5	46	44	41	38	38	44	61	42
3	37	32	35	31.5	72	31.5	33	31.5	49	45.5	32	37.5	43	30
4	1	1	13	11.5	14	6.2	8	7.5	4	3.5	3	3.5	21	14
22.0	58	50.5	57	51.5	115	50.8	68	65	72	67	57	66	107	74
1	41	35.5	39	35	80	35.8	34	32	29	27	27	31.5	35	24
2	16	14	15	13.5	31	13.6	3	3	7	6	2	2.5	3	2
23.0	-	-	1	1	1	0.5	-	-	1	1	2	2.5	2	1.5
1	65	56.5	47	42	112	49.5	53	50.5	36	33	37	43	54	37
2	50	33.5	63	57	113	50	52	49.5	71	66	47	54.5	89	61.5

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24.0	86	75	80	72	168	74.1	85	81	82	76	72	84	119	82
1	13	11.5	10	9	23	10.4	3	3	5	4.5	1	1	3	2
2	5	4	1	1	4	1.8	6	6	3	3	4	4.5	3	2
3	11	9.5	16	14.5	27	11.9	11	10	16	14.5	8	9.5	19	13
4	-	-	4	3.5	4	1.8	-	-	2	2	1	1	1	1
25.0	5	4.5	10	9	15	6.6	-	-	3	3	-	-	7	5
1	20	17.5	20	18	40	17.7	22	21	24	22	17	20	35	24
2	65	56.5	59	53	124	54.9	55	52.5	56	52	52	50	86	59
3	23	20	17	15.5	40	17.7	28	26.5	25	23	17	20	17	12
4	2	1.5	5	4.5	7	3.1	-	-	-	-	-	-	-	-
26.0	38	33	27	24.5	65	28.8	34	32.5	30	28	24	28	53	36.5
1	48	41.5	50	45	98	43.5	47	44.5	50	46	39	45.5	60	41.5
2	27	23.5	28	25.5	55	24.4	23	22	28	26	23	26.5	32	22
3	-	-	3	2.5	3	1.1	1	1	-	-	-	-	-	-
4	2	2	3	2.5	5	2.2	-	-	-	-	-	-	-	-
27.0	31	27	26	23.5	57	25.2	13	12	10	9	13	15	17	12
1	80	70	76	68.5	156	69	90	86	92	85	73	85	124	85
2	4	3	9	8	13	5.8	2	2	6	6	-	-	4	3

ANNEX II.. Appendix 4. Summary of Sociological parameters of the control series (divided into no-ic and i.c.) and of the clinic series (divided into no-V.D. and V.D.).

Qu.		No-ic (81)		i.c. (145)		No-V.D. (213)		V.D. (231)	
		No.	%	No.	%	No.	%	No.	%
1.	0	49	60.5	91	63	144	68	160	69
	1	32	39.5	54	37	69	32	71	31
2.	0	5	6	26	18	27	12.5	58	25
	1	65	80	101	70	164	77	155	67
	2	3	4	7	4.5	12	5.5	11	5
	3	8	10	11	7.5	10	5	7	3
3.	0	18	22	27	19	30	14	29	12.5
	1	26	32	47	32	68	32	62	27
	2	37	46	71	49	115	54	140	60.5
5.	0	24	30	58	40	82	38.5	123	53
	1	15	16	23	16	41	19	29	12.5
	2	12	15	29	20	32	15	29	12.5
	3	31	38	31	21	53	25	47	20.5
	4	1	1	-	-	5	2.5	1	0.5
	5 - 7	-	-	4	3	-	-	2	1
6.	0	67	83	117	81	173	81	174	75
	1	5	6	17	12	18	8.5	31	13.5
	2	2	2.5	1	0.5	4	2	8	3.5

Qu.	No.	%	No.	%	No.	%	No.	%
	3	-	3	2	4	2	2	1
	4	1	-	-	1	0.5	4	2
	5	6	7	4.5	13	6	12	5
7.	1	2	7	4.5	3	1.5	4	2
	2	2	2	1.5	-	-	7	0.5
	3	8	7	4.5	18	8.5	10	4.5
	4	9	12	8.5	26	12	40	17
	5	23	45	31	47	22	51	22
	6	25	57	40	78	36.5	84	36
	7	12	15	10	41	19.5	41	18
7(a)	0	58	98	67.5	161	75.5	170	74
	1	1	5	3.5	5	2.5	5	2
2 &	3	7	17	12	22	10.5	28	12
	4	15	25	17	25	11.5	28	12
8.	0	3	2	1.5	8	4	10	4.5
	1	20	25	17	40	19	47	20.5
	2	29	34	23.5	40	19	40	17
	3	11	41	28	45	21	51	22
	4	7	13	9	28	13	28	12
	5	11	30	21	52	24	55	24
9.	0	35	58	40.5	79	37	77	33.5
	1	22	36	25	51	24	83	36
	2	13	25	17	32	15	31	13.5
	3	7	12	8	25	12	19	8

Qu.	No.	%	No.	%	No.	%	No.	%
4	2	2.5	2	1.5	8	4	8	3.5
5	2	2.5	12	8	18	8	13	5.5
10.0,1,3	1	1	10	7	4	2	10	4.5
2	80	99	135	93	209	98	221	95.5
11. 0	3	4	4	22.5	9	4.5	3	1.5
1	44	54	40	27.5	90	42.5	80	34.5
2	21	26	56	39	80	37.5	104	45
3	6	7.5	15	10	15	7	24	10.5
4	7	8.5	30	21	19	8.5	20	8.5
12. 0	21	26	50	35	76	35.5	93	40
1	23	28.5	45	31	61	28.5	56	24
2	29	35.5	35	24	62	29	69	30
3	4	5	12	8	11	5.5	9	4
4	4	5	3	2	3	1.5	4	2
13. 0	5	6	3	2	5	2.5	5	2
1	1	1	1	1	5	2.5	6	2.5
2	16	20	27	18	42	20	41	18
3	59	73	114	79	161	75	179	77.5
14. 0	23	28.5	34	23.5	41	19	36	15.5
1	58	71.5	111	76.5	172	81	195	84.5

Qu.		No.	%	No.	%	No.	%	No.	%
15.	0	1	1	3	2	13	6	5	2
	1	34	42.5	86	59.5	118	55.5	153	66
	2	32	39.5	48	33	74	34.5	61	26.5
	3	14	17	8	5.5	8	4	12	5.5
16.	0	46	57	73	50.5	99	46.5	65	28
	1	23	28.5	36	24.5	51	24	68	29.5
	2	11	13.5	26	18	50	23.5	73	31.5
	3	-	-	7	5	7	3.5	16	7
	4	1	1	3	2	6	2.5	9	4
17.	0	12	15	46	31	40	19	57	24.5
	1	69	85	99	69	173	81	174	75.5
18.	0	6	7.5	7	5	8	4	10	4.5
	1	18	22	43	29.5	62	29	70	30.5
	2	57	70.5	95	65.5	143	67	151	65
19.	0	64	85	13	81	170	83	189	85
	1	11	15	27	19	24	17	34	15
20.	0	6	7.5	13	9	27	12.5	38	16.5
	1	60	74	16	80	165	77.5	177	76.5
	2	15	18.5	16	11	21	10	16	7
21.	0	5	6	7	5	3	1.5	-	-
	1	17	21	24	16.5	29	13.5	33	14
	2	29	36	58	40	87	41	99	43

Qu.	No.	%	No.	%	No.	%	No.	%
3	24	30	48	33	82	38.5	75	33
4	6	7	8	5.5	12	5.5	24	10
22. 0	35	43	80	55	140	75.5	164	71
1	36	44.5	44	30.5	63	29.5	62	27
2	10	12.5	21	14.5	10	5	5	2
23. 0	1	1.5	-	-	1	0.5	4	1.5
1	35	43	77	53	89	42	91	39.5
2	45	55.5	68	47	123	57.5	136	59
24. 0	57	70	111	76.5	167	78.5	191	83
1	12	15	11	7.5	8	4	4	1.5
2	2	2.5	2	1.5	9	4	7	3
3	8	10	19	13	27	12.5	27	11.5
4	2	2.5	2	1.5	2	1	2	1
25.0 0	9	11	6	4	3	1.5	7	3
1	13	16	27	18.5	46	21.5	51	22
2	46	57	78	54	110	51.5	140	61
3	11	13.5	29	20	53	25	33	14
4	2	2.5	5	3.5	1	0.5	-	-
26. 0	28	34.5	37	25.5	64	30	77	33
1	33	41	65	45	97	45.5	98	42.5
2	17	21	38	26	51	24	55	24

Qu.	No.	%	No.	%	No.	%	No.	%	
3	1	1	2	1.5	1	0.5	1	0.5	
4	2	2.5	3	2	-	-	-	-	
27.	0	21	26	36	25	23	11	30	13
	1	48	59	108	74.5	182	86.5	197	85
	2	12	15	1	0.5	8	3.5	4	2

ANNEX II. Appendix 5. Summary of findings for the clinic series, divided into V.D. and no-V.D.

(with further subdivision in each group into Single and Married; conscripts and volunteers).

Gr.	NO-V.D. (213)								V.D. (231)							
	Conscript		Volunteer		Single		Married		Conscript		Volunteer		Single		Married	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
28.0	79	75	77	71	114	73.5	42	72	63	73.5	95	65.5	122	67.5	36	72
1	15	14.5	20	18.5	23	15	12	21	19	22	30	21	39	21.5	10	20
2	11	10.5	11	10.5	18	11.5	4	7	4	4.5	20	13.5	20	11	4	8
29.0	4	4	4	3.5	8	5	-	-	4	4.5	7	5	11	6	-	-
1	64	61	81	75	96	62	49	85	48	56	82	56.5	87	48	43	86
2	22	21	12	11	28	18	6	10	25	29	29	20	50	28	4	8
3	15	14	11	10.5	23	15	3	5	9	10.5	27	18.5	33	18	3	6
30.0	1	1	1	1	3	2	-	-	1	1.5	-	-	-	-	-	-
1	78	74	89	82.5	114	73.5	52	90	58	67.5	100	69	109	60	50	100
2	19	18	16	15	31	20	4	7	22	25	33	23	55	30.5	-	-
3	7	7	2	1.5	7	4.5	2	3	5	6	12	8	17	9.5	-	-

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
31.0	-	-	-	-	-	-	-	-	1	1.5	-	-	1	0.5	-	-
1	16	15	24	22.5	21	13.5	19	33	5	6	34	23	28	15.5	11	22
2	79	75	73	67.5	119	77	33	57	72	84	101	70	137	76	36	72
3	-	-	1	1	1	0.5	-	-	-	-	5	3.5	5	3	-	-
4	6	6	6	5.5	6	4	6	10	2	2.5	3	2	2	1	3	6
5	4	4	4	3.5	8	5	-	-	6	7	2	1.5	8	4	-	-
32.0	4	4	5	4.5	9	6	-	-	6	7	8	5.5	14	7.5	-	-
1	6	6	4	3.5	10	6.5	-	-	-	-	3	2	3	1.5	-	-
2	37	35	24	22	60	38.5	1	2	26	30	29	20	53	29	2	4
3	58	55	75	70	76	49	57	98	54	63	105	72.5	111	62	48	96
33.0	97	92	96	89	138	89	55	95	77	90	112	77.5	147	81	42	84
1	4	4	5	4.5	9	6	-	-	2	2	16	11	16	9	2	4
2	2	2	7	6.5	6	4	3	5	7	8	13	9	15	8.5	5	10
3	1	1	-	-	1	0.5	-	-	-	-	1	0.5	1	0.5	-	-
4	1	1	-	-	1	0.5	-	-	-	-	3	2	2	1	1	2
34.0	1	1	1	1	2	1	-	-	-	-	-	-	-	-	-	-
1	1	1	3	2.5	3	2	1	2	3	3.5	5	3.5	5	3	3	6
2	103	98	104	96.5	150	97	57	98	83	96.5	140	96.5	176	97	47	94

cu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
07.0	8	8	-	-	6	4	2	3	1	1.5	-	-	-	-	1	2
1	19	18	21	19.5	24	15.5	16	28	14	16	19	13	19	10.5	14	28
2	62	59	69	64	96	62	35	60	50	58	84	58	105	58	29	58
3	16	15	18	16.5	29	18.5	5	9	21	24.5	42	29	57	31.5	6	12
11.0	34	32	37	34	54	35	17	29	32	37	55	38	67	37	20	40
1	44	42	35	32.5	57	36.5	22	38	31	36	48	33	63	35	16	32
2	17	16	27	25	29	19	15	26	16	19	25	17	31	17	10	20
3	10	10	9	8.5	15	9.5	4	7	7	8	17	12	20	11	4	8
12.0	8	7.5	1	1	6	4	2	3	-	-	-	-	-	-	1	2
1	65	62	68	63	100	64.5	34	59	57	66	93	64	118	65.5	31	62
2	21	20	25	23	30	19.5	16	28	20	23	35	24	37	20.5	18	36
3	4	4	5	4.5	5	3	4	7	-	-	4	3	4	2	-	-
4	-	-	-	-	-	-	-	-	-	-	2	1.5	2	1	-	-
5	7	6.5	9	8.5	14	9	2	3	9	11	11	7.5	20	11	-	-
3.0	19	18	11	10	17	11	13	22	8	9	11	7.5	14	8	5	10
1	30	29	36	33.5	43	28	23	40	17	20	37	25.5	41	23	13	26
2	43	41	48	44.5	76	49	15	26	45	52	7	5	30	16	22	44
3	13	12	13	12	19	12	7	12	16	19	90	62	96	53	10	20

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Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
44.0	17	33	21	35	27	30.5	11	48	19	33.5	29	32	32	27	6	31.5
1	5	9.5	10	17	11	12.5	4	17	8	14	14	15.5	13	11	9	47.5
2	30	57.5	29	48	51	57	8	35	30	52.5	47	52.5	73	62	4	21
45.0	2	2	-	-	1	0.5	1	2	-	-	-	-	-	-	-	-
1	10	9	14	13	14	9	10	17	7	8	11	7.5	17	9.5	1	2
2	29	28	30	28	47	30	12	21	30	35	40	27.5	60	33	10	20
3	44	42	45	41.5	66	43	23	39.5	33	38.5	63	43.5	77	42.5	19	38
4	8	8	11	10	15	9.5	4	7	9	10.5	17	12	18	10	8	16
5	12	11	8	7.5	12	8	8	13.5	7	8	14	9.5	9	5	12	24
46.0	3	3	-	-	1	0.5	2	3.5	-	-	1	0.5	1	0.5	-	-
1	11	10	14	13	18	11.5	7	12	9	10.5	11	7.5	10	5.5	10	20
2	19	18	13	12	27	17.5	5	8.5	18	21	27	18.5	38	21	7	14
3	5	5	5	4.5	6	4	4	7	3	3.5	1	0.5	3	1.5	1	2
4	10	10	5	4.5	10	6.5	5	8.5	6	7	18	12.5	22	12.5	2	4
5	46	44	59	54.5	77	49.5	28	48.5	39	45	63	43.5	78	43	24	48
6	11	10	12	11.5	16	10.5	7	12	11	13	24	17	29	16	6	12

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
47.0	17	21	23	28	31	25.5	9	21.5	17	21.5	35	28	31	19	21	49
1	27	33.5	29	35	41	33.5	15	36	33	42	40	31.5	60	37	13	30
2	26	32.5	18	22	31	25.5	13	31	16	20	21	16.5	33	21	4	9.5
3	10	12.5	10	12	16	13.5	4	9.5	10	12.5	17	13.5	22	14	5	11.5
4	1	1.5	3	3	3	2.5	1	2	3	4	13	10.5	14	9	-	-
48.0	10	10	-	-	8	5	2	3.5	-	-	-	-	-	-	-	-
1	95	90	107	99	147	95	55	94.5	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	37	43	58	40	71	39	24	48
3	-	-	-	-	-	-	-	-	29	33.5	40	27.5	53	29	16	32
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	1	1	-	-	1	2	8	9.5	17	11.5	24	13	1	2
6	-	-	-	-	-	-	-	-	12	14	30	21	33	18	9	18
49.0	105	100	108	100	155	100	58	100	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	63	73	104	72	131	72.5	36	72
2	-	-	-	-	-	-	-	-	21	24.5	39	27	47	26	13	26
3	-	-	-	-	-	-	-	-	2	2.5	2	1	3	1.5	1	2

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
52.0	6	6	5	4.5	5	3	6	10	-	-	4	3	1	0.5	3	6
1	13	12	19	17.5	20	13	12	21	12	14	16	11	17	9.5	11	22
2	33	31	25	23	46	30	12	21	28	32.5	55	38	68	37.5	15	30
3	53	51	59	55	84	54	28	48	46	53.5	70	48	95	52.5	21	42
53.0	95	90	94	87	140	90	49	84.5	77	89.5	118	81.5	148	82	47	94
1	8	8	6	5.5	7	4.5	7	12	4	4.5	14	9.5	16	8.5	2	4
2	1	1	1	1	2	1.5	-	-	-	-	4	0.5	-	-	1	2
3	1	1	7	6.5	6	4	2	3.5	5	6	12	8.5	17	9.5	-	-
54.0	25	24	34	31.5	39	25	20	34.5	17	20	25	17	35	19.5	7	14
1	-	-	4	3.5	3	2	1	2	4	4.5	-	-	4	2	-	-
2	54	51	42	39	72	46.5	24	41	47	54.5	76	52.5	93	51.5	30	60
3	20	19	20	18.5	31	20	9	15.5	15	17.5	35	24	39	21.5	11	22
4	6	6	8	7.5	10	6.5	4	7	3	3.5	9	6.5	10	5.5	2	4
56.0	6	6	-	-	5	3	1	2	-	-	-	-	-	-	-	-
1	25	24	36	33.5	33	21	28	48	21	24.5	30	21	28	15.5	23	46
2	60	57	56	52	91	59	25	43	61	71	98	67.5	134	75	25	50
3	14	13	16	14.5	26	17	4	7	4	4.5	17	11.5	19	9.5	2	4

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Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
57.0	8	9	5	5.5	9	7	4	7.5	5	6	5	4	9	5.5	1	2
1	19	21	24	25	30	23	13	25	17	21	35	27	31	19	21	43
2	7	8	5	5.5	9	7	3	5.5	1	1	3	2	4	2.5	-	-
3	27	30	27	28.5	36	27	18	34	33	40.5	44	33	62	38	15	31
4	28	31	30	31.5	44	33	14	26.5	29	30.5	39	30	52	31.5	12	24
5	1	1	4	4	4	3	1	1.5	1	1	5	4	6	3.5	-	-
58.0	7	7	1	1	7	4.5	1	1.5	-	-	-	-	-	-	-	-
1	26	25	20	18.5	31	20	15	26	13	15	32	22	40	22	5	10
2	34	32	37	34	56	36	15	26	44	51	73	50.5	97	53.5	20	40
3	17	16	25	23	23	15	19	33	9	10.5	18	12.5	12	6.5	15	30
4	10	10	10	9.5	18	11.5	2	3.5	5	6	9	6	11	6	5	6
5	11	10	11	10	17	11	5	8.5	11	13	12	8.5	17	9.5	6	12
6	-	-	4	4	3	2	1	1.5	4	4.5	1	0.5	4	2.5	1	2
59.0	8	8	12	11	18	11.5	2	3.5	7	8	11	7.5	18	10	-	-
1	48	45	37	34	55	35.5	30	51.5	40	46.5	52	36	71	39	21	42
2	43	41	48	45	71	46	20	34.5	30	35	68	47	77	42.5	21	42
3	6	6	11	10	11	7	6	10.5	9	10.5	14	9.5	15	8.5	8	16

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
60.0	4	4	3	3	6	4	1	1.5	1	1	6	4	7	4	-	-
1	87	83	89	82	127	82	49	85	77	90	114	79	147	81	44	88
2	11	10	12	11	18	11.5	5	8.5	4	4.5	16	11	17	9.5	3	6
3	3	3	4	4	4	2.5	3	5	4	4.5	9	6	10	5.5	3	6
61.0	7	7	1	1	7	4.5	1	1.5	-	-	-	-	-	-	-	-
1	38	36	37	34	57	36.5	18	31	28	32.5	49	34	65	36	12	24
2	1	1	2	2	1	0.5	2	3.5	3	3.5	4	3	4	2	3	6
3	2	2	-	-	1	0.5	1	1.5	-	-	6	4	6	3.5	1	2
4	57	54	68	63	89	58	36	62.5	55	64	86	59	106	58.5	34	68
62.0	24	23	24	22	41	26.5	7	12.5	23	27	38	26.5	59	32.5	2	4
1	2	2	1	1	3	2	-	-	-	-	-	-	-	-	-	-
2	58	55	62	57.5	80	51.5	40.5	69	46	53.5	71	49	77	42.5	40	80
3	4	4	-	-	3	2	1	1.5	-	-	1	0.5	-	-	1	2
4	17	16	21	19.5	28	18	10	17	17	19.5	35	24	45	25	7	14

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
63.0	7	7	1	1	7	4.5	1	1.5	-	-	-	-	-	-	-	-
1	40	38	40	37	51	32.5	29	50	32	37	49	34	60	33	21	42
2	23	22	24	22	37	24	10	17	23	27	34	23.5	53	29.5	4	8
3	18	17	23	21	37	24	4	7	19	22	41	28	44	24.5	16	32
4	17	16	20	19	23	15	14	24.5	12	14	21	14.5	24	13	9	18
67.0	4	4	9	8.5	11	9	2	3.5	5	6	16	11	21	11.5	-	-
1	13	12	16	15	22	14	7	12	9	10.5	20	14	26	14.5	3	6
2	13	12	11	10	19	12.5	5	8.5	10	11.5	21	14.5	28	15.5	3	6
3	30	29	24	22	42	27	12	21	24	28	41	28	49	27	16	32
4	45	43	48	44.5	61	39.5	32	55	38	44	47	32.5	57	31.5	28	56
69.0	48	46	52	48	69	44.5	31	53.5	38	44	46	31.5	60	33	24	48
1	19	18	22	20.5	28	18	13	22	13	15	31	21.5	31	17	13	26
2	38	36	34	31.5	58	37.5	14	24.5	35	41	68	47	90	50	13	26
72.0	7	7	1	1	6	4	2	3.5	-	-	1	0.5	1	0.5	-	-
1	39	37	34	31.5	65	42	8	14	44	51	64	44.5	100	55	8	16
2	35	33	33	30.5	48	31	20	34.5	20	23	51	35	53	29.5	18	36
3	24	23	40	37	36	23	28	48	22	26	29	20	27	15	24	48

(73)

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
75.0	3	3	-	-	2	1.5	1	1.5	-	-	-	-	-	-	-	-
1	10	10	8	7.5	11	7	7	12	4	4.5	8	5.5	11	6	1	2
2	49	46	53	49	82	53	20	34.5	53	61.5	81	56	118	65	16	32
3	43	41	47	43.5	60	38.5	30	52	29	34	56	38.5	52	29	33	66
76.0	-	-	1	1	-	-	1	1.5	1	1	-	-	1	0.5	-	-
1	7	7	4	4	8	5	3	5	4	4.5	3	2	5	3	2	4
2	74	70	78	72	109	70.5	43	74.5	59	69	101	70	124	68.5	36	72
3	24	23	25	23	38	24.5	11	19	22	25.5	41	28	51	28	12	24
77.0	21	20	20	18.5	28	18	13	22.5	17	20	19	13	28	15	8	16
1	23	22	16	15	31	20	8	14	22	25.5	44	30	56	31	10	20
2	46	43.5	62	57.5	76	49	32	55	35	40.5	65	45	72	41	28	56
3	15	14.5	10	9	20	13	5	8.5	12	14	17	12	25	13	4	8
83.0	35	33.5	43	40	50	32	28	48	34	39.5	66	45.5	79	43.5	21	42
1	46	43.5	41	38	70	45	17	29	39	45.5	59	39	71	39	25	50
2	19	18	23	21	31	20	11	19	13	15	18	12.5	27	15	4	8
3	5	5	1	1	4	3	2	4	-	-	4	3	4	2.5	-	-

(74)

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
84.0	41	39	43	40	54	35	30	52	31	36	59	40.5	66	36.5	24	48
1	34	32.5	34	31	52	33	16	27	21	24.5	22	15	34	19	9	18
2	29	27.5	30	28	47	30	12	21	31	36	57	39.5	71	39	17	34
3	1	1	1	1	2	2	-	-	3	3.5	7	5	10	5.5	-	-
85.0	35	56	36	58	53	54	18	64	27	47	39	47.5	51	44	15	65
1	14	22	16	26	24	25	6	22	16	28	18	22	32	28	2	9
2	14	22	10	16	20	21	4	14	14	25	25	30.5	33	28	6	26
86.0	72	68.5	79	73	113	73	38	65	64	74	99	68	133	74	30	60
1	25	24	24	22	30	19	19	33	18	21	34	23.5	35	19	17	34
2	5	4.5	3	3	8	5	-	-	2	2.5	9	6.5	9	5	2	4
3	3	3	2	2	4	3	1	2	2	2.5	3	2	4	2	1	2
87.0	41	39	43	40	54	35	30	52	32	37	61	42	67	37	26	52
1	28	27	31	29	43	28	16	27	20	23.5	28	19	34	19	14	28
2	29	28	24	22	44	28	9	15	21	24.5	33	23	46	25	8	16
3	7	6	10	9	14	9	3	6	13	15	23	16	34	19	2	4

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
88.0	51	48.5	52	48	75	48	28	48	43	50	68	47	84	46	27	54
1	7	6.5	11	10	18	12	-	-	7	8	22	15	26	15	3	6
2	8	7.5	3	3	10	6	1	2	6	7	7	5	12	6.5	1	2
3	39	37.5	42	39	52	34	29	50	30	35	48	33	59	32.5	19	38
89.0	43	41	43	40	57	37	29	50	30	35	59	40.5	65	36	24	48
1	23	22	26	24	36	23	13	22	24	28	38	26.5	52	29	10	20
2	16	15	12	11	23	15	5	9	10	11.5	21	14.5	25	14	6	12
3	3	3	5	4.5	7	4	1	2	7	8	8	5.5	13	7	2	4
4	20	19	22	20.5	32	21	10	17	15	17.5	19	13	26	14	8	16
90.0	95	90	92	85	133	86	54	93	72	84	128	88	151	83.5	49	98
1	8	8	11	10	18	12	1	2	8	9	9	6.5	16	9	1	2
2	2	2	4	4	4	2	2	3	6	7	6	4	12	6.5	-	-
3	-	-	1	1	-	-	1	2	-	-	2	1.5	2	1	-	-

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
91.0	1	1	-	-	1	1	-	-	1	1	1	6.5	1	0.5	1	2
1	43	41	31	29	54	35	20	34	20	23	27	18.5	31	17	16	32
2	59	56	74	68	98	63	35	60	59	69	111	77	141	78	29	58
3	2	2	2	2	2	1	2	4	6	7	6	4	8	4.5	4	8
4	-	-	1	1	-	-	1	2	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
92.0	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	2
1	30	28.5	35	32.5	48	31	17	29	22	26	47	32.5	51	28	18	36
2	50	47.5	56	52	77	50	29	50	48	56	81	56	109	60	20	40
3	21	20	13	12	25	16	9	15	14	16	12	8.5	16	9	10	20
4	4	4	4	3.5	5	3	3	6	1	1	5	3	5	3	1	2
93.0	2	2	-	-	2	1	-	-	-	-	-	-	-	-	-	-
1	90	86	95	88	136	88	49	85	69	80	114	79	144	80	39	78
2	11	10	8	7.5	14	9	5	8	9	10.5	23	16	30	16	2	4
3	2	2	5	4.5	3	2	4	7	8	9.5	8	5	7	4	9	18
96.0	60	57	66	61	96	62	30	52	51	59	80	55	97	53	34	68
1	31	29.5	10	9	35	23	6	10	16	18.5	25	17.5	32	18	9	18
2	13	12.5	28	26	20	13	21	36	19	22.5	27	18.5	41	23	5	10
3	1	1	4	4	4	2	1	2	-	-	13	49	11	6	2	4

(77)

Annex II. Appendix 6. The Relationship of various sociological parameters to frequency of intercourse with prostitutes in Australia.

PARAMETER	NEVER		INTERCOURSE ONCE		MULTIPLE	
	No.	%	No.	%	No.	%
<u>AGE</u>						
Under 21	62	20	15	17.5	8	17
21-25	223	71.5	62	73	34	72.5
26-30	17	5.5	2	2.5	4	8.5
Over 30	10	3	6	7	1	2
<u>SOCIAL STATUS</u>						
1	5	1.5	-	-	2	4.5
2	-	-	-	-	1	2
3	20	6.5	7	8.5	1	2
4	47	15	15	17.5	4	8.5
5	70	22.5	18	21	10	21.5
6	113	36	30	35.5	19	40.5
7	57	18.5	15	17.5	10	21.5
<u>FAMILY SIZE</u>						
Only child	10	3	8	9	-	-
2 children	70	22.5	10	12	7	15
3 "	56	18	16	19	8	17
4 "	65	21	22	26	9	19
5 "	35	11	15	18	6	13
Over 5 children	76	24.5	14	16	17	36

PARAMETER	NEVER		INTERCOURSE ONCE		MULTIPLE	
	No.	%	No.	%	No.	%
<u>ALCOHOL INTAKE</u>						
Nil	9	3	2	2.5	1	2
Social	130	41	28	33	12	26
Steady	120	39	39	46	25	53
Heavy	29	9	9	10.5	1	2
Very heavy	24	8	7	8	8	17
<u>RELIGIOUS BELIEFS</u>						
Serious	58	18.5	12	14	7	15
Not serious	254	81.5	73	86	40	85
<u>EDUCATION</u>						
Primary	12	4	4	4.5	2	4.5
1 - 3 yrs secondary	185	59.5	57	67	29	61.5
4 - 6 yrs secondary	99	31.5	20	23.5	16	34
Tertiary	16	5	4	5	-	-
<u>FREQUENCY INTERCOURSE</u>						
<u>IN VIETNAM</u>						
Never	9	3	-	-	-	-
Once	48	15.5	15	17.5	10	21
2 - 10	200	64	44	52	21	45
Over 10	55	17.5	26	30.5	16	34
<u>FREQUENCY V.D. IN VIETNAM</u>						
(Never)	154	49	36	42.5	23	49
Once	115	37	34	40	18	38.5

PARAMETER	INTERCOURSE					
	NEVER		ONCE		MULTIPLE	
	No.	%	No.	%	No.	%
2 - 5	40	13	15	17.5	5	10.5
Over 5	3	1	-	-	1	2
<u>PERSONALITY</u>						
Extroversion	13.35		13.08		13.21	
Neuroticism	10.26		9.38		10.86	

Annex II. Appendix 7. The Relationship of various sociological parameters with age of first intercourse.

PARAMETER	AGE					
	Under 15		15-20		Over 20	
	No.	%	No.	%	No.	%
<u>FAMILY SIZE</u>						
1	2	2.5	16	5	1	3
2	14	18	65	19.5	8	24.5
3	11	14	64	19.5	5	15
4	16	20	68	20.5	12	36.5
5	13	16.5	40	12	2	6
Over 5	23	29	78	23.5	5	15
<u>FAMILY ORDER</u>						
First	26	33	118	35.5	12	37
Second	19	24	108	32.5	7	21
Third	14	18	43	13.5	7	21
Fourth	11	14	29	8.5	4	12
Fifth	5	6	10	3	1	3
Over fifth	4	5	23	7	2	6
<u>RELIGIOUS BELIEFS</u>						
Seriously	15	19	55	16.5	7	21
Not seriously	64	81	276	83.5	26	79

PARAMETER	AGE					
	Under 15		15-20		Over 20	
	No.	%	No.	%	No.	%
<u>EDUCATION</u>						
Primary	3	4	12	3.5	3	6
1 - 3 yrs secondary	53	67	203	61.5	15	45.5
4 - 6 yrs secondary	22	28	98	29.5	15	45.5
Tertiary	1	1	18	5.5	1	3
<u>FREQUENCY INTERCOURSE IN VIETNAM</u>						
Never	2	2.5	5	2	2	6
Once	11	14	54	16	8	24
2 - 10	48	60.5	195	59	22	67
Over 10	18	23	77	23	1	3
<u>PERSONALITY</u>						
Extroversion	14.34		13.35		10.40	
Neuroticism	10.73		9.58		10.91	

Annex II. Appendix 8. The Relationship of various sociological parameters to infection with V.D. before visiting Vietnam.

PARAMETER	NEVER		ONCE or MORE	
	No.	%	No.	%
<u>SOCIAL STATUS</u>				
1	6	2	1	1.5
2	-	-	1	1.5
3	27	7	1	1.5
4	61	16	5	8
5	81	21	17	27.5
6	136	35.5	26	42
7	71	18.5	11	18
<u>FAMILY SIZE</u>				
1	15	4	3	4.5
2	79	20.5	8	13
3	68	18	12	19.5
4	84	22	12	19.5
5	48	12.5	8	13
Over 5	88	23	19	30.5
<u>RELIGIOUS BELIEFS</u>				
Serious	68	18	9	14.5
Not serious	314	82	53	85.5

VENEREAL DISEASE

PARAMETER	NEVER		ONCE or MORE	
	No.	%	No.	%
<u>EDUCATION</u>				
Primary	13	3.5	5	8
1 - 3 yrs 2 ^o	231	60.5	40	64.5
4 - 6 yrs 2 ^o	119	31	16	26
Tertiary	19	5	1	1.5
<u>INTERCOURSE WITH PROSTITUTE IN AUSTRALIA</u>				
Never	280	73.5	34	55
Once	71	18.5	13	21
More than once	31	8	15	24
<u>AGE FIRST INTERCOURSE</u>				
Under 15	59	15.5	20	32.5
15 - 20	291	76	41	66
Over 20	32	8.5	1	1.5
<u>PERSONALITY</u>				
Extroversion	13.19		14.32	
Neuroticism	9.93		11.50	

Annex II. Appendix 9. The relationship of various sociological parameters to homosexuality in Vietnam.

<u>AGE</u>	No.	<u>AGE OF FIRST INTERCOURSE</u>	No.
Under 21	4	Under 15	5
21-25	10	15-20	7
26-30	-	Over 20	2
Over 30	-		
		<u>FREQUENCY INTERCOURSE IN VIETNAM</u>	
<u>SOCIAL STATUS</u>		Never	-
1	1	Once	2
2	-	2-10	11
3	-	Over 10	1
4	4		
5	1	<u>MASTURBATION IN VIETNAM</u>	
6	4	Never	1
7	4	Monthly	5
		Weekly	8
<u>FAMILY SIZE</u>		Daily	-
1	1		
2	2	<u>MOST FREQUENT SEXUAL PRACTICE</u>	
3	-	Masturbation	5
4	5	Intercourse	8
5	-	Fellatio	1
Over 5	6		
		<u>MARITAL STATE</u>	
<u>RELIGIOUS BELIEFS</u>		Single unattached	8
Serious	-	Single (steady girl)	1
Not Serious	14	Single (fiance)	1
		Happily Married	4

<u>FAMILY ORDER</u>	No.
First	4
Second	3
Third	2
Fourth	1
Fifth	-
Over Fifth	4
<u>EDUCATION</u>	
Primary	2
1 - 3 yrs 2 ^o	9
4 - 6 yrs 2 ^o	3
Tertiary	-

Annex II. Appendix 10. Prophylaxis related to various sociological parameters.

	NO PROPHYLAXIS		CONDOM		WASH		OTHER	
	No.	%	No.	%	No.	%	No.	%
<u>RELIGION</u>								
Anglican	15	33.5	38	41	88	36	25	43
B.C.	13	29	19	21	68	28	16	28
O.P.D.	15	33.5	31	33.5	70	29	14	24
Other	2	4	4	4.5	17	7	3	5
<u>EDUCATION</u>								
Primary	1	2	2	2	11	4.5	4	7
1-3 yrs secondary	31	69	57	62	147	60.5	32	55
4-6 yrs secondary	13	29	30	32.5	73	30	18	31
Tertiary	-	-	3	3.5	12	15	4	7
<u>FREQUENCY INTERCOURSE IN VIETNAM</u>								
Never	2	4	2	2	2	1	-	-
Once	8	18	9	10	49	20	5	8.5
2-10	31	69	65	71	135	55.5	34	58.5
Over 10	4	9	16	17	57	23.5	19	33
<u>FREQUENCY V.D. IN VIETNAM</u>								
Nil	23	50	39	43.5	118	48.5	23	39.5
Gonorrhoea	8	18	23	25.5	52	21.5	10	17
N.S.U.	5	11	14	15	37	15	13	22.5
Syphilis	-	-	-	-	-	-	-	-
Other	2	4	7	8	13	5.5	4	7
Combination	4	9	7	8	23	9.5	8	14
<u>PERSONALITY</u>								
Extroversion		13.61		13.46		13.22		13.55
Neuroticism		10.00		9.89		10.24		10.24

ANNEX II. Appendix 11. Summary of findings of some less important epidemiological factors in the clinic series (divided into conscripts and regular soldiers; single and married).

Ca.	Conscript (191)		Regular (253)		Single (336)		Married (108)		Total (444)	
	No.	%	No.	%	No.	%	No.	%	No.	%
35.0	176	92	240	95	319	95	97	90	416	94
1	15	8	13	5	17	5	11	10	28	6
36.0	36	20	57	24	58	18	35	36	93	22
1	93	51.5	112	47	171	53.5	34	35	205	49.5
2	27	15	40	17	58	18	9	9	67	16
3	24	13.5	28	12	33	10.5	19	20	52	12.5
40.0	6	3.5	9	3.5	12	3.5	3	3	15	3.5
1	70	38.5	95	37.5	145	44	20	19	165	38
2	81	45	109	43	136	41.5	54	52	190	44
3	20	11	35	14	30	9	25	24	55	12.5
4	4	2	5	2	7	2	2	2	9	2
50.0	105	55	111	44	160	47.5	56	52	216	49
1	59	31	108	42.5	128	38	39	36	167	38
2	16	8.5	25	10	33	10	8	7.5	41	9
3	11	5.5	9	3.5	15	4.5	5	4.5	20	4
51.0	101	53	110	43.5	158	47	53	49	211	47.5
1	13	7	14	5.5	18	5.5	9	8	27	6
2	2	1	4	1.5	3	1	3	3	6	1.5

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%
3	1	0.5	8	3	6	2	3	3	9	2
4	18	9.5	30	12	45	13	3	3	48	11
5	36	29	87	34.5	106	31.5	37	34	143	32
64.0	89	46.5	128	50.5	176	52.5	41	38	217	49
1	102	53.5	125	49.5	160	47.5	67	62	227	51
65.0	64	69	85	77	110	69	39	91	149	73.5
1	29	31	25	23	50	31	4	39	54	26.5
66.0	9	14	28	32.5	-	-	37	92.5	37	24.5
1	18	28	19	22.5	37	33	-	-	37	24.5
2	35	55	35	40.5	69	62	1	2.5	70	46
3	1	1.5	1	1	2	2	-	-	2	1.5
4	1	1.5	3	3.5	3	3	2	5	5	3.5
68.0	7	3.5	-	-	6	2	1	1	7	1.5
1	160	84	227	89.5	295	88	92	85	387	87
2	5	2.5	1	0.5	4	1	2	2	6	1.5
3	15	8	16	6.5	25	7	6	5.5	31	7
4	4	2	9	3.5	6	2	7	6.5	13	3
70.0	31	16.5	43	17	52	15	22	20.5	74	16.5
1	59	31	86	34	107	32	38	35	145	32.5
2	89	46.5	103	40.5	155	46	37	34.5	192	43.5
3	8	4	17	6.5	18	5.5	7	6.5	25	5.5
4	4	2	4	2	4	1.5	4	3.5	8	2

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%
71.0	86	45	96	38	128	38	54	50	182	41
1	49	25.5	73	29	96	28.5	26	24	122	27.5
2	36	19	59	23	80	24	15	14	95	21.5
3	6	3	16	6.5	15	4.5	7	6.5	22	5
4	14	7.5	9	3.5	17	5	6	5.5	23	5
73.0	8	4	1	0.5	7	2	2	2	9	2
1	155	81	208	82	277	82.5	86	80	363	82
2	28	15	44	17.5	52	15.5	20	18	72	16
74.0	42	69	58	83	78	77	22	76	100	76.5
1	5	8	1	1.5	4	4	2	7	6	4
2	9	15	7	10	12	11.5	4	14	16	12.5
3	5	8	4	5.5	8	7.5	1	3	9	7
78.0	188	98.5	249	98.5	329	98	108	100	437	98.5
1	3	1.5	4	1.5	7	2	-	-	7	1.5
2	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-
79.0	73	38	66	26	93	27.5	46	42.5	139	31.5
1	59	31	76	30	93	27.5	42	39	135	30.5
2	46	24	82	32.5	111	33	17	16	128	29
3	13	7	29	11.5	39	12	3	2.5	42	9

Qu.	No.	%	No.	%	No.	%	No.	%	No.	%
80.0	98	51	135	53	185	55	48	44.5	233	53
1	67	35	73	29	98	29	42	39	140	31
2	26	14	45	18	53	16	18	16.5	71	16
81.0	86	49.5	88	38.5	124	40	50	54	174	43
1	57	33	90	39	123	39.5	24	26	147	36.5
2	27	15.5	45	19.5	54	17.5	18	19	72	18
3	3	2	7	3	9	3	1	1	10	2.5
82.0	86	45	97	38.5	128	38	55	51	183	41
1	9	5	15	6	18	5.5	6	5.5	24	5.5
2	80	42	44	17	78	23	46	42.5	124	28
3	16	8	97	38.5	112	33.5	1	1	113	25.5

Annex II. Appendix 12. The Relationship of various sociological parameters to initiation of sex in Bars.

	ALWAYS		SOMETIMES		OWN INITIATIVE	
	No.	%	No.	%	No.	%
<u>AGE</u>						
Under 21	13	21	28	20	43	19
21-25	44	70	104	74	159	71.5
26-30	-	-	6	4	16	7
Over 30	6	9	3	2	5	2.5
<u>EDUCATION</u>						
Primary	5	8	3	2	8	3.5
1-3 yrs secondary	47	74.5	84	59.5	130	58.5
4-6 yrs secondary	38	13	51	36.5	73	32.5
Tertiary	3	4.5	3	2	12	5.5
<u>RELIGIOUS BELIEFS</u>						
Serious	15	24	22	15.5	36	16
Not serious	48	76	119	84.5	187	84
<u>PERSONALITY</u>						
Extroversion		13.30		13.02		13.54
Neuroticism		11.94		10.35		9.79

Annex II. Appendix 13. The relationship of various sociological parameters to intercourse on the roadside in Vietnam.

	INTERCOURSE		NO INTERCOURSE	
	No.	%	No.	%
<u>AGE</u>				
Under 21	19	31	66	17
21-25	37	62	282	73.5
26-30	1	2	22	6
Over 30	3	5	14	3.5
<u>SOCIAL STATUS</u>				
1	1	2	7	1.5
2	1	2	-	-
3	4	6.5	24	6
4	13	21	53	14
5	7	11.5	91	24
6	21	36	141	36.5
7	13	21	69	18
<u>FAMILY SIZE</u>				
1 child	2	3.5	16	4
2 "	8	13	79	21
3 "	10	16	70	18
4 "	5	8.5	91	24
5 "	14	23	42	11
Over 5 children	21	36	86	22

	INTERCOURSE		NO INTERCOURSE	
	No.	%	No.	%
<u>RELIGIOUS BELIEFS</u>				
Serious	14	23	63	16
Not serious	46	77	32	84
<u>EDUCATION</u>				
Primary	4	6.5	14	3.5
1-3 yrs secondary	42	70	229	59.5
4-6 yrs secondary	12	20	123	32
Tertiary	2	3.5	18	5
<u>PERSONALITY</u>				
Extroversion		15.95		13.23
Neuroticism		11.68		9.96

Annex II. Appendix 14. Sociological parameters altering intentions to have intercourse.

INTENTION BEFORE ARRIVING IN VIETNAM

PARAMETERS	INTENDED & HAVE		NO INTENTION & HAVE		NO VIEWS	
	No.	%	No.	%	No.	%
<u>AGE</u>						
Under 21	27	24	36	15	19	21
21-25	79	71	172	74	63	70
26-30	3	2.5	13	5.5	7	8
Over 30	3	2.5	13	5.5	1	1
<u>RELIGIOUS BELIEF</u>						
Serious	14	12.5	51	22	9	10
Not serious	98	87.5	183	78	81	90
<u>EDUCATION</u>						
Primary	2	1.5	13	5.5	3	3.5
1-3 yrs secondary	67	60	143	61	58	64
4-6 yrs secondary	39	35	70	30	23	26
Tertiary	4	3.5	8	3.5	6	6.5
<u>INFLUENCE ALCOHOL</u>						
Never drinking	8	7	21	9	11	12
No influence	37	33	64	27.5	26	29
Some contribution	56	50	84	36	44	49
Always contribution	8	7	32	13.5	4	4.5
Entire influence	3	3	33	14	5	5.5
<u>PERSONALITY</u>						
Extroversion		13.15		13.04		14.03
Neuroticism		10.09		10.40		9.33

Annex II. Appendix 15. The relationship of various sociological parameters to the intention to have further intercourse in Vietnam.

FURTHER COITUS	<u>NO-V.D. IN VIETNAM</u>						<u>V.D. IN VIETNAM</u>					
	Likely		Possible		Unlikely		Likely		Possible		Unlikely	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<u>AGE</u>												
Under 21	10	24	2	8.5	14	9	15	30	12	38.5	31	20
21-25	26	63.5	19	79	118	81	28	56	18	58	112	73
26-30	3	7.5	2	8.5	7	5	4	8	1	3.5	6	4
Over 30	2	5	1	4	7	5	3	6	-	-	4	3
<u>RELIGIOUS BELIEFS</u>												
Serious	7	17	1	4	33	22.5	6	12	2	6.5	27	18
Not serious	34	83	23	96	113	77.5	44	88	29	93.5	126	82
<u>EDUCATION</u>												
Primary	2	5	1	4	6	4	1	2	2	6.5	7	4.5
1-3 yrs 2 ^o	23	56	17	71	77	53	29	58	22	71	103	67
4-6 yrs 2 ^o	13	31.5	6	25	56	38	17	34	5	16	38	25
Tertiary	3	7.5	-	-	7	5	3	6	2	6.5	5	3.5
<u>VISITED PROSTITUTE IN AUSTRALIA</u>												
Never	27	66	16	67	112	77	29	58	19	62	112	73
Once	10	24	3	12.5	22	15	13	26	6	19	30	20
Multiple	4	10	5	20.5	12	8	8	16	6	19	11	7
<u>PERSONALITY</u>												
Extroversion	13.08		13.14		12.86		13.50		13.62		13.70	
Neuroticism	10.08		10.27		10.09		9.00		9.48		10.92	

ANNEX II .. Appendix 16. Analysis of some sociological factors associated with the psychological impact of prostitution on attenders at a venereal disease clinic.

Qn.	FELT GUILTY						WORRY					
	Never		Sometimes		Often		Never		Sometimes		Always	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
7(a).0	133	73.5	109	73	90	78	25	84	170	72	135	17
1-3	29	16	22	16	10	9	2	6	36	15	21	12
4	19	10.5	16	11	15	13	3	10	30	13	19	11
8. 0	12	6.5	3	2	3	2.5	1	3.5	14	6	2	1
1	33	18.5	36	26	19	16.5	4	13	55	23	27	15
2	32	17.5	24	17.5	21	18	8	27	40	17	32	18.5
3	42	23	24	17.5	76	23	8	27	51	21.5	35	20
4	22	12.5	17	12	17	15	4	13	27	11.5	25	14.5
5	40	22	35	25	29	25	5	16.5	49	21	54	31
Married	16	9	38	27	52	45	8	27	38	15	63	36
Single	165	91	101	73	63	55	22	73	200	85	112	64
Conscript	83	46	55	39.5	46	40	14	47	102	43	72	41
Volunteer	98	54	84	60.5	69	60	16	53	134	57	103	59

Qn.	FEEL GUILTY						WORRY					
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
15.0	3	1.5	5	3.5	10	8.5	-	-	6	2.5	12	7
1	105	58	88	63	74	64.5	18	60	145	61.5	109	62
2	64	35.5	40	29	28	24.5	10	33.5	75	32	47	27
3	9	5	6	4.5	3	2.5	2	6.5	10	4	7	4
NO-V.D.	73	35.5	68	33	64	31.5	18	8.5	102	48.5	90	43
V.D.	108	47	71	31	51	22	12	5	134	58	85	37
TOTAL	181	41.5	139	32	115	26.5	30	7	236	53	175	40

Qn.	CHECK PENIS						ACCEPT REASSURANCE					
	Never		Sometimes		A lot		Always		Doubt		Disbelieve	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
7(a).0	58	75	79	75	158	76	105	71.5	57	79	7	70
1-3	11	14.5	14	13.5	25	12	24	16	7	10	-	-
4	8	10.5	12	11.5	25	12	18	12.5	8	11	3	30
Married	21	27	18	17	60	29	24	16	18	25	1	10
Single	56	73	87	83	148	71	123	84	54	75	9	90

Q1.	DIRECT PRISIS						ACCEPT REASSURANCE					
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
8.0	2	2.5	3	3	10	5	6	4	3	4	-	-
1	18	23.5	26	25	35	17	33	22.5	21	29	-	-
2	14	18	25	24	33	16	20	13.5	16	22	2	20
3	20	26	16	15	44	21	30	20.5	15	21	2	20
4	8	10.5	10	9	29	14	20	13.5	6	8.5	2	20
5	15	19.5	25	24	57	27	38	26	11	15.5	4	40
15.0	5	6.5	3	2.5	5	2.5	5	3	1	1.5	2	20
1	46	60	67	64	131	63	95	65	45	62.5	6	60
2	22	28.5	33	31.5	63	30	40	27	24	33.5	1	10
3	4	5	2	2	9	4.5	7	5	2	2.5	1	10
Conscript	38	49.5	45	43	81	39	57	39	27	37.5	3	30
Volunteer	39	50.5	60	57	127	61	90	61	45	62.5	7	70
NO-V.D.	41	22	39	21	108	57						
V.D.	36	18	66	33	100	49						
TOTAL	77	20	105	27	208	53	147	64	72	31.5	10	4.5

ANNEX II. Appendix 16 (cont)

Q1.	Not		WORK AFFECTED				Q1.	Not		WORK AFFECTED			
	No.	%	Improved	Impaired	Helped	Hindered		No.	%	Improved	Impaired	Helped	Hindered
7(e).0	276	75	59	69	19	82	15.0	12	3.5	4	8	2	9
1-3	49	13	8	15.5	2	9	1	231	63	25	49	15	65
4	43	12	8	15.5	2	9	2	109	30	18	35	6	26
8.0	17	4.5	2	4	-	-	3	16	4	4	8	-	-
1	69	19	9	17.5	6	26	Married	88	24	7	13.5	13	56.5
2	65	18	11	21.5	5	22	Single	200	76	44	86.5	10	43.5
3	82	22	12	23.5	3	13	Conscript	159	43	20	39	10	43.5
4	47	12.5	6	12	4	17	Volunteer	209	57	31	61	13	56.5
5	88	24	11	21.5	5	22	NO-V.D.	185	87.5	19	9	7	3.5
							V.D.	183	79	32	14	16	7
							TOTAL	368	83	51	11.5	23	5.5

Annex II . Appendix 17. The relationship of various sociological parameters to desire to marry a Vietnamese.

	<u>DESIRE TO MARRY A VIETNAMESE</u>					
	<u>LITTLE</u>		<u>POSSIBLY</u>		<u>STRONG</u>	
	No.	%	No.	%	No.	%
<u>SOCIAL STATUS</u>						
1	5	1.5	1	1	1	5
2	1	0.5	-	-	-	-
3	18	5	9	10	1	5
4	48	14	10	12	8	42
5	79	23.5	17	20	2	11
6	124	36.5	33	39	5	26
7	65	19	15	18	2	11
<u>EDUCATION</u>						
Primary	14	4	2	2.5	2	11
1-3 yrs 2 ^o	211	62	49	57.5	11	58
4-6 yrs 2 ^o	102	30	27	32	6	31
Tertiary	13	4	7	8	-	-
<u>FEELINGS TO PARTNER</u>						
Warmth	90	27	50	60	11	58
Despised	10	3	-	-	-	-
Love	4	1	-	-	4	21
Nil	230	69	33	40	4	21

	No.	%	No.	%	No.	%
<u>FUTURE INTERCOURSE IN VIETNAM</u>						
Likely	53	15.5	27	32	12	63
Doubtful	38	11	15	17.5	2	11
Unlikely	249	73.5	43	50.5	5	26
<u>PERSONALITY</u>						
Extroversion		13.52		13.19		10.79
Neuroticism		10.03		10.27		11.42

approval of promiscuity.

	<u>FATHER</u>						<u>MOTHER</u>					
	APPROVES		DISAPPROVES		INDIFFERENT		APPROVES		DISAPPROVES		INDIFFERENT	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<u>SOCIAL STATUS</u>												
1	1	2.5	4	2.5	2	1	-	-	6	1.5	-	-
2	-	-	1	0.5	-	-	-	-	1	0.5	-	-
3	1	2.5	10	6	14	7.5	1	7	25	7	2	5
4	8	20	26	15.5	27	14	2	14	56	15	7	17
5	8	20	35	20.5	42	22	4	29	81	22	9	21
6	13	32.5	59	34.5	76	40	3	21	135	36.5	17	40
7	9	22.5	35	20.5	30	15.5	4	29	64	17.5	7	17
<u>FAMILY SIZE</u>												
1 child	1	2.5	6	3.5	8	4.5	-	-	15	4	2	5
2 children	3	7.5	35	20.5	42	22	-	-	78	21	7	17
3 "	8	20	35	20.5	29	15	1	7	65	18	12	28
4 "	9	22.5	39	23	41	21.5	3	21	84	22.5	4	9.5
5 "	7	17.5	16	9.5	27	14	-	-	46	12.5	4	9.5
Over 5 children	12	30	39	23	44	23	10	72	80	22	13	31

	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<u>FAMILY ORDER</u>												
First	10	25	61	36	72	37.5	2	14	136	37	16	38
Second	14	35	55	32	54	28	6	43	115	31.5	6	14.5
Third	6	15	23	13.5	27	14	1	7	48	13	9	21
Fourth	6	15	14	8.5	21	11	1	7	39	10.5	3	7
Fifth	-	-	5	3	9	5	1	7	12	3	1	2.5
Over fifth	4	10	12	7	8	4.5	3	22	18	5	7	17
<u>RELIGIOUS BELIEFS</u>												
Serious	4	10	40	23.5	25	13	1	7	69	19	4	9.5
Not serious	36	90	130	76.5	166	87	13	93	299	81	38	90.5
<u>EDUCATION</u>												
Primary	2	5	9	5.5	6	3	1	7	15	4	-	-
1-3 yrs 2 ^o	26	65	97	57	116	61	9	64	215	58.5	30	71.5
4-6 yrs 2 ^o	11	27.5	56	33	60	31	4	29	119	32.5	11	26
Tertiary	1	2.5	8	4.5	9	5	-	-	19	5	1	2.5

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Annex II. Appendix 19. The relationship of various sociological parameters to frequency of masturbation in Vietnam.

FREQUENCY OF MASTURBATION

	NEVER		MONTHLY		WEEKLY		DAILY	
	No.	%	No.	%	No.	%	No.	%
<u>AGE</u>								
Under 21	38	21	29	16	15	20	2	20
21-25	113	63.5	145	80	54	73	8	80
26-30	15	8.5	6	3	2	3	-	-
Over 30	12	7	2	1	3	4	-	-
<u>SOCIAL STATUS</u>								
1	3	1.5	2	1	2	3	-	-
2	-	-	-	-	-	-	1	10
3	11	6.5	11	6	6	8	-	-
4	25	14	26	14	13	17.5	2	20
5	34	19	49	27	13	17.5	1	10
6	69	39	63	35	26	35	5	50
7	36	20	31	17	14	19	1	10
<u>EDUCATION</u>								
Primary	5	3	7	4	6	8	-	-
1-3 yrs 2°	110	62	123	67.5	33	44.5	5	50
4-6 yrs 2°	54	30	46	25	30	40.5	5	50
Tertiary	9	5	6	3.5	5	7	-	-

	No.	%	No.	%	No.	%	No.	%
<u>RELIGIOUS BELIEFS</u>								
Serious	29	16	31	17	11	15	5	50
Not serious	149	84	151	83	63	85	5	50
<u>INTERCOURSE IN VIETNAM</u>								
Never	-	-	4	2	5	7	1	10
Once	24	13.5	35	19	12	16	4	40
2-10	106	59.5	112	62	43	58	4	40
Over 10	48	27	31	17	14	19	1	10
<u>PERSONALITY</u>								
Extroversion		13.25		13.34		12.96		12.67
Neuroticism		9.38		10.11		11.52		11.53

Annex II. Appendix 20. The relationship of various sociological parameters to the incidence of fellatio in Australia and in Vietnam.

	<u>NOT IN VIETNAM</u>				<u>FELLATIO IN VIETNAM</u>			
	<u>Not in Aust.</u>		<u>In Aust.</u>		<u>Not in Aust.</u>		<u>In Aust.</u>	
	No.	%	No.	%	No.	%	No.	%
<u>EDUCATION</u>								
Primary	8	5.5	2	4.5	6	3.5	2	2
1-3 yrs 2 ^o	89	61	25	55.5	108	66	49	54.5
4-6 yrs 2 ^o	43	30	11	24.5	49	30	32	35.5
Tertiary	5	3.5	7	15.5	1	0.5	7	8
<u>RELIGIOUS BELIEFS</u>								
Serious	32	22	9	20	21	13	15	17
Not serious	113	78	36	80	143	87	75	83
<u>SOCIAL STATUS</u>								
1	-	-	1	2	4	2.5	2	2
2	-	-	-	-	-	-	1	1
3	3	2	7	15.5	10	6	8	9
4	21	14.5	6	13.5	26	16	13	14.5
5	32	22	11	24.5	36	22	20	22
6	56	38.5	15	33.5	61	37	29	32.5
7	33	23	5	11	27	16.5	17	19
<u>PERSONALITY</u>								
Extroversion	12.95		13.86		13.16		13.89	
Neuroticism	10.23		9.93		9.78		10.54	

Annex II. Appendix 21. The relationship of various sociological parameters to cunnilingus in Vietnam.

	NO CUNNILINGUS		CUNNILINGUS	
	No.	%	No.	%
<u>AGE</u>				
Under 21	73	19	12	21.5
21-25	280	72	39	70
26-30	19	5	4	7
Over 30	16	4	1	1.5
<u>SOCIAL STATUS</u>				
1	6	1.5	1	1.5
2	1	0.5	-	-
3	22	5.5	6	10.5
4	59	15	7	12.5
5	84	22	14	25
6	140	36	22	39.5
7	76	19.5	6	11
<u>FAMILY SIZE</u>				
Only child	14	3.5	4	7.5
2 children	75	19	12	21.5
3 "	68	17.5	12	21.5
4 "	84	22	12	21.5
5 "	48	12.5	8	14
Over 5 children	99	25.5	8	14

	No.	%	No.	%
<u>RELIGIOUS BELIEFS</u>				
Serious	70	18	7	12.5
Not serious	318	82	49	87.5
<u>EDUCATION</u>				
Primary	15	4	3	5.5
1-3 yrs secondary	238	61.5	33	59
4-6 yrs secondary	117	30	18	32
Tertiary	18	4.5	2	3.5
<u>PERSONALITY</u>				
Extroversion		13.35		13.17
Neuroticism		10.12		10.17

ANNEX II. Appendix 22. Proforma distributed at a brief lecture to all new arrivals in Vietnam.

VENEREAL DISEASE IN VIETNAM

1. VENEREAL DISEASE IN VUNG TAU IS BOTH COMMON AND SERIOUS. IT HAS BECOME INCREASINGLY DIFFICULT TO CURE AND IT IS POSSIBLE THAT SOME FUTURE INFECTIONS MAY RESIST THERAPY.

2. There are TWO MAJOR SYMPTOMS you may experience after intercourse:

(i) A URETHRAL DISCHARGE or "DRIP".

This may be due to gonorrhoea or N.S.U. Contrary to popular opinion, N.S.U. is equally as serious as gonorrhoea and may be more difficult to cure.

(ii) A PENILE SORE (ulcer, warts etc)

This may be due to syphilis, chancroid or many other infections. Any small sore which does not resolve in a few days should be investigated by a doctor.

(Slides to illustrate V.D.)

3. In Vung Tau you will be subjected to considerable temptation with bar girls everywhere openly fondling you. Often lowered resistance from the effects of alcohol or encouragement from 'friends' induces a soldier to act in a manner he later regrets. Experience has shown that ALL GIRLS IN VUNG TAU ARE SUSPECT AS TRANSMITTERS OF VENEREAL DISEASE.

The V.D. Clinic treats a constant stream of the gullible who had intercourse with a girl because

"She didn't work in a bar"

"She was not a prostitute"

"She was 6 months pregnant and hadn't had intercourse for 6 months"

"She never slept with anyone but me"

"She had been checked for V.D. 2 days before"

"She said she was perfectly clean"

No social class is immune from V.D., many women are unaware that they have the disease and most girls are adept at convincing their clients that this particular relationship is different from all others - this is their business which they have been practicing with hundreds of clients for many years.

4. Fellatio ("Suck" or oral intercourse) is common in Vung Tau and a strong effort is made to induce most customers at massage parlours to partake of this practice. You are unlikely to acquire N.S.U. or gonorrhoea from this but penile sores e.g. syphilis or chancroid are often produced.

5. If you are FOOLISH ENOUGH TO HAVE INTERCOURSE wearing a CONDOM (French letter) is your best protection. Only patronise girls at an APPROVED BAR - these have been checked at a V.D. Clinic and are less likely to have V.D. Ensure that you know the NAME OF THE BAR and the FULL NAME AND NUMBER OF THE GIRL you use. This information is essential for contact tracing when you catch V.D. (which is highly probable) and ENABLES A REDUCTION IN THE INCIDENCE OF VENEREAL DISEASE.

6. (i) WHEN YOU CATCH V.D. visit a Doctor as soon as Possible. You will either have a definite discharge or penile sore. In the days of anxiety following intercourse DO NOT squeeze your penis constantly to check for a discharge - this action alone will aggravate any urethral irritation.

(ii) A BLOOD TEST can be done but this will only detect the presence of syphilis. DON'T REQUEST THIS TEST LESS THAN 8 WEEKS AFTER INTERCOURSE. If you have V.D. the Doctor will direct blood tests to be done, otherwise this should ONLY BE DONE BEFORE RTA and BEFORE R & R IF YOU ARE MARRIED.

7. If you are MARRIED it is essential that you do NOT HAVE INTERCOURSE FOR 6 WEEKS PRIOR TO RTA OR R & R. You may acquire V.D. and transmit this to your wife before you recognize your own infection.

8. Venereal disease is so common in Vung Tau and so difficult to treat that you are strongly advised to -

CONSIDER THE MERITS OF ABSTAINING FROM INTERCOURSE IN VIETNAM.

ANNEX II. Appendix 23. Glossary of terms commonly used by soldiers in Vietnam.

The following is a brief list of terms commonly encountered when discussing the sexual practices of a soldier, either with the soldier himself or the prostitutes he patronised. Some are words only associated with sex, others were used in relation to other activities as well, but all were well understood by the average soldier who was more comfortable using these terms than the dictionary ones they replaced. Some slang expressions for genitalia and intercourse, widely used in Australia, are not included as, although used in Vietnam, they occurred much less commonly than the expressions listed. It would have been impossible to conduct a meaningful and relaxed discussion on sex with some soldiers without using some or most of the terms listed.

ALL-NIGHTER (noun) Situation whereby a soldier slept with a girl all

night, waking to have intercourse or other sexual relations a variable number of times during the night.

BAR (noun)

An establishment where a soldier could buy drinks for himself and have the company of one or more girls for stimulation ranging from simple petting to fellatio. Ejaculation sometimes occurred in the bar from various stimulation or the soldier could take the girl to a backroom or private room elsewhere for intercourse, i.e. a short time, or arrange to sleep with her all night. The term was used by some soldiers to denote all forms of brothel i.e. bar, massage parlour, hotel, etc.

BLOW (verb) To ejaculate. Also **BLOW THE BOLT**.

BLOW THE BOLT (verb) See **BLOW**.

BROTHEL (noun) Commonly used with its conventional meaning of any establishment designed for the activities of prostitutes and their clients i.e. so-called bars and massage parlours. Regulating authorities restricted its usage to houses which had no facilities as a "front". These were usually dirty hovels where the services of girls of all ages were sold, usually more cheaply than in recognized establishments.

BOEM BOEM (verb) To have intercourse. Used rarely by soldiers among themselves but by far the commonest, and universally understood, term used between soldiers and prostitutes.

BOUKU (adverb) Probably derived from the French, **BEAUCOUP (adverb)** (very) much, a lot, a good deal, (very) many, lots. Widely used term for all activities. Expressively used to describe an extreme amount of urethral discharge or dysuria. Contrast **TITI**.

BUTTERFLY (adjective or noun) a butterfly, butterfly man, butterfly girl. One who attempted to make the acquaintance of more than one prostitute at a particular establishment. Also applied to a prostitute who became familiar with a client of another bar girl. Both practices were contrary to the local prostitution ethical code.

- CHEAP CHARLEY (noun)** Used mainly by prostitutes referring to a client who was not supporting their livelihood at a sufficient rate. Most commonly used when a customer was not buying enough Saigon tea.
- CHERRY GIRL (noun)** A virgin.
- CHEW (verb or noun)** To chew, a chew. Cunnilingus.
- DOSE (noun)** Was sometimes used to denote any form of venereal disease but usually only those associated with a urethral discharge viz. gonorrhea or non-gonococcal urethritis. Also LOAD.
- DRIP (noun)** Urethral discharge, regardless of etiology.
- FIST FUCK (noun)** Masturbation. Not very commonly used as soldiers rarely spontaneously discussed masturbation.
- FRANGER (noun)** The commonest term used for a condom.
- GANG BANG (noun)** Situation where two or more soldiers had intercourse with one girl in rapid succession. Not an uncommon practice in Vietnam and of marked significance in the transmission of venereal disease. Also GANGY or MOB JOB.
- GANGY (noun)** More common term for a GANG BANG.
- GOBBLE (verb)** To practise fellatio.
- GO DOWN ON IT (verb)** To practise cunnilingus.
- GOOK (noun)** Derogatory term for a Vietnamese. Used freely in all activities. Also NOG and SLOPE.
- GROWL (noun)** To go down on the growl. Cunnilingus. Widely used term as "cunnilingus" was understood by exceptionally few soldiers.

HANDSHAKE, Vung Tau (noun) The practice of publicly clutching a male by the penis. Usually occurred within an establishment but occasionally efforts were made to lead a soldier into a bar, from the street, by this method. Shortly after a customer was seated in a bar a hostess would sit beside him and clasp his penis. In some bars this might be done as soon as he entered the door. The soldier's clothing was then loosened and he was stimulated manually or orally. During these proceedings the soldier was expected to buy tea for the girl and the result of the inevitable haggling over payment determined the final outcome.

HANG (noun or verb) A hang, to hang. The commonest expression used in Vietnam for intercourse.

HEAD JOB (noun) The commonest term used for fellatio.

HORIZONTAL REPRESENTMENT (noun) Sexual relations in general. Most commonly used to denote intercourse.

I'LL GET THE MOLL. Common comment of anger and retaliation against a girl when a soldier learned he had contracted venereal disease.

JACK (noun) The jack. Venereal disease.

LOAD (noun) See DOSE.

MAMA SAN (noun) Widely used term for any woman; probably dating from the Japanese occupation of Indochina. With reference to bars or brethels referred to the manageress, who

maintained strict control over the prostitutes and the finances of the brothel. She controlled all payments, and all arrangements for any activity with the prostitutes were regulated solely by her command.

MESSAGE PARLOUR (noun) Establishment where a soldier could have a steam bath and massage by a girl. Almost invariably a soldier was strongly stimulated to ejaculate, by fellatio, intercourse or other means, for which he paid an additional fee. Refusal to indulge in the extra sometimes led to retaliation with traumatic lesions of the penis resulting. Stimulation was often performed by a girl other than the masseuse.

MOB JOB (noun) Slightly less frequently used term than GANGY.

NOG (noun) See GOOK.

NEEDLE JOB (noun) Venereal disease in general. More specifically for gonorrhoea which was usually treated by intramuscular injections of penicillin.

NUMBA TEN (adjective) Very bad, the worst, something to forget.

OPTIONAL EXTRA (noun) Venereal disease.

ROLL (noun or verb) A roll, to roll. Intercourse.

ROUND EYE (noun) A caucasian. More particularly used when referring to a caucasian woman relating to sex.

SAIGON TEA or simply TEA (noun) Insipid fluid served to prostitutes in small quantities and paid for by the soldiers. Solely used as a convenient means of paying for the company of the hostesses. Payment of two hundred to four hundred piastres was made to the Mama san and the hostess received a ticket

worth one hundred piastre.

SHORT (adverb) Getting short i.e. only a short time left in Vietnam.

Not a sexual term.

SHORT TIME (noun) Intercourse in a bar, parlour or countryside, when a soldier left the girl at the conclusion of the act.

Contrast **ALL-NIGHTER**. Distinguish from **SHORT** and **SHORT TIMER** which are not sexual terms.

SHORT TIMER (noun) A person spending less than twelve months in Vietnam e.g. a three month tour of duty. Not a sexual term.

SLOPE (noun) See **GOOK**.

STRAIN (noun) Non-gonococcal urethritis. Generally not considered very serious by most soldiers. To some it did not constitute "V.D."

STRAWBERRY DIP (noun) Intercourse with a girl during menstruation.

SUCK FUCK (noun) Fellatio. Less frequently used term than **HEAD JOB**.

TAN TRACK, to go up the (verb) To practise anal intercourse. A rare practice with prostitutes.

THROW THE LEG (verb) To have intercourse.

TITI (adjective) Probably derived from the French, **PETIT** (adjective) small, tiny, little, petty. Used to describe a urethral discharge or dysuria which was considered minimal or negligible.

TREAD (noun) A tread. Intercourse.

Annex II. Appendix 24. Comparison of the sociological characteristics of those acquiring venereal disease only once with those for patients with multiple infection.

PARAMETER	VENEREAL MULTIPLE		DISEASE ONCE		
	No.	%	No.	%	
<u>RANK</u>	Private	45	70	115	69
	NCO	19	30	52	31
<u>AGE</u>	Under 21	16	25	42	25
	21-25	46	72	109	65
	26-30	-	-	11	7
	Over 30	2	3	5	3
<u>TIME IN VIETNAM</u>	Under 3 months	4	6	25	15
	3-6 months	9	14	53	32
	Over 6 months	51	80	89	53
<u>MARITAL STATE</u>	Single Unattached	40	62	83	50
	Single, steady girl	5	8	24	14
	Single, Fiance	5	8	24	14
	Happily Married	14	22	35	20
	Other	-	-	3	2
<u>RACIAL ORIGIN</u>	Australian	52	81	122	73
	United Kingdom	5	8	26	16
	Other	7	11	19	11

PARAMETER	VENEREAL		DISEASE		
	MULTIPLE		ONCE		
	No.	%	No.	%	
<u>SOCIAL STATUS</u>	1-3	5	8	10	6
	4-5	23	36	68	41
	6-7	36	56	89	53
<u>PARENTS</u>	Happily Married	49	77	121	73
	Widowed	6	9	22	13
	Other	9	14	24	14
<u>FAMILY SIZE</u>	Only child	4	6	6	4
	Two	14	22	33	20
	Three	12	19	28	17
	Four	15	23	36	21
	Five	9	14	19	11
	Over 5 children	10	16	45	27
<u>FAMILY ORDER</u>	Eldest	24	38	53	32
	Second	28	44	55	33
	Third	6	9	25	15
	Fourth	2	3	17	10
	Fifth	2	3	6	4
	Other	2	3	11	6
<u>ALCOHOL INTAKE</u>	Nil	1	2	2	1
	Social	17	26	63	38
	Regular	34	53	70	42
	Intoxicated (Every two weeks)	7	11	17	10
	Intoxicated (More frequently)	5	8	15	9

PARAMETER		No.	%	No.	%
<u>RELIGION</u>	Anglican	30	47	63	38
	Roman Catholic	20	31	36	21
	Other Protestant	9	14	60	36
	None	2	3	7	4
	Other	3	5	1	1
<u>CHURCH ATTENDANCE (VIETNAM)</u>	Weekly	1	2	4	2
	Monthly	2	3	4	2
	Infrequently	6	9	35	21
	Never	55	86	124	75
<u>RELIGIOUS BELIEFS</u>	Serious	8	12	28	17
	Not serious	56	88	139	83
<u>EDUCATION</u>	Primary	3	5	2	1
	1-3 yrs 2 ^o	39	61	114	68
	4-6 yrs 2 ^o	18	28	43	26
	Tertiary	4	6	8	5
<u>ARMY CHARGES</u>	Never	18	28	47	28
	Once	16	25	52	31
	2-5	20	31	53	32
	6-10	5	8	11	7
	Over 10	5	8	4	2
<u>CIVIL ARRESTS</u>	Yes	14	22	43	26
	No	50	78	124	74
<u>PERSONALITY</u>	Extraversion		14.00		13.50
	Neuroticism		9.63		10.55

Annex II. Appendix 25. Prophylaxis used compared to belief in efficacy.

PROPHYLAXIS USED

BELIEF IN PROPHYLAXIS	NO PROPHYLAXIS		CONDOM		WASH		OTHER	
	No.	%	No.	%	No.	%	No.	%
WASHING								
Prevents all V.D.	-	-	1	10	9	90	-	-
Prevents some V.D.	6	6	23	24	55	56.5	13	13.5
Little use	21	8.5	49	20	145	58.5	32	13
No use	19	22	17	20	37	43	13	15
CONDOM								
Prevents all V.D.	16	11.5	30	22	76	55	16	11.5
Prevents some V.D.	20	10	43	22	103	53	29	15
Little use	10	9.5	18	17	66	63	11	10.5
No use	-	-	1	50	1	50	-	-

ANNEX II.. Appendix 26. Letter from a Military Commander to Headquarters, September, 1970.

VENEREAL DISEASE CONTROL WITHIN VUNG TAU

INTRODUCTION

1. Some criticism has been levelled at the results being achieved in the control of VD within the Vung Tau Special Zone. This paper is designed to both explain the positive measures that are now being taken to improve the situation and to give background information for troop briefings.

ANTI VICE TEAM

2. The Special Investigation Branch of AFV Pro Unit has, within its organisation, an Anti Vice Team which, under the direction of the OIC SIB, is responsible for assisting with the control of VD and Bounds within the City of Vung Tau.

3. The team basically consists of members of the AMF and VN National Police, supplemented, when available, by representatives from the US Military Police.

4. The employment of the team, methods used and results achieved are outlined in the following paragraphs.

VD CONTROL SYSTEM

5. Two methods are used in an effort to combat the venereal disease rate:

- a. The first method consists of the follow-up to a trace report. This report is completed voluntarily and anonymously by anyone contracting VD. The purpose of the report is to convey to the Anti Vice Team, the source from where the disease was obtained. The proforma (shown at Annex A) is held by all service medical dispensaries treating VD cases and is either sent to or collected by the SIB investigator. Aspects arising from the completion of the report by patients are amplified in Appendix 1 to Annex A. Proformas are received from AMF, RAAF and American clinics. The source (i.e. the girl) having been located, she is conveyed to or requested to attend the Le Loi Hospital VD Clinic for checking and necessary treatment. Following treatment, the girl is required for a further inspection three days after initial treatment to ensure the complaint has been cured. The girl is not allowed to return to work until she has been given a medical certificate by the VD Clinic declaring her fit.

Bars, Massage Parlours and Hotels are continually checked to ensure that known VD carriers are not allowed to operate within their premises.

- b. The second method employed involves the checking of the National Police official bar register of hostesses to ensure that only registered girls are operating from a particular establishment. Each girl working in the establishment has to be registered and the appropriate tax paid. The checking of the Bar Register is carried out in conjunction with the National Police. The requirement imposed by the Anti Vice Team is that every girl registered in the bar must be in possession of a current medical certificate.

6. Le Loi Hospital. The VD Clinic at Le Loi Hospital is controlled by the Vietnamese medical authorities. To assist in the operation of the clinic American and Australian advisors are available to give expert advice. Three Vietnamese nurses are provided by MACCORDS and one from the 1 ALSG Civil Labour force as a Civil Aid Project. Australian technicians from the ALSG assist by interpreting slides taken from smear tests.

7. The existing requirement for girls to visit the hospital is based on one blood test per month for Syphilis and four (only two per month were required before 1 Sep 70) smear tests for Gonorrhoea. A certificate of health is then issued to all females who produce negative results. An example of the certificate is attached at Annex B. In the event of a girl showing a positive result, her certificate is withheld until she is cured. The certificate of health issued is the one required to be produced to the Anti Vice Team when checking establishments. In the case of Non Specific Urethritis (NSU) there is little that can be done to detect the disease in the female by cursory examination. Medical authorities, although aware that a significant proportion of our current VD statistics is the result of NSU, state that little advice can be given to alleviate the problem. Full scale treatment of all girls by tablets on the chance that this might contain the complaint is considered unrealistic. Unless the medical authorities can come up with an effective method of detection, the problem of NSU will remain unsolved.

8. At present, approximately 4,000 girls are checked through Le Loi Hospital each month. Chronic cases or persistent positive results are examined and treatment prescribed by an Australian medical officer each week. This additional assistance has proved to be of great value, not only to the Vietnamese authorities, but also to the persons concerned.

9. Bounds Control. A file is maintained on each of the 168 bars and hotels in the city which employ girls. Additionally, a card

system for each girl in a bar is maintained (Annex C) on which details of medical checks, movements etc are recorded. All visits by the Anti Vice Team to the premises are recorded in the bar file. The contents of any bar file might contain information relating to serious incidents, such as assaults on service personnel, illegal money transactions, raids conducted by local authorities, reasons for any off-limits enforcements, etc.

10. When bounds control was first introduced, the governing factor was the number of girls cleared by the VD Clinic. Initially, a 30% clearance only was required, later this rose to 50% then 75% and now, on the introduction of a new card in colour, produced by 1 ALSG as a Civil Aid Project (Annex D) indicating the premises that have been approved, a 100% clearance for VD has been required. The hygiene of the premises is carefully supervised by a combined Health Inspection Team and its reports are included in the final consideration on whether a premises should or should not be placed In Bounds.

11. The previous method of indicating whether a premises was Out of Bounds was by the weekly publication of a list showing all premises Out of Bounds and listing reasons. With the introduction of the new signs, only premises issued with these signs are In Bounds. This now gives the serviceman the opportunity to select a suitable establishment himself by the sign displayed, instead of trying to remember a large list of Out of Bounds premises.

12. Current Problems. Far too many cases of VD are still occurring in Vung Tau despite the controls being operated. It is considered that one of the main reasons for this is that many servicemen are under the influence of alcohol when on leave. These servicemen, when sober, would normally comply with regulations and frequent In Bounds premises which they could appreciate are policed for their own protection. However, when under the influence, these same servicemen are apathetic and disregard the warnings given in briefings and orders which stress the very real dangers of having intercourse with girls operating on the streets, in Out of Bounds premises and in back street brothels. The problem is further aggravated by the disregard of normal preventative measures such as the use of condoms, having a shower directly after intercourse and other personal hygiene measures.

13. An analysis of trace reports supports the views expressed in para 12 above. During one month 128 trace reports were received but when the reports were broken down, only 30 cases could be attributed to In Bounds establishments. From observation of servicemen who frequent Vung Tau on leave, it is considered that at least 80% of this figure of 128 would have, prior to intercourse, consumed alcohol in a moderate to heavy degree.

CONCLUSIONS

14. The situation is still far from satisfactory but statistics

do show that the number of girls attending Le Loi Hospital with VD has dropped from 80% at the beginning of 1970 to between 15% - 20% in August 1970.

15. Only girls operating in In Bounds establishments can be requested to attend Le Loi with any form of authority and this is derived from the control of the bounds system. To survive, all bars/hotels/massage parlours need patronage from servicemen, this being their main source of income. Should any establishment be placed Out of Bounds, then the owners suffer severe financial loss. As a result, the owners of most premises strive to co-operate with the Anti Vice Team in its control programme.

16. The National Police have been approached regarding the arrest and possible elimination of street walkers and girls operating from brothels. A raid was recently conducted on a large brothel complex and, in addition, some street walkers have been arrested. This avenue will continue to be pressed with the Police in future.

17. Providing servicemen can be persuaded:

- a. To use only the premises displaying the In Bounds sign.
- b. To control their over-indulgence in alcohol which undermines their willpower and commonsense.
- c. To remember to take simple preventative measures if they do have intercourse;

it is hoped that, with the introduction of the new controls outlined in this paper, considerable progress can be made to reduce the VD rate among servicemen visiting Vung Tau.

18. Vung Tau is understood to be the only city in the Republic of Vietnam where concerted and consistent practical efforts are being made to properly control local bar girls and reduce VD among servicemen.

RECOMMENDATIONS

19. It is recommended that HQ staffs and unit COs/OCs positively stress the following points at all levels:

- a. Servicemen should frequent only those premises displaying the In Bounds sign. All other premises are Out of Bounds and military police patrols will remove, and where necessary, report offenders for necessary unit action.
- b. When on leave, servicemen should control their drinking habits and be reminded to use simple preventative measures if they do have intercourse, and finally
- c. In the event of a serviceman contracting VD, he should report

sick immediately and complete a trace report as accurately as possible so that positive action can be taken to locate and treat the girl suffering from VD at the earliest opportunity.

ANNEX II.. Appendix 27. Letter from a Military Commander to sub-units, January 1969.

VENEREAL DISEASE

1. During December 1968 there was a considerable increase in the number of members of 1 ALGO units contracting venereal disease. The contribution to the increase has come mainly from two or three units and I have already discussed the subject with OCs of those units. However, the increase highlights the necessity for continual action to be taken to educate and remind all members of the danger of contracting venereal disease.
2. Some OCs may point to the withholding of the names of members contracting VD as the reason for the increase, but this argument cannot be substantiated by facts as there have been only isolated cases of re-infection. The main remedial action lies in the adequate and continuous education of soldiers in the dangers of random sexual intercourse with the prostitutes and other women of easy virtue in Vung Tau, Saigon, Bangkok, Hong Kong, Singapore, Taipei, Sydney or any other place.
3. You are to ensure attention is given to this matter and should seek assistance from the medical Officers who are affiliated with your units. Those units without affiliated MOs should seek medical assistance through the CO 1 Aust Fd Hosp.

ANNEX II. Appendix 28. Letter from a Military Commander to headquarters, January 1971.

1. In your letter of instruction concerning VD (526/1/2 (Med) of 6 Jan 71) you asked to be informed of measures proposed to bring the problem under better control.

In this reply I propose to advise you of problems which exist, and measures to be taken at 1 ALSG, under the broad grouping of:

- a. Medical control of prostitutes (usually referred to locally as "hostesses" who work from bars and massage parlours, and "prostitutes" who work as street walkers, from brothels or from their own homes).
- b. Direct medical protection of troops by advice on medical consequences of VD and on prophylaxis.
- c. The indirect physical protection of troops, by advice on moral, emotional and psychological consequences on indiscriminate sexual intercourse with prostitutes, and by such means as the provision of healthful activities to avoid boredom.

2. In Vung Tau there is a requirement that hostesses (most of whom are prostitutes) employed at bars and massage parlours be registered, carry registration cards, and undergo periodic medical examination for VD infection. At present the number of registered hostesses in Vung Tau exceeds 2,500. Allied assistance in this programme includes provision of pathological aid in reading blood and smear tests, provision of registration cards, and occasional guidance in the administration of the programme.

3. Each bar or massage parlour approved by the Vietnamese authorities is given a notice signed by the mayor (but provided by the allies) for display at the entrance to the premises. In theory this approval can be withdrawn for reasons of inadequate control, hygiene, employment of hostesses not in possession of up-to-date registration, or where the premises is shown to be a continuing source of VD.

4. Recent problems in this programme include:

- a. A reduction in the number of Allied servicemen in Vung Tau, resulting in decreased income for the hostesses from true hostess duties and thence an increase in financial pressure towards prostitution. This leads to less discrimination by the hostess/prostitutes in accepting clients and some increase in the proportion of VD in the hostess population.
- b. A temporary reduction in the ability of the civil hospital to undertake medical checks on schedule.

- c. Reduced emphasis by the civil authorities on the routine checking of employees at approved bars and parlours.
 - d. Reluctance by civil authorities to withdraw approvals, particularly of premises owned by senior service officers.
5. Steps which have been taken, and which will be continued, to improve control measures in this area, include:
- a. Placing "out of bounds", all premises without an "approved" sign: this includes all brothels.
 - b. Where civil authorities decline to co-operate, issuing a 1 ALSG Routine Order placing out of bounds "approved" premises which have been found to be a source of VD, or to be otherwise unhygienic. The first recent order was dated 8 Jan 71. (Troops from formations other than 1 ALSG are advised of "out of bounds" premises on arrival at the R in C Centres).
 - c. Provision, by way of aid, of improved hostess cards on which medical status can be more easily recorded and read. These cards are awaiting final approval by civil authorities.
6. Ways of improving this programme are constantly being sought. Its effectiveness is largely dependant on civil authorities, so all proposals for improved control must be carefully "sold" to civil authorities before progress can be made.
7. Lectures have been given by medical officers on medical aspects of VD, including prophylaxis. Furthermore, troops have been advised where prophylactic equipment can be obtained and prophylactic treatment given. While all ALSG troops attend such instruction on arrival, a review has shown that follow-up action has been irregular and too infrequent. In some cases the programme has been insufficiently controlled to ensure that all troops receive follow-up instruction. Action will be taken to correct the deficiencies in this aspect of instruction.
8. A comprehensive programme of inter-unit competitive sports exists in the 1 ALSG area. This includes Rugby Union (eight teams), Australian Rules (eight teams), Soccer (seven teams), Swimming (ten teams), Basketball (five teams), Tennis (eight teams), Volleyball (six teams), Water Polo (six teams) Table Tennis (eight teams). In most sports, each of the larger units enters a team, with minor units and detachments being associated with one of the larger units, or being grouped to form one team. In most of the sports listed above, RAAF Vung Tau also enters a team.
10. Other active sports, which are not on a competitive basis but which are participated in by individuals, include boxing, judo, surf-lifesaving, sailing and water skiing.

11. Amenities equipment is lavishly available for individual physical fitness activities.
12. Major recreational facilities include surfing, swimming, go-carting, photography and music. A reference and fiction library also exists, conducted by the Education Officer.
13. My concern is not with the availability or conduct of competitive sport or other recreational facilities. I am, however, greatly concerned by the smallness of the number participating. Some soldiers participate in two, three or more of the competitive teams, and the same individuals are often the most frequent users of the other recreational facilities. I have not attempted to obtain statistical data, but would be surprised if more than three hundred soldiers regularly and frequently take part in organised sport or vigorously use the individual sporting facilities available. The number using the hobbies and library facilities is also small.
14. Partly because of the lack of participation in sport and hobbies, I have noticed in 1 ALSG excessive physical unfitness, excessive drinking by a substantial number of troops and, (probably partly arising from the latter) some unnecessary visiting of premises in the town.
15. Early this year I took two steps to overcome the deficiencies. All officers and soldiers on being posted to the area are informed by briefing and in writing of the sporting, recreational and hobbies facilities available in the area. All unit commanders have been instructed to institute 100% and regular participation in unit physical activities, to include recognised sports or army "potted" sports, as appropriate to their own circumstances. The latter activity has been given some emphasis for reasons which are explained in a separate letter. The programme has been started, but it is not yet fully implemented in some units.
16. I expect that, in time, the unit physical activities will have a beneficial effect in military productivity, discipline, participation in competitive sport and in the emotional and psychological outlook of individuals.
17. I will continue to supervise the development of 100% participation in unit physical activities and will, to meet your requirements, increase exploitation of intra-unit and inter-unit competitive sport.
18. I have reviewed my knowledge of the shows at the Peter Badcoe Club, and have questioned my officers on these shows.
19. I have been informed that, six months ago and earlier, some shows were of doubtful propriety, or even indecent. I have been informed that there has been an improvement over the last six months. I have seen all, or a portion of five of the ten shows which have been staged since my arrival. None of the shows which I observed, in my opinion, would have

given rise to police objection in Australia. I was informed of two shows which contained an improper act, including one act which was included in a charity show staged by a Vung Tau Flood Relief Committee. In each case an officer promptly intervened and terminated the act.

20. In my opinion the shows by the ABC were potentially more disturbing than local shows, as the costumes worn by the female entertainers were more suggestive (though less revealing) and their suggestiveness was much more sophisticated than that of the Asians. This is NOT to say they were at all indecent; they were NOT indecent, but could have aroused emotional feelings in some soldiers.

21. As part of the broader concept of giving troops their entertainment in camp, it is desirable that the quality of shows at the Peter Badcoe Club be held at the highest possible level. One of the recent troupes sent from Australia, the ABC Melbourne Dance Band, I thought quite poor and was a big disappointment; the others were good. I have noticed that the quality of locally engaged troupes has varied from good to poor in direct proportion to the cost of hiring. Further, the better the show, the bigger the audience, and hence the less the cost per man entertained. I have taken up this matter with AD Amenities at HQ AFV for his consideration in future hiring policy.

22. I will supervise the quality of shows at the Peter Badcoe Club more closely and will inform your headquarters, or you personally if appropriate, should future shows be a cause for concern.

23. Separately I am sending you a letter on certain problems which I have, concerning officers and concerning command in the area. The achievement of a solution to these problems will have a marked effect on all aspects of troop productivity, conduct and morale, and will thereby, I believe, have a significant impact on the emotional and psychological influences which can be brought to bear on the VD problem.

24. Finally, I have been concerned at my inability to obtain the names of individuals who contract VD. Amongst the difficulties arising from the past reticence of the Medical Corps in this respect are:

- a. Uncertainty as to the sort of problem to be faced - for example CO's have not known whether the incidence of VD in their units indicated that a large number of soldiers were exposing themselves to infection, or a small number of soldiers, constantly indulging in intercourse, were being re-infected.
- b. The fact that, while some officers have contracted VD, I do not know who they were. I (or the CO's) might therefore choose wrongly in selecting an officer for a special place in a programme designed to emphasise the moral, emotional and psychological consequences of VD, and make a complete mockery of such a programme from its inception.

25. I have discussed the problem with CO 1 Aust Fd Hosp, and, having in mind the provisions of AMR 436-437 and MBI 142-11, he agrees that CO's should be told (on a confidential basis) the names of members who contract VD. I have agreed that CO 1 Aust Fd Hosp should consult with the ADMS at your Headquarters before instituting this procedure.

26. I believe that the combined effect of the actions taken should at least arrest the increase in VD, and a solution of the officer problems in the future could make possible a reduction in the VD rate.

ANNEX II. Appendix 29. Letter from a Military Commander to sub-units, May 1968.

VENEREAL DISEASE

1. During 1967 the incidence of venereal disease throughout AFV (Army Component) was high. Earlier this year the figures fell, mainly due to the reduced opportunity for contracting the disease connected with the increase in operational effort. The figures have again begun to rise. Now is the time to take positive action to reduce VD casualties to an absolute minimum.
2. I want unit commanders and staff to start forthwith a vigorous and continuous campaign directed to all ranks to make sure that the dangers of VD throughout South East Asia are clearly understood, and that the measures to be taken to avoid becoming a VD casualty are also understood and practised.
3. The prevention of VD is an aspect of leadership which demands personal command and not medical advice alone. A new British Army film (G3081 The Choice is Yours) will be available to 1 ALSG over the period 23 May to 6 June, and units are to pass telephone requests for loan of the film to the GSO3 HQ 1 ALSG. Some ghastly, but effective, coloured photographic slides of recent Australian cases are also expected to be available. A time for preview of the film and slides for unit commanders will be advised shortly.
4. An initial burst of enthusiasm for this campaign will not be sufficient. It is to be continuous and instruction is to be given at frequent intervals, so that lessons stay fresh in the troops' minds, particularly when they are about to be faced with temptation. A VD Facts Card is expected to be available shortly, which will be stapled to each brief for soldiers going on R and R and R and C.
5. Any soldier who repeatedly contracts VD will be returned to Australia, with, where appropriate, the recommendation that he be discharged on the grounds of his being an administrative burden.
6. I expect all unit and sub-unit commanders to give this matter their personal attention.

ANNEX II. Appendix 30. Letter from headquarters to a Military Commander, March 1969.

1. Venereal disease in many forms is common in South Vietnam and more particularly in VUNG TAU.
2. Gonorrhoea, non specific urethritis, lympho granuloma venereum and non specific penile ulcers are all common. Syphilis, however, is now occurring amongst soldiers who have had sexual contact in Vung Tau.
3. Syphilis, of all the venereal diseases, causes the greatest concern to the medical profession because:
 - a. its initial manifestations may be minimal and remain undetected by the unfortunate sufferer;
 - b. if untreated, the early stages of the disease are highly infectious, providing the opportunity for widespread dissemination where sexual activity is high and protective measures minimal, together with the risk of transmission of congenital syphilis to an unborn child; and
 - c. if untreated, syphilis may appear to undergo spontaneous "cure" but in many cases the disease progresses in a hidden form, producing chronic and possibly fatal damage to the heart, blood vessel and nervous system.
4. All members are to be appraised of these facts and reminded of the serious consequences which may follow the contraction of syphilis. Unit commanders are to ensure that once every 3 months a CO's hour is to be devoted to this problem.
5. The following is to be promulgated in Unit ROs every 3 months:
 - "a. Syphilis is a venereal disease of potentially serious effects. If it is undetected and untreated it may result in permanent and possibly fatal damage to the heart and brain, and may be passed on to an unborn child, resulting in still-birth, death in early life, or mental subnormality and crippling.
 - b. Syphilis is occurring in steadily increasing numbers in this country, and more and more cases are being contracted in Vung Tau.
 - c. Syphilis, like all other venereal diseases, may be avoided completely only by abstinence from sexual intercourse. Any other measures provide only partial protection and are diminished by overindulgence in alcohol.

d. If there is a likelihood of any venereal disease having been contracted, medical attention should be sought without delay.

e. The myth that oral intercourse so widely practiced by the Bar Girls of Vung Tau, will prevent any form of venereal disease must be strongly refuted."

ANNEX II. Appendix 31. Letter from a senior Medical Officer to Allied Command Headquarters, June 1970.

VENEREAL DISEASE - TREATMENT AND SURVEILLANCE

1. Over a period of time the Australian Army Medical Service have experienced difficulty in completing adequate surveillance of Australians who present for treatment of Venereal Disease at U.S. Dispensaries. In most cases the Australian serviceman involved does not ask for his medical documents to be forwarded to HQ Australian Force Vietnam. In these cases we are unable to conduct routine surveillance as we are unaware that the member has been treated initially.

2. It is requested that US Medical Facilities in the Saigon Area be circularised with the direction that they not treat any Australian Service personnel for Venereal Disease, and that all cases of VD in Australians be referred to Australian Medical Centre, HQ Free World Military Assistance Organization for treatment.

ANNEX II. Appendix 32. Letter from a senior Medical Officer to a Military Commander, April 1970.

1.
 - a. This paper is not a direct reply to reference A although some points may be raised as they influence the general discussion.
 - b. Its purpose is to discuss the present policies in the management of Venereal Disease.
2.
 - a. As in all medical problems, the RAAMC has two responsibilities in connection with the management of VD. They are;
 - (1) A responsibility to the individual, to ensure that the disease is thoroughly eradicated and that the chance of spread to his spouse is reduced to a minimum. At the same time there is a duty to maintain strict confidence. Indeed, as will be pointed out, not to do so would be unwise.
 - (2) A responsibility to the service, to ensure that a sufferer of a venereal disease is in fact fit to serve in the army, in a given occupation or that he is fit to extend a current engagement which is about to expire.
 - b. It must be stated at the outset that it is important to consider these diseases in a realistic manner and that it is important to divorce emotionalism from all considerations. A sufferer from a venereal disease may or may not have a character/personality disorder, or suffer from a psychological illness. A patient with malaria or an avulsed ring finger could also apply just as well (in both these latter cases there is a degree of personal and unit responsibility).
 - c. Sufferers of venereal diseases usually do not have an underlying personality disorder etc. However it could be anticipated that individuals, with a history of multiple cases of venereal disease, would suffer from personality disorder or psychological illness at a higher rate than individuals who have not contracted a venereal disease or who have contracted a venereal disease on only one occasion. Medical Officers take this into account when examining such patients.
3. Examination of the medical - in - confidence documents relating to venereal disease shows that better than 90 per cent of all sufferers were under the influence of alcohol at the time of performing sexual intercourse with an infected partner. It is considered that acute alcoholism would pose a more serious threat to security than the performance of sexual intercourse (when the individual is probably less loquacious). Loss of judgement is a feature of alcoholic intoxication and may not be associated with the performance of normal sexual intercourse.

4. a. The Medical Officer confronted with the individual, who has suffered from recurrent venereal disease or diseases, will always direct his attention to the reasons for the problem. The cause might relate to individual problems such as emotional immaturity and irresponsibility or personality disorder/psychological illness. It might also be due to lack of understanding of venereal diseases which is purely a unit commanders responsibility.
- b. Where sufficient grounds exist the Medical Officer will refer such a patient for psychiatric assessment. Where psychiatric disability exists the medical service is responsible to appropriately inform the members' unit Commander (he may or may not find it necessary to relate the incidence of the patients psychiatric disorder to the presence of venereal disease). In these cases the medical services are responsible for altering the S category of the members PULHEEMS profile and it is a service responsibility to correctly allocate a members duties in relation to his ECM.
- c. Medical Officers are cognisant of their responsibilities in connection with security and it is for this reason that certain classes of individuals e.g. chronic alcoholics, drug addicts and homosexuals (who might well present with venereal disease) are discharged from the army or medically downgraded. Should such individuals contract venereal disease it is the underlying disease which is important and the venereal diseases should be regarded as a symptom of the basic disorder.
5. Unit Commanders, who are concerned about an individuals mental or physical health have a mechanism for gaining expert opinion. In AFV a special form (Staff in Confidence ADMS Form 2) has been raised to assist in the examination of individuals suspected of suffering from psychiatric disorder. The medical documents of an individual presented in this manner would be examined and the history of venereal disease would be taken into account by the examining psychiatrist.
6. a. All medical documentation is "Medical-in-Confidence" as is the Venereal Case History F Med 16. Reference C prohibits non Medical Corps personnel from access to such records except in special circumstances when AHQ authority is required.
- b. The requirements for adequate surveillance of syphilis is explained to all sufferers of venereal disease. In each case the individual is given the date on which he or she is next required to attend. If this requirement is disregarded and if the individual cannot be contacted it then becomes necessary for unit co-operation to ensure attendance. Examination of current procedures in 1 ALSG reveals a shortcoming in maintenance of the confidential nature of the problem and this has been remedied.

7. a. Venereal disease has certain medico-legal connotations and certain diseases namely syphilis and gonorrhoea could be accepted in a court of law as absolute evidence of extramarital intercourse with person or persons unknown.
- b. The criteria for diagnosis of these diseases are strict and in cases of married men and women, where these criteria are not satisfied, the diagnosis is untenable (e.g. in a married man, who has clinical evidence of gonorrhoea - a "positive" slide but in whom culture or fermentation reactions are negative, the diagnosis must be changed to non-specific urethritis).
- c. Dissemination of medical documentation to unit commanders and unit administrative officers might lead to unauthorised individuals gaining such information. Marital disharmony, indeed court proceedings, could arise as a result.
8. a. Venereal diseases can only be transmitted by venereal contact. It is for this reason that the medical services do not restrict an individuals activities.
- b. Objections to a venereal disease sufferer continuing catering duties are purely aesthetic. If the afflicted cook publicizes his problem and incurs the displeasure of his unit, the responsibility rests with himself. Any action taken by his unit is a result of the individuals indiscretion. Any action would be unnecessary from a medical point of view.
9. A medical examination is a requirement for all individuals about to re-engage for an additional service period or who wish to extend their AFV service. The past medical history of the individual is fully considered at the time.
10. Summary and Conclusion. The medical service responsibility in connection with venereal disease has been outlined. It is not considered that change in policy is indicated. References B, C and D are relevant and do not require amplification. Should any individual, who has venereal disease or who has suffered in the past, be subject to administrative action or think he has been subject to administrative action without serious consideration of all aspects of the problem may well avoid the army medical services and thereby create a health hazard to anyone with whom he may have sexual intercourse in the future.
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ANNEX II. Appendix 33. DGMS Technical instruction 3/66, Venereal disease, November 1966.

INTRODUCTION

1. The venereal diseases that are likely to be encountered by medical officers in the Army are:

- A. Gonococcal Urethritis (Gonorrhoea)
- B. Non Gonococcal Urethritis (Non Specific Urethritis)
- C. Trichomonas Urethritis
- D. Syphilis (Primary or Secondary)
- E. Chancroid (*H. Ducreyi*)
- F. Granuloma Inguinale (Donovanosis)
- G. Lympho Granuloma Venereum (LGV)
- H. Genital Warts (Condylomata Acuminata)

MANAGEMENT

2. It is not intended to give the clinical details of these diseases or to describe in any great detail the methods of diagnosis. These can be obtained from standard text books.

3. This Instruction will define the treatment, surveillance and documentation which is to be used in all cases of venereal disease which occur in MALE members of the Army.

4. The details of these are given in Annexures A-H to this Instruction.

5. Suitable instructions based on these are to be drawn up for the guidance of medical assistants who will be concerned with reception and documentation and the preparation of the patient for examination by the Medical Officer.

6. AF 11247 will be used for the documentation of cases of venereal disease until the appropriate F Med Series becomes available. An extract from AF 11247 will be made on F MED 5.

GONOCOCCAL URETHRITISDIAGNOSIS

1. The patient is to be instructed not to pass urine until he has been seen by the medical officer. A routine clinical examination is to be carried out. A wet smear will be examined microscopically for presence of *Trichomonas Vaginalis*. A second smear will be stained by Gram's method.
2. If the smear shows Gram - negative intracellular diplococci the treatment outlined below is to be given.
3. At the time of taking the smear blood is to be taken for serological tests for syphilis. If possible a sample of the urethral pus is to be sent to the laboratory for culture along with the samples for serological testing.

TREATMENT

4. 800,000 units of aqueous procaine penicillin is to be given by intramuscular injection.
5. The external genitalia are to be thoroughly cleansed with normal saline and carefully examined for any abrasions or sores.
6. The following morning a further urethral smear is to be taken and the urine examined by the two glass test.
7. If no Gram-negative intracellular diplococci are present in the morning smear the patient is to be given a further 800,000 units of aqueous procaine penicillin and returned to his unit.
8. Should presumed gonococci be present in the morning smear the patient is to be admitted for further investigation and treatment.

Where a sample of pus has been sent for culture the laboratory should be requested to carry out sensitivity tests to penicillin and other antibiotics. If necessary a further culture for this purpose should be taken.

SURVEILLANCE

9. Clinical, urinary and serological examinations are to be carried out as follows:
 - a. Clinical and urinary examinations two weeks after treatment,
 - b. Clinical, urinary and prostatic examinations six weeks after treatment.

- c. Clinical, urinary and serological tests for syphilis 4 months after treatment.

DOCUMENTATION

10. Details of clinical findings, treatment and the dates for subsequent surveillance are to be entered on AF 11247. The AF 11247 is to be retained at the treatment centre and the members unit notified when he is required for surveillance. If the member should be posted during the period of surveillance the AF 11247 is to be forwarded to the medical officer of the new unit and attention drawn to the fact that surveillance is incomplete.
11. On completion of surveillance AF 11247 is to be forwarded to Central Medical Records office for inclusion in the Central Medical Record.

DIAGNOSIS

1. If no Gram-negative intracellular diplococci are found in the smear specimens are to be taken for culture and blood for serological tests for syphilis.

TREATMENT

2. The following course of treatment is to be given:
- | | | |
|--------------|---|--------------------------------|
| Tetracycline | - | 250 mgms six hourly for 5 days |
|--------------|---|--------------------------------|
3. If the urethral discharge continues and/or pyuria of sufficient degree to impart a haze to the urine confirmed by microscopic examination persists the patient should be admitted and given the following:
- | | | |
|---------------|---|------------------------|
| Streptomycin | - | 1.0 G daily for 5 days |
| Sulphadiazine | - | 5.0 G " " " " |
- together with adequate fluids and sufficient alkaline mixture to keep the urine alkaline throughout treatment.
4. If symptoms are not substantially improved specialist advice should be obtained.

SURVEILLANCE AND DOCUMENTATION

5. As for gonorrhoea (Annexure A).

TRICHOMONAS URETHRITISDIAGNOSIS

1. Trichomonas vaginalis will be seen in wet smears of urethral discharge.

TREATMENT

2. Metronidazole (Flagyl) 200 mg 3 times daily after meals for 7 days.

EARLY (PRIMARY OR SECONDARY) SYPHILISDIAGNOSIS

1. All patients with genital sores are to be admitted.
2. The patient is to have a full clinical examination; blood is to be taken for serological tests for syphilis. After cleaning of the sore with normal saline a dark ground examination of serum from the sore is to be made.

TREATMENT

3. If Treponema pallidum is seen -
 - a. 1,000,000 units of procaine penicillin in aqueous solution is to be given intramuscularly daily for 10 days.
 - b. the local lesion is to be dressed with saline dressings.
4. If Treponema pallidum is not seen two further dark ground examinations will be made at intervals of 24 hours. If the treponema is not seen at either of these examinations a provisional diagnosis of non-syphilitic venereal sore should be made pending the results of serological tests.

SURVEILLANCE

5.
 - a. Monthly for 6 months - physical examination and serological tests for syphilis.
 - b. Three monthly for a further 12 months - as for a.
 - c. One year after completion of treatment - cerebro-spinal fluid examination.

DOCUMENTATION

6. As in Annexure 'A'.

RELAPSES

7. If serological and/or mucco-cutaneous relapse occurs, the cerebro-spinal fluid will be examined. The patient is to be admitted.

8. a. C.S.F. negative cases

(1) 2,000,000 units of procaine penicillin in aqueous solution daily for 14 days.

(2) 4 weeks rest.

(3) Repeat (1).

(4) Surveillance - clinical examination and serological tests every 3 months for 2½ years.

- b. C.S.F. positive cases

These are to be referred to a specialist physician.

CHANCROID (H. DUCREYI)

DIAGNOSIS

1. The patient is to be admitted.
2. The patient is to be clinically examined and blood is to be taken for serological tests for syphilis.
3. Dark ground examination of serum from the lesion is to be carried out. If this first examination does not show treponema pallida two further dark ground examinations will be made on successive days. Smear with Gram's stain and special culture procedures may confirm diagnosis.

TREATMENT

4. Until the above examinations have been completed the local lesions are to be treated with saline soaks only.
5. Following the first negative dark ground examination the patient is to be treated as follows:

Sulphadimidine 5 G daily for 6 days

6. If dark ground examinations are negative a PROVISIONAL diagnosis of CHANCROID (CLINICAL) is to be made.

7. A definite diagnosis of CHANCROID (CONFIRMED) will not be made until the surveillance as outlined below is completed and no clinical or serological evidence of syphilis has been found.

SURVEILLANCE

8. Clinical examination and serological tests for syphilis monthly for 3 months.

DOCUMENTATION

9. As in Annexure 'A'.

GRANULOMA INGUINALE (DONOVANOSIS)

DIAGNOSIS

1. The patient is to be admitted and blood taken for serological tests for syphilis.

2. The lesion will be thoroughly cleansed and a small piece of the granulomatous tissue removed from the edge of the lesion. The under surface of this tissue is smeared on to glass slides and the smears allowed to dry. After fixation with methyl alcohol (3 minutes) the smears are stained with Giemsa's stain. Donovan bodies will be seen as small capsulated bodies in the large mononuclear cells.

TREATMENT

3. This is by the oral administration of tetracyclines. Duration of therapy will depend on the severity of the ulceration.

SURVEILLANCE

4. Clinical examination and serological tests for syphilis monthly for 3 months.

DOCUMENTATION

5. As in Annexure 'A'.

LYMPHO GRANULOMA VENEREUM (LGV)

DIAGNOSIS

1. The patient is to be admitted and blood taken for serological tests for syphilis.

2. The clinical diagnosis should be confirmed by the FREI Test. This test is done as follows:

- a. 0.1 ml of the antigen is injected intradermally into the LEFT arm.
- b. 0.1 ml of the control material is injected intradermally into the RIGHT arm.

A positive result is shown by a dome shaped infiltrated inflammatory area at least 0.5 cm in diameter which should be palpable as well as visible. The extent of the surrounding erythema is immaterial. There must be NO reaction from the control.

3. If possible a complement fixation test for LGV should be performed. The blood for this should be taken before the FREI test.

TREATMENT

4. Early cases with no suppuration. Sulphathiazole 4 G daily for 7 days.
5. Late and Resistant cases. Tetracyclines 2 G daily for 10 days.
6. Local lesion.
 - a. Suppuration of the glands should NOT be encouraged by hot applications. Painting of the skin over the inflamed glands with iodine may be useful in relieving the pain
 - b. If suppuration is present or develops during treatment the pus should be aspirated. Aspiration should be repeated as necessary. Incision or excision should NOT be performed.

SURVEILLANCE

7. Clinical examination and serological tests for syphilis monthly for 3 months. If tetracyclines have been given serological tests for syphilis should continue for a further 3 months.

DOCUMENTATION

8. As in Annexure 'A'.

GENITAL WARTS

DIAGNOSIS

1. The patient is to receive a careful clinical examination to ensure that the "warts" are in fact condylomata acuminata and not the

condylomata lata of secondary syphilis and there is no coincident urethritis.

2. Blood is to be taken for serological tests for syphilis.

TREATMENT

3. Secondary sepsis if present should be treated before treatment for the removal of the warts is begun.

4. Patients with large masses of warts may require circumcision and/or removal of the warts by cautery under general anaesthesia. Such patients are to be referred to a surgeon.

5. In most cases good results can be obtained using Podophyllum Resin 25% in Liquid Paraffin. Posalfilin Wart Ointment is a useful proprietary remedy. Healthy mucosa should be protected with petroleum jelly and the Podophyllum preparation applied direct to the warts and be left in contact for 6-8 hours.

6. More than one application is generally necessary. It is essential that the patient is kept under close observation during treatment since on occasions, notably in hot climates - acute balanoposthitis can be provoked.

7. Severe local reactions can be diminished by the use of a weaker suspension of Podophyllum (10% in spirit). This should be used if the patient has a partial or total phimosis.

8. Treatment must remove all the wart tissue if relapse is to be avoided.

9. Since recurrence of warts after treatment is more common in the uncircumcised it may be necessary in some cases to perform circumcision to effect a cure.

ANNEX II. Appendix 34. AFV Medical technical instruction No. 6.
Management of Venereal disease, October 1968.

Aim

1. The aim of this instruction is to collate the above references on this subject for the guidance of medical officers.
2. Unless stated to the contrary in this instruction management of venereal disease is to be in accordance with reference A.

Definition

3. The term "Venereal Disease" includes all diseases which are classified as being contracted by sexual intercourse.

Diagnosis

4. In accordance with reference A:
 - a. A clinical and pathological diagnosis is to be made.
 - b. Unit RMOs are to draw up suitable instructions for the guidance of their medical assistants.
 - c. Diagnosis will precede treatment except in the case of operational necessity. Documentation of treatment is required in all circumstances.

Treatment of Gonorrhoea

5. Gonorrhoea is to be treated initially by administration of 1.5 million units Procaine Penicillin twice a day for three days, and Probenecid one gram twice daily.
6. Patients failing to respond to this treatment are to be referred to the SMO.
7. Area SMOs are to treat such cases with Crystalline Penicillin two million units IM 1 every six hours and Probenecid one gram twice daily. A urethral smear is to be taken daily and treatment is to continue until Diplococci have been absent from the discharge for a period of three days. Presence of pus cells in the smear after this regime indicates concomitant non specific urethritis.

Treatment of Non Gonococcal Urethritis

8. This condition is to be treated with Tetracycline 0.5 g every six hours for 10 days, regardless of apparent clinical recovery, otherwise relapse will be common.

9. No attempt should be made to use multiple cocktail antibiotic combinations.
10. All cases which do not respond to this regime are to be referred to STC at 1 Aust Fd Hosp.
11. The US army provides consultation services for resistant cases of Urethritis but this has been of little practical value.

Treatment of Chancroid

12. This condition (after Syphilis has been excluded) is to be treated with Tetracycline 500mgm every six hours. Cases failing to respond after two weeks are to be referred to STC at 1 Aust Fd Hosp.

Treatment of Venereal Warts

13. Treatment with Podophyllin inevitably causes Balanitis, and is not to be used. Patients are to be referred to STC at 1 Aust Fd Hosp for surgical consultation.

Admission to Hospital

14. No case of venereal disease is to be admitted to 1 Aust Fd Hosp without the authorisation of MO I/C STC.

Surveillance and Documentation

15. There is to be NO DEPARTURE from the standards of surveillance laid down in reference A.
16. Medical officers are reminded that complete surveillance is vital to the interests of their patients.
17. Documentation is to be in accordance with Annex A to this instruction.

Notification

18. The numbers of venereal disease first diagnosed are to be reported monthly to SMO. SMO is to collate the figures and notify ADMS by priority signal, Medical in Confidence, the following detail within 48 hours of the end of the month.

- a. Total new cases - Offr and OR.
- b. No. of cases by type.
- c. No. of cases by country or centre of contact.

d. No. of cases by units (related to members location).

19. Part 3 of Annexure C to reference E requires reporting of cases of VD not admitted to hospital by:

a. Disease;

- (1) Syphilis early (Primary or secondary).
- (2) Gonococcal infections.
- (3) Non Gonococcal Urethritis.
- (4) Chancroid.
- (5) Lymphogranuloma venereum.
- (6) Other venereal diseases.

b. Patient Status;

- (1) ARA, RAS or CMF (FTD).
- (2) All others (Status to be clearly shown).

20. Medical reports of venereal disease resulting from Hong Kong are to be forwarded in accordance with reference G.

Routing Serological Testing (VDRL)

21. There is no requirement for routine serological testing. However a member requesting such a test if he has been exposed to possible syphilis infection is to be examined to exclude the presence of other venereal disease, blood taken for examination and the request form marked "Possible Exposure to Syphilis, no clinical evidence of VD" and signed by a medical officer.

Entry into Australia

22. Medical officers sign a medical certificate showing freedom from any infectious disease for members entering into Australia.

23. It is considered such a certificate cannot be signed for a member admitting intercourse within three weeks of RTA.

Confidential Aspects

24. On request unit commanding officers are to be given the number of cases of venereal disease in their units.

25. No instruction exists stating that a commander can or cannot ask for cases of venereal disease by name. However all medical officers are strongly reminded of their professional obligations to their patients, and the grave problems likely to arise if they lost confidence and sought treatment elsewhere.

ANNEX II. Appendix 35. Letter from a senior medical officer to a Military Commander, May 1967.

VENEREAL DISEASE IN VIETNAM

1.
 - a. The quoted figures of 45+ cases per infantry battalion in some months of 1965, seem comparable with present information.
 - b. Manpower wastage in field unit may indeed be negligible. Previous advice to rest during acute stage of urethritis is not now always given. Withdrawal of patient from food and patient handling, as well as from strenuous duty, has not been insisted on. I would like opinions of ex-patients, RMOs, platoon officers and NCOs, on loss of effectiveness of soldiers while suffering from sore penis and/or sore buttocks, and from some general effects of germ or drug. Manpower wastage to carry on full surveillance (required by reference B) is considerable - both in time lost by patients attending for check-ups, and in time spent by RAAMC personnel.
2. To obtain statistics, comparable for different times and places, and giving a fair indication of amount of disease, requires:
 - a. That each fresh case is reported to, and diagnosis checked clinically by, a medical officer;
 - b. That complete lists of cases seen are maintained;
 - c. That these lists are consolidated periodically, with elimination of significant number of duplicated listing.
3. In experience of battalions recently serving with 1 ATF, it seems that of above criteria:
 - a. Is not always tactically possible during operations;
 - b. Complete company lists of all cases may not be maintained; and there is a tendency for some RAAMC NCOs not to report cases to their RMO unless he insists;
 - c. 1 ATF was not in favour of actual lists of names being sent in confidence to DADMS.

Statistics produced by battalion RMOs from 5 and 6 RAR have been late in arriving at HQ AFV, and do not separate many cases of urethritis into categories of Gonorrhoea or Non specific urethritis, asked for by DMS.
4.
 - a. Nominal rolls received by DADMS from RMOs, when this was in

force, did contain duplication. In particular, rolls from 1 ATF and 1 Fd Regt repeated names of many gunners.

b. There is also room for variation on what is classed as Other VD - for example, Balanitis, or inflammation under foreskin, may or may not be associated with intercourse.

5.
 - a. If accurate diagnosis and complete surveillance is required, with reference to Urologist where prompt recovery under RAP treatment does not occur (reference B.), then hospitalization rate will increase.
 - b. Gonorrhoea, in experience of Australian medical officers in this theatre, rarely respond in Vietnam to minimal doses of penicillin injections laid down by DMS Technical Instruction (reference B.). Urethritis, whether originally non-specific or following clearance of detectable gonococci, is often most refractory.
 - c. Where we are supported by U.S. medical facilities, patients with venereal ulcers (as also those with Diarrhoea) are not normally admitted as inpatients (reference B.).
6.
 - a. It is doubtful whether increased and improved recreational facilities and amenities, could eliminate indulgence by soldiers in sexual intercourse.
 - b. Vung Tau has plans for inspection of bars, cafes and workers therein. Although such would not be practicable in Saigon, it should be enforced in Vung Tau, where most Australian troops acquire infection.
7. I understand SMC surveyed VD experience, and reported to DMS on suggested modifications for Vietnam of Technical Instruction (reference B.). No copy of this survey or communication has yet reached DADMS.
8. Training films should only be additional to instruction, to officers and ORs, from medical officers. 1 ALSG units arranged this; NIL recently elsewhere.
9.
 - a. The VD problem, primarily one of Administration and Welfare, is of considerable concern to the medical corps.
 - b. Unlike under policies up to occupation of Japan, the venereal disease patient is now not withdrawn from duty, kept at comparative rest, separated from chance of infecting others or re-infecting himself, and observed and treated by a specialist medical officer.

c. This change is excellent for release of manpower from the patients, and for training of RMOs and other medical personnel.

d. However, it makes control of the patient more difficult, with increased difficulty in ensuring final test of cure, considerably increases work and responsibility of RMOs, and is likely to result in varying standards of diagnosis, treatment, recording and surveillance between units.

10.

a. Prophylactic Stations were wasteful of time of medical orderlies. However, my impression in BCOF was that few VD patients claimed to have either worn condom or attended after for washout and inunction. Improvement in incidence of VD compared with exposure, is difficult to assess.

b. Prophylactic drill by soldier at risk should be taught. Some type of sheath, flushing after with urine, washing as soon as possible, should reduce chance of establishment of infection.

c. Condoms should be freely and unobtrusively available. Detergent impregnated cloth and possibly antiseptic ointment for external application, might also be available as a kit.

11. Any reduction of other sources of infection than from Australian troops, would be helpful.

ANNEX II., Appendix 36. Instruction to Medical Officers from a senior Medical Officer, January 1971.

VENEREAL DISEASE IN VIETNAM

This memorandum supplements DGMS Administrative and Clinical Medical Instruction No. 15. It emphasizes aspects of management developed from American and Australian experience in South East Asia.

Gonorrhoea

1. It is widely reported, and Australian experience confirms, that gonococci encountered in South East Asia are more resistant to penicillin than those encountered elsewhere in the world. Under these conditions penicillin, even in large doses, is likely to be a less effective drug. A loading dose of crystalline penicillin has been found to increase the effectiveness of therapy with this drug and probenecid (1 gm) should be given 30 minutes before injection, to further enhance its activity. (Cost of 4.8 million units procaine plus 1 million units crystalline penicillin and benemid is approx \$US 1).

2. At 1 Aust Fd Hosp the best results in the treatment of gonorrhoea have been obtained with tetracycline (2gm stat, 0.5 g q.i.d. for 10 days) and kanamycin (2gm i.m. stat). There has been insufficient experience with doxycycline to comment on this drug.

a. Tetracycline.

- (1) Emphasise to patient that tablets must be taken on an empty stomach (which includes absence of milk or milk products).
- (2) Contraindicated if patient is suffering gastro-intestinal disturbance.
- (3) Big advantage where diagnostic facilities are limited is that the same course can be used equally effectively for non-specific urethritis.
- (4) Cost of the course is \$US 1.30.

b. Kanamycin.

- (1) Injections are painful (comparable to crystalline penicillin). Under these therapeutic conditions side effects are virtually non-existent.

(2) Almost certainly the most effective drug against gonococci in Vietnam. Treatment failure does not correlate closely with in vitro sensitivity (in contrast to penicillin).

(3) Cost of the course is \$US 6.40.

- 3.
- a. There should be no need to use any drugs other than those already mentioned, i.e. penicillin, tetracycline, doxycycline and kanamycin.
 - b. Kanamycin should not be used routinely but is the drug of choice for recurrences.
 - c. ALL recurrences should be referred immediately to the Special Treatment Clinic at 1 Aust Fd Hosp, where ideal diagnostic facilities are available.

Non-Specific Urethritis

4. Kanamycin is not a particularly good drug for this condition and should NOT be used.

Penile Sores

5. These are very poorly treated in Vietnam. The facilities available at 1 Aust Fd Hosp should be fully utilised and unnecessary delays in commencement of therapy must be avoided. Up to sixty cases per month are seen at the STC at 1 Aust Fd Hosp alone so that routine hospital admission is out of the question.

a. Syphilis. Rare in Vietnam but relatively more common in Saigon. Most chancres seen have been painless but otherwise "atypical". Dark ground illumination confirms diagnosis.

b. Chancroid. In absence of biopsy facilities diagnosis is CLINICAL. Culture and smear of the penile lesion are misleading and unsuitable as routine diagnostic tools. Intradermal tests are unreliable. Three types are commonly seen in Vietnam:-

(1) Classical ulceration. One to ten painful, reddened ulcers in coronal sulcus or adjacent prepuce.

(2) Phagedenic. Highly destructive, rapidly advancing lesion in coronal sulcus or on foreskin. Exquisitely painful and this may hinder preputial retraction. Treatment with streptomycin 0.5 gm b.d., must be instituted immediately while awaiting results of dark ground illumination. Delay of 2 or 3 days may increase the recovery period by several weeks.

(3) Shaft ulcer in the uncircumcised. Difficult to cure and usually requires intravenous Keflin.

The most constant and significant clinical characteristics are the pain of the lesions and the characteristic UNILATERAL inguinal lymphadenopathy which develops 6-7 days after the initial ulcer in over 50% of cases.

(4) Treatment

Tetracycline and sulphonamides, individually or combined, have proved of limited value in Vietnam.

In the uncircumcised, maintained retraction of the foreskin is almost a pre-requisite for cure.

For mild lesions, local neosporin ointment b.d., commenced at the completion of dark ground illumination studies, usually suffices.

With erosive spreading lesions or when lymphadenopathy exists, streptomycin, 0.5 gm b.d. for 5 to 7 days, must be used. This does not prejudice dark ground studies and can be commenced immediately.

Failure to halt ulceration indicates the need for hospitalization and treatment with intravenous Keflin, 1gm 6 hourly.

Herpes Genitalis

6. In the uncircumcised, often mimics classical chancroid, except that unilateral lymphadenopathy never occurs, and may be impossible to distinguish clinically. Response to retraction and local therapy is dramatic, in contrast to the milder response with chancroid. When herpes occurs on the external skin of the prepuce the diagnosis is obvious. Stoxil has been used but is not indicated.

Simple Pyogenic Infection

7. The commonest group and usually a result of infected teeth marks, frenular tears or simple friction abrasions. However, it is not uncommon for *Haemophilus ducreyi* to infect a previous abrasion. Local therapy with eusol and neosporin produces rapid cure.

Molluscum Contagiosum

8. For multiple small lesions the cautious application of phenol to the central core is effective. With sparse large lesions treatment of choice is to shell out the core, after nicking the capsule, and ligating the residual skin tags.

Penile Warts

9. The use of podophyllin under field conditions is dangerous and has caused more harm than benefit. The nature of the lesions should be explained and the patient reassured. If removal is still indicated, cauterization or excision under general anaesthetic is advisable.

ANNEX II. Appendix 37. Principles of Venereal Disease Control in a Military Environment.

Although this study was not designed to provide a practical programme to solve the problems associated with venereal disease, it was inevitable that practical implications should emerge from the findings. An effective control programme involves both the provision of adequate treatment facilities for those acquiring venereal infection and a method of minimising the risk of infection by personal prophylaxis or reducing the amount of infection in the promiscuous female pool.

1. In view of the severe impact of venereal disease, it is desirable that any sizeable complement of doctors in a war zone should include at least one experienced venereologist, who would be responsible for the coordination of all activities related to venereal disease.
2. Treatment services must be designed to provide high quality treatment to large numbers under conditions which maintain the dignity of the patient and allow assessment of the psychological as well as physical impact of his illness. The existence of pathology facilities, solely for venereology, within the clinic complex greatly increases the efficiency of the service.
3. Documentation should be restricted to that which is essential to the venereology services. Excessive documentation, as in the campaign discussed, diverts the energies of staff from more useful work and creates a mass of inaccurate data which

cannot be rationally interpreted by the usual recipients. Documentation for treatment purposes should be maintained separate from that for research purposes.

4. Reduction in the incidence of venereal disease is not, in itself, important. The gains from this reduction must be commensurate with the effort expended or disadvantages of the policies producing the reduction. Experience has shown that, except in rare instances, complex control systems are not effective in wartime and merely waste resources and provide sexual participants with a false sense of security. If interference in the prostitution-venereal disease environment is undertaken, the following points should be considered:
- (i) Control is difficult without the full cooperation of participants. Campaigns incorporating oppressive or punitive policies face almost inevitable failure.
 - (ii) Medical examination of uncooperative prostitutes is of no value in control.
 - (iii) If contact tracing is undertaken, a simple indisputable means of prostitute identification is desirable. A system, whereby clients obtain a numbered photograph from a prostitute before having intercourse with her, offers the best chance of success.
 - (iv) Separation of sex from alcohol usage, and the effective use of prophylactics are very important control measures.

However, their successful implementation is difficult and their contribution to overall control will vary greatly from one environment to another. At the present time the condom is the only available prophylactic which could be recommended.

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