

**A Multiple Methods Research Program Examining Enhanced Recovery Care with
Next-Day Discharge for Elective Caesarean Section**

Christianna Digenis

School of Psychology

Faculty of Health and Medical Sciences

The University of Adelaide

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Supervised by Professor Deborah Turnbull, Associate Professor Lynette Cusack
and Associate Professor Amy Salter

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Abbreviations

EREC	The Enhanced Recovery after Caesarean Section Pathway
ERAS	Enhanced Recovery after Surgery
LOS	Length of Stay
NALHN	Northern Adelaide Local Health Network
CALHN	Central Adelaide Local Health Network
ECS	Elective Caesarean Section
AIHW	Australian Institute of Health and Welfare
CALD	Culturally and Linguistically Diverse
DoH	Department of Health
NICE	National Institute of Health Care Excellence
QoL	Quality of Life
DASS-21	Depression, Anxiety, and Stress Scale
VAS	Visual Analogue Scale
mMOS-SS	Modified Medical Outcomes Social Support Study

Abstract

Enhanced recovery care for surgery has been increasingly applied for caesarean section. Programs of enhanced recovery aim to ‘fast-track’ convalescence by including antenatal preparation and education, and improved intrapartum and postnatal care such as encouraging mobility, early cessation of fasting and criteria-led hospital discharge. Given this improved care, enhanced recovery is associated with or includes an early discharge. A health service in South Australia is the first to implement an enhanced recovery care pathway for caesarean section in Australia called *Enhanced Recovery after Elective Caesarean Section* (EREC). EREC includes a next-day discharge with home midwifery and Mothercarer support.

This program of research used multiple methods to better understand enhanced recovery care with next-day discharge after elective caesarean section. The results are discussed in terms of implications for future similar programs in this and other clinical contexts. Study 1 was a mixed methods systematic review synthesising women’s experiences and psychosocial outcomes with early discharge after caesarean section. Eight studies were identified reporting on: satisfaction, mental well-being, infant feeding, and pain. This study found no clear negative impact on women’s psychosocial outcomes and experiences. Several characteristics of care such as home midwifery were associated with more positive outcomes.

Study 2 was a qualitative paper examining the experiences and perspectives of 11 women on the EREC pathway who had an early discharge. Using thematic analysis, major themes identified were: women’s general experience of an enhanced recovery care pathway, their experiences at home, and support at home. All women interviewed were satisfied with the EREC pathway and home recovery. Certain aspects of care were essential to a positive experience such as social support, support from staff, and home midwifery care; well managed pain relief, information, and reassurance of longer hospitalisation if required.

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Study 3 addressed anecdotal reports from midwives who reported that a large percentage of women assessed as eligible for EREC were not discharging the next-day, and therefore not completing the pathway as expected. This was suggested to be primarily due to psychosocial reasons. A prospective cohort study was developed and found that 62% of women did not go home the next-day, and identified that the two most common factors were for medical and obstetric reasons rather than psychosocial reasons. This study also identified antenatal demographic and biopsychosocial characteristics of women on the EREC pathway and described women's antenatal satisfaction with preparation for EREC, preferences for postnatal care, and perception of support for EREC by hospital staff and family.

Finally study 4, was a qualitative study applying thematic analysis to explore the experiences and perspectives of 23 healthcare providers (5 doctors and 18 midwives) who had occupational experience with the EREC pathway. Major themes identified were: EREC is more than just early discharge; experiences with the EREC process; woman-centred care; staff engagement with EREC, and the impact of EREC within the health system. This qualitative study found that staff were generally accepting of enhanced recovery care. Although, staff identified specific challenges such as early discharge, and the perceived lack of choice for women, as all eligible women were automatically included on the EREC pathway. Staff identified components that assisted with the integration and acceptance of EREC such as education, communication of the evidence, the inclusion of home support, and clinical flexibility. Organisational considerations such as having enough clinical time, clear guidelines and protocols, and clear staff roles were also discussed.

Overall, the findings indicated that implementing enhanced recovery care with next-day discharge should be thoughtfully considered in other maternity services, given the benefits of this model of care. However, a combined package of care similar to the one included in the EREC pathway is required. This package of care should include appropriate

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screening and eligibility criteria, preparation and antenatal education, well-defined discharge processes, and home support. This work has also identified that staff require support to integrate change into practice.

Declarations

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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Published Works

Cusack, L., **Digenis, C.**, Schultz, T., Klaer, B., & Hobbs, M. (2020). Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study. *Midwifery*, 83, 102632–102632.

<https://doi.org/10.1016/j.midw.2020.102632>

Digenis, C., Salter, A., Cusack, L., Koch, A., & Turnbull, D. (2020). Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes. *Midwifery*, 91, 102855–102855.

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Conference Items

July 2021 – Obstetric and Medical Factors Rather Than Psychosocial Characteristics Explain Why Eligible Women Do Not Complete the Enhanced Recovery After Elective Caesarean (EREC) Pathway: A Prospective Cohort Study. Presentation at the International Congress of Behavioural Medicine, Glasgow, Scotland (Virtual)

August 2020 – Reduced Length of Hospital Stay After Caesarean Section: Women's Experiences and Psychosocial Outcomes. Presentation at the Perinatal Infant Group Liaison Education and Training Network (PIGLET), Adelaide, Australia

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September 2020 – Reduced Length of Hospital Stay after Caesarean Section: Women's Experiences and Psychosocial Outcomes. Presentation at Adelaide Nursing School – Research Conversazione, Adelaide, Australia

September 2020 – What are the reasons for women not completing the Enhanced Recovery after Caesarean Section Pathway? A prospective cohort study presented at Florey Postgraduate Conference, Adelaide, Australia

September 2019 – Women's Experiences with a Reduced Length of Hospital Stay after Caesarean Section: A Systematic Literature Review. Presentation at Florey Postgraduate Conference, Adelaide, Australia*

*Vernon Roy East Prize Winner

July 2019 – Enhanced Recovery After Elective Caesarean: Women's Experiences Transitioning Home Within 24-hours. Presentation at Australian Society for Psychosocial Obstetrics and Gynaecology (ASPOG), Melbourne, Australia

September 2018 – Enhanced Recovery after Elective Caesarean (EREC): Home within 24-hours. Presentation at Florey Postgraduate Conference, Adelaide, Australia

October 2018 – Enhanced Recovery after Elective Caesarean. Presentation at BUMPS Lyell McEwin Hospital, Adelaide, Australia

September 2018 – Early Discharge After Caesarean Section. Presentation at Core Component Research Seminar, Adelaide, Australia

Outline of Candidature

This thesis was completed in fulfilment of the combined Doctor of Philosophy and Masters of Psychology (Health) degree at the University of Adelaide. The combined program encompasses the full program of research (three years full-time) to fulfil a Doctor of Philosophy, and the coursework and placement load of a Masters of Psychology (Health). The Masters program included seven Masters courses, three full clinical placements and a ‘mini’ placement. Placements completed included: Department for Education and Child Development, South Australia; Flinders Respiratory Rehabilitation, Southern Adelaide Local Health Network; Centre for Treatment of Anxiety and Depression, joint SA Health and University of Adelaide Clinic, and South Australian Health and Medical Research Institute (SAHMRI). Successful completion of the Masters coursework and placements allows for eligibility to register as a Psychologist with the Australian Health Practitioner Regulation Agency, and this thesis is submitted to fulfil the requirements of a Doctor of Philosophy.

Thesis Overview

This thesis uses a multiple methods approach to better understand enhanced recovery care for elective caesarean section with next-day discharge. The thesis begins with an Introduction that includes key definitions and a review of the available literature (Chapter 1). Chapter 2 includes an overview of the research context, and where necessary this Chapter expands on the methodological approach of the four manuscripts included in this thesis. The following Chapters include two published works, and two manuscripts which are submitted to peer-review journals at the time of submission. Chapter 3 outlines a systematic literature review on the experiences and psychosocial outcomes of women who experience an early discharge after caesarean section. The next three Chapters (Chapters 4-6) were completed as part of a study investigating the effectiveness and acceptability of an enhanced recovery care pathway for elective caesarean section with a next-day hospital discharge called the *Enhanced Recovery after Elective Caesarean Section Pathway* or EREC. Chapter 4 includes a qualitative paper on the experiences of women on the EREC pathway who were discharged the next day.

Chapter 5 is a prospective cohort study which enumerates the percentage of women who complete the EREC pathway, defined as those who have a next-day discharge and to understand the reasons why some women do not complete the EREC pathway as expected. This Chapter also discusses women's antenatal preferences and experiences relating to the EREC pathway (for example, I feel preprepared for early discharge; I prefer to recovery at hospital), and the characteristics of women assessed as eligible for the pathway. The final paper Chapter 6 is a qualitative study on the experiences and perspectives of healthcare providers (doctors and midwives) who work within the EREC pathway. Chapter 7 integrates the findings from Chapters 3-6.

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This thesis is submitted in the format of papers produced for publication. Therefore, there are some inconsistencies between Chapters based on journal requirements, publishing style, and word count. All references, including for published manuscripts, are provided at the end of the thesis. Each published manuscript is presented in American Psychological Association citation style version 7 regardless of the published format of the paper. Appendices and supplementary material are generally provided at the end of the thesis; however, where it is important that they are read in context, selected Appendices are provided at the end of the relevant Chapter. Tables and Figures are contained within each Chapter and manuscript. Acronyms and abbreviations are spelt out in full at first use in each Chapter and in headings. A list of frequently used acronyms is included in the List of Abbreviations on p. viii.

Chapter 1: Introduction and Literature review

Preamble

This thesis seeks to comprehensively understand enhanced recovery care with next-day discharge after elective caesarean section by investigating various aspects of the *Enhanced Recovery after Elective Caesarean Section* pathway also known as the *EREC* pathway. The EREC pathway aims to discharge eligible women, after an elective caesarean section, the next day (early discharge), with support including home visiting midwives. The EREC pathway under investigation in this thesis is the first of its type in Australia. While enhanced recovery care has been applied in surgical contexts for decades, for example in colorectal surgery and orthopaedic surgery, its application to obstetric care is a new and emerging area. This creates a unique and important opportunity to better understand enhanced recovery care and early discharge in this setting.

This Chapter begins by briefly describing the current maternity landscape in which this work was completed. Next, an overview of caesarean sections, and the implications and evidence for a reduced length of hospital stay after a caesarean section, also referred to as early discharge, are considered. A definition of enhanced recovery care after surgery, its current applications and outcomes are then outlined, and a summary of the current literature on the challenges and facilitators of implementing enhanced recovery care are discussed. The final section defines and discusses the available literature on enhanced recovery care after caesarean section. Where available, literature on the patient and healthcare provider experience are included. This literature review highlights the minimal literature on enhanced recovery care in the context of caesarean sections, as well as the lack of research summarising women's psychosocial outcomes with early discharge.

1.1. Maternity Care in Australia

In 2020, there were 295,976 babies born to 291,712 women in Australia (Australian Institute of Health and Welfare (AIHW), 2022a). Most women in Australia access antenatal care, and 96% of all births occur in a traditional hospital setting (AIHW, 2022a). Australia's maternity services are generally provided through the public or the private health sectors (COAG Health Council (Department of Health), 2019).

Australian maternity care standards and midwifery practice are guided by women-centred care and evidence-based practice (Nursing and Midwifery Board, 2023). Women-centred care can be defined as considering the woman's individual circumstances, aiming to meet their physical, emotional, psychosocial, spiritual, and cultural needs. Providing woman-centred care is also defined as recognising the woman's baby or babies, partner, family, and community – as defined by them. It also extends to recognising and respecting cultural and religious diversity (Nursing and Midwifery Board, 2023). Care is reciprocal, and relies on communication, facilitating individual decision-making and self-determination, as well as respecting the woman's ownership of their health information, rights, and preferences while protecting their dignity and enabling choice (Nursing and Midwifery Board, 2023). Evidence-based practice includes translating the most current, valid, and available research evidence into practice. Evidence-based practice also includes working within clinical experience and accounting for the woman's expectations (Nursing and Midwifery Board, 2023).

There is much diversity in the type of maternity services, including antenatal, intrapartum, and postnatal care that a woman can access. These types of services are broadly called 'models of care' which are defined by the way a health service is designed and delivered, and often includes theoretical, evidence-based, and defined standards (AIHW, 2022b; Homer, 2016). Specifically, maternity models of care are defined by the group of women the model is designed for, the type of care it includes, who funds the service (public

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vs private), and the location and manner in which the care is delivered (AIHW, 2022b; Homer, 2016). In Australia, there is often some choice in the type of care a woman can receive, but it may be limited by their location (for example, those living in rural and remote areas), and individual needs related to high-risk pregnancies, next birth after caesarean section and maternal diabetes.

The most common major areas where maternity models are located include public hospital maternity care (40%) (for example, low risk, public specialist obstetricians, multiple pregnancy or next birth after caesarean section); shared care (15%) which includes a community service provider (for example, a general practitioner and hospital staff); midwifery group practice caseload (15%) where continuity of care is provided by a known primary midwife who works in a midwifery team in consultation with medical staff; and private obstetrician (11%) (AIHW, 2022b). In Australia, the primary care provider can vary with combinations of midwifery-led, medical-led, and shared models of care available. This varies from some countries (for example, North America) where a majority of primary maternity care is provided by medical doctors (Sandall et al., 2016).

Specific models of care for elective caesarean section in Australia are not well documented and are likely fragmented into other models as outlined above, (for example, the next birth after caesarean section). Specifically, enhanced recovery models of care after elective caesarean section have not been previously established in the Australian context, other than the health service in South Australia where this program of research is based. The EREC pathway is a public health system, midwifery-led model of care aimed to enhance women's postnatal recovery and includes a next-day discharge with the transition of maternity care from hospital to home with community midwifery (Cusack et al., 2018; Klaer et al., 2018). This model of care is timely given the context of increasing caesarean section rates, globally and in Australia (AIHW, 2021; WHO, 2015, 2021).

1.2. Caesarean Section

Caesarean section is a surgical procedure used to deliver a baby through an incision in the woman's abdomen and uterus, and can be either an emergency or elective procedure (NICE, 2021a; Prosser et al., 2014). An emergency caesarean section is usually defined as a caesarean section which occurs after the onset of labour and is often performed urgently. Inversely, an elective caesarean section is usually planned prior to the onset of labour (NICE, 2021a). Caesarean section has become a common procedure, accounting for one in five of all childbirths worldwide (WHO, 2015, 2021). Since 1990, rates have increased from 7% to 21% of all births, and in some countries caesarean sections outnumber vaginal deliveries (WHO, 2015, 2021).

The latest available data from the AIHW indicate that in Australia, 36% of women had a caesarean section in 2017, with 77% of all caesarean sections conducted as repeat caesarean sections (AIHW, 2021). If this trend continues, it is expected that Australia will have a caesarean section rate of 45% by 2030 (WHO, 2021). The most recent published data from South Australia reported that 35.3% of births in 2019 were by caesarean section and 17.7% of all caesarean sections were classified as elective caesarean sections (Pregnancy Outcome Unit, 2022). The main indication for caesarean section overall in South Australia was for previous caesarean section (40.5%) (Pregnancy Outcome Unit, 2022). While caesarean section is common, there are physical and psychosocial outcomes associated with the procedure.

1.2.1. Physical Outcomes of Caesarean Section

When medically indicated, caesarean section is a life-saving procedure for both mother and baby. Importantly, in high-income countries maternal mortality associated with caesarean section is a rare event (Sandall et al., 2018). While the risk of mortality is low, there are

potential negative health effects which have been summarised in a non-systematic but comprehensive literature review of large systematic reviews and cohort studies (Sandall et al., 2018).

The risk of immediate severe maternal complication such as haemorrhage, uterine rupture and complication with anaesthetic is higher for caesarean section when compared to vaginal birth (Sandall et al., 2018). Additionally, vaginal birth compared to elective caesarean section was also found to be associated with reduced length of stay, reduced risk of hysterectomy for postpartum haemorrhage, and cardiac arrest (Sandall et al., 2018). However, the short-term risks of vaginal injury, early postnatal pain in the perineal and abdominal region, early postpartum haemorrhage, and obstetric shock were reported to be reduced in elective caesarean section compared to planned vaginal birth (Sandall et al., 2018).

Long-term risks of caesarean section are also reported. A large systematic review and meta-analysis of predominately large cohort studies comparing caesarean section to vaginal birth showed that after caesarean section there was an increased risk for infertility, future pregnancies, and subsequent births (Keag et al., 2018). However, this review found no difference for chronic pain, heavy and/or painful menses, or faecal incontinence when comparing caesarean section to vaginal birth. The review also reported a decreased risk of urinary incontinence and pelvic organ prolapse for women birthing via caesarean section compared to vaginal birth (Keag et al., 2018). Importantly, a systematic literature review and meta-analysis of observational studies demonstrated that the risk of morbidity with caesarean section increases with the number of previous caesarean section births especially when greater than three (Marshall et al., 2011).

It is critical to report that the risk of mortality and morbidity is decreased when comparing elective to emergency caesarean section (Sandall et al., 2018). A systematic

review and meta-analysis of cohort studies comparing emergency to elective caesarean section, concluded that of the seven studies considering maternal outcomes, emergency caesarean section was associated with an increased risk for infection (wound, urinary tract and respiratory), fever, re-operation, and a clotting condition, known as Disseminated Intravascular Coagulation (Yang & Sun, 2017). This outcome may be due to having more time to prepare and the woman being in a more favourable physical condition with elective caesarean section compared to emergency caesarean section (Yang & Sun, 2017).

While there are short- and long-term risks associated with caesarean section there is reduced risk associated with elective caesarean section compared to emergency caesarean section. The neonatal outcomes of caesarean section will now be explored.

1.2.2. Neonatal Outcomes of Caesarean Section

There is emerging evidence that there are differences in neonatal physiology including hormonal and bacterial differences in infants born via caesarean section (Sandall et al., 2018). Other possible neonatal outcomes following caesarean section can include impacted immune development, increased likelihood of allergy, asthma, and reduced gut microbiome diversity (Sandall et al., 2018). A systematic review and meta-analysis (Keag et al., 2018) reported that while data are limited, children born via caesarean section had higher incidents of asthma and childhood obesity. A systematic review (Yang & Sun, 2017) demonstrated that the risk of neonatal complications was also higher in emergency caesarean section compared to an elective caesarean section. While there are physical outcomes for both mother and baby, caesarean section also has psychosocial implications for the woman.

1.2.3. Psychosocial Sequelae of Caesarean Section

Caesarean section also has the potential to influence women's psychological and social outcomes due to the unique combination of surgery and childbirth, which both elicit an emotional response (Lobel & DeLuca, 2007).

1.2.3.1. *Women's Satisfaction with Caesarean Section*

A systematic review considering both qualitative and quantitative methods of women's satisfaction and experiences after caesarean section, found that most women were satisfied with their caesarean section, however, a substantial portion of women were dissatisfied (Coates et al., 2020). Emergency caesarean section when compared to vaginal birth showed poorer outcomes in relation to women's experiences and satisfaction, however the relationship is less clear when considering elective caesarean compared with vaginal births (Coates et al., 2020). Interestingly when comparing emergency caesarean section to elective caesarean section, the review found that women who had an elective caesarean section had a more positive birth experience (Coates et al., 2020). Another systematic review found that women's experiences, satisfaction, and self-esteem were also shown to be negatively impacted by emergency caesarean section (Benton et al., 2019). A cross-sectional study comparing planned (non-instrumental vaginal delivery or elective caesarean section) versus unplanned mode of birth (emergency caesarean section and vacuum extraction), found that planned modes of birth, for example elective caesarean section, resulted in a more positive childbirth experience (Handelzalts et al., 2017). A positive evaluation of birth did not differ between those who had a planned vaginal birth compared to those who had a planned caesarean section (Handelzalts et al., 2017). When considering the presented literature, it appears that elective caesarean section is more positively evaluated than emergency caesarean section and is often comparable to planned vaginal birth.

1.2.3.2. *Women's Well-being and Caesarean Section*

Caesarean section has the potential to negatively influence women's psychosocial well-being, although the literature on postpartum depression is mixed. Both a systematic review and meta-analysis of 24 predominantly cohort studies (Carter et al., 2006), and a large prospective cohort study comparing vaginal births to caesarean section (Sword et al., 2011) found that caesarean section was not clearly associated with an increased risk of postpartum depression. Conversely, a more recent systematic literature review and meta-analysis of 32 studies (25 cohort studies and 7 case-control studies) found that postpartum depression was associated with caesarean section (Moameri et al., 2019). The same review found that emergency caesarean section had a higher risk for postpartum depression compared to elective caesarean section (Moameri et al., 2019).

A systematic review examining emergency caesarean sections found that emergency caesarean contributed to post-traumatic stress symptoms and disorder (Benton et al., 2019). A recent prospective cohort study also concluded that women who had an emergency caesarean section compared to those who had an elective caesarean section had higher post-traumatic stress symptom levels and less sense of internal control (Tomsis et al., 2021). The same study reported that a sense of internal control mediated the effect between caesarean section type and development of post-traumatic stress symptoms, concluding that this finding could be explained by the unexpected nature of emergency caesarean sections (Tomsis et al., 2021). A recent systematic review and meta-analysis of 21 studies (Evans et al., 2022) found that health-related quality of life for physical functioning, physical role, vitality and social function was higher after a vaginal birth in comparison to both emergency and elective caesarean section. No significant difference was found for pain, emotional role, mental health, and general health, although scores on these measures were slightly higher after vaginal delivery (Evans et al., 2022). The systematic review investigating women's

psychosocial outcomes after an emergency caesarean section also found that of the two studies investigating health-related quality of life, emergency caesarean section had poorer physical functioning in comparison to other modes of birth (Benton et al., 2019).

1.2.3.3. Other Psychosocial Outcomes and Caesarean Section

The systematic review on emergency caesarean section found infant feeding was impacted by emergency caesarean section with fewer instances of breastfeeding (Benton et al., 2019). Similarly, a recent scoping review of 16 studies from the middle-east found that exclusive breastfeeding was lower in those who had a caesarean section birth (Sodeno et al., 2021). A review of the literature reported that women who had a caesarean section birth had a more negative perception of their birth, negative self-esteem, negative perception of their baby, and poorer parenting behaviours (Lobel & DeLuca, 2007). Additionally, when comparing outcomes based on mode of birth, an observational study found that maternal infant bonding was negatively impacted by emergency caesarean section compared to vaginal birth, but that there was no difference when comparing vaginal birth to elective caesarean section (Zanardo et al., 2016). It appears from the available literature that psychosocial outcomes after an emergency caesarean section are less favourable in comparison to elective caesarean section and vaginal birth.

1.3. Postnatal Length of Hospital Stay

The growing caesarean section rate is coupled with a decreasing length of hospital stay post-caesarean section, which has been noted primarily in high-income countries (AIHW, 2019; Bowers & Cheyne, 2016; Ford et al., 2012). While the length of stay is decreasing there is no agreed-upon definition of an early discharge after childbirth in the literature, with a wide range of lengths of stay categorised as ‘early’ (Jones et al., 2021). More commonly early discharge is defined in terms of that compared to standard care at the

time of comparison, with standard length of stay varying depending on country and health service (Jones et al., 2021).

In Australia, the mean length of postnatal stay in 1991 was 5.3 days after childbirth, and 72.3% of women who gave birth by caesarean section stayed in hospital between 5-8 days (Lancaster et al., 1994). In South Australia, the average length of stay in 1991 was slightly higher at 5.5 days (Lancaster et al., 1994). The most recent AIHW report on women and babies in Australia reported that there was a trend toward shorter postnatal length of stay between 2010 and 2020 (AIHW, 2022a). In 2010 16% of women stayed in hospital less than two days after giving birth compared to 26% in 2020 (AIHW, 2022a). Furthermore, in 2020 the overall median length of postnatal stay nationally, and in South Australia was two days, and the national median length of stay after caesarean section was three days (AIHW, 2022a). The most recent data from South Australia reported the median length of stay in 2019 post-caesarean section was four days, with a shorter median length of stay of three days in the public sector (Pregnancy Outcome Unit, 2022). This trend in declining length of postnatal hospital stays has also been reported in other countries such as Canada, the United Kingdom, and the United States (Jones et al., 2021).

1.3.1. Determinates of an Early Postnatal Discharge

While there is a trend in decreasing length of stay (AIHW, 2022a), the specific mechanisms overtime which have contributed to this reduction are less clear. It appears that in the Australian context, that the specific determinants of this trend have not been fully explored.

Some have suggested that earlier discharges after childbirth are primarily driven by hospital bed pressures and to reduce hospital costs (Benahmed et al., 2017; Fink, 2011; Ford et al., 2012; Goodwin et al., 2018; McLachlan et al., 2009), although the evidence backing

such statements has not been fully supported. While others have suggested that earlier discharge is driven by a movement to ‘de-medicalise’ childbirth, although these statements are more often applied for vaginal birth rather than caesarean section (Benahmed et al., 2017; Goodwin et al., 2018).

Of the available literature, the most compelling reason for the introduction of early discharge programs are women’s preferences to return home sooner. A review by Grullon and Grimes (1997) on women who had an early discharge after vaginal and caesarean section births stated that women discharged early had higher satisfaction with care – but only for women who expressed interest in being discharged early. Randomised control trials from the 1990s demonstrated that women’s satisfaction with early discharge after vaginal birth (Carty & Bradley, 1990) and caesarean section birth was high (Brooten et al., 1994). A Cochrane systematic review from 2002 on early postnatal discharge also concluded that there was a preference for early discharge in the studies that reported on satisfaction (Brown et al., 2002). Moreover a meta-analysis of parenting experiences with early discharge, primarily after vaginal birth, demonstrated that earlier discharge increased parents’ sense of responsibility and family togetherness, but was also simultaneously associated with feelings of insecurity (Nilsson et al., 2015). Others including an Australian qualitative study with hospital consumers found varied enthusiasm for reducing the length of postnatal stay (McLachlan et al., 2009).

Other possible explanations for the reduction in the length of hospital stay, noted in the last 20 or so years, may be due to changes in models of care which facilitate earlier discharge, such as home-based midwifery care from community midwives, increasing outpatient services, and telephone-based follow-up and advice phone numbers (Chen et al., 2018; Coffey & Fitzpatrick, 2011; Cusack & Smith, 2021; McLachlan et al., 2009). An opinion paper from Canada suggested that length of stay post-caesarean section can also be

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attributed to improvements in anaesthetic and surgical management, particularly post-caesarean section (Chen et al., 2018). This is supported by a review of the literature which stated that there have been advances in anaesthetic and surgical techniques for caesarean section which reduce risk of short-term complications (Sandall et al., 2018).

1.3.1.1. *Factors Which Predict a Shorter Length of Stay*

While there is a trend in decreasing postnatal hospitalisation and possible mechanisms explaining this, other research has considered the predictors of earlier discharge primarily in terms of maternal characteristics.

Previous research has demonstrated that there are some maternal characteristics that influence reduced length of stay after childbirth, after both vaginal birth and caesarean sections. A reduced length of stay post birth is more likely for women who are multiparous, in public care, have good social support at home (for example living with a partner), are under 25 years of age, come from a low income background, and those who are non-English speaking (Brown & Lumley, 1997; Shiell et al., 1994). A cross sectional study from Europe on the determinants of length of stay post-caesarean section found those not from the European Union had a longer hospital stay post birth (Cegolon et al., 2020).

The European study also determined that shorter lengths of stay were associated with previous caesarean section, whereas longer length of stay was associated with an increase in medical complications for example pre-eclampsia, pre-term birth and multiple fetuses (Cegolon et al., 2020). A prospective observational study on length of stay following childbirth (vaginal birth and caesarean section) reported that obstetric (e.g. haemorrhage), medical factors (e.g. psychiatric conditions, anaemia), neonatal, and social issues all contributed to an increased length of stay and bed occupancy (Elattar et al., 2008).

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Motivating reasons for women to have a reduced length of stay included not liking hospitals, wanting to be together as a family, and finding the hospital environment disruptive to sleep (Brown & Lumley, 1997). Perceived barriers to a reduced length of stay and wanting to stay in hospital longer included seeing hospital as a place of rest and recovery, and having medical supervision and information, time to develop confidence, and breastfeeding support (Brown & Lumley, 1997; Grullon & Grimes, 1997; Löf et al., 2006; Shiell et al., 1994). Other barriers which contribute to increased length of stay included women's concern about post-caesarean wound care, breast care, body image, fatigue, anxiety, and depression (Brown & Lumley, 1997; Grullon & Grimes, 1997; Löf et al., 2006; Shiell et al., 1994).

A randomised control trial comparing home-based to hospital-based care after vaginal birth, reported that reciprocal patient and healthcare provider 'buy-in' to early discharge has also been suggested as a necessary element to facilitate early discharge (Boulvain et al., 2004). Additionally, a cohort study predicting women's readiness for discharge after vaginal birth or caesarean section found that the perceived quality of education regarding discharge, which included the information, content, and perceived provider knowledge, accounted for 38% of the variance for women's readiness for discharge (Weiss & Lokken, 2009). The same study found that women's perceived readiness for discharge explained 22% of the variance in coping after discharge (Weiss & Lokken, 2009).

Given there is a trend toward earlier hospital discharge, and that this thesis examines a pathway with next-day (early discharge) after elective caesarean section, the available literature on maternal and neonatal outcomes with early discharge following caesarean section will be considered. For the most part, the literature does not differentiate between the types of caesarean section.

1.3.2. Women's Outcomes with an Earlier Discharge after Caesarean Section

Regarding maternal outcomes, earlier postnatal discharge is not associated with an increase in maternal hospital re-admissions or mortality and is considered safe in carefully selected and consenting participants (Grullon & Grimes, 1997; NICE, 2011). A recent Cochrane systematic review of randomised control trials of women and infants who had an early discharge following both caesarean section and vaginal birth showed no difference in maternal re-admission rates (Jones et al., 2021). Of the available randomised control trials which had a next-day discharge (early discharge) compared to standard care after caesarean section, there were no reported increases in maternal re-admission rates or complications, such as infection (Bayoumi et al., 2016; Ghaffari et al., 2021; Tan et al., 2012). A report on enhanced recovery care with next-day discharge after elective caesarean, showed no significant increase in overall maternal or neonatal hospital re-admissions (Cusack et al., 2018; Klaer et al., 2018).

1.3.2.1. *Women's Satisfaction with Early Discharge after Caesarean Section*

Women's satisfaction with reduced length of stay after caesarean section has been described in the literature. Three contemporary randomised control trials found conflicting results regarding satisfaction. One randomised control trial found no difference in women's satisfaction with care between trial arms, that is, day one compared to day two discharge (Tan et al., 2012). A more recent randomised control trial demonstrated no significant difference on satisfaction between the early discharge group and standard care, at day one, and at six weeks postpartum (Ghaffari et al., 2021). In comparison, an earlier randomised control trial which compared early discharge to standard care found improved satisfaction with care in the early discharge group (Brooten et al., 1994).

1.3.2.2. *Other Outcomes Associated with an Early Discharge after Caesarean Section*

The available literature on infant feeding, pain management, and maternal well-being (for example, depression, anxiety) in the context of an early discharge after caesarean section will now be discussed.

A systematic review of early discharge after caesarean section including all modes of birth (vaginal and caesarean section) found no difference for breastfeeding outcomes (Jones et al., 2021). More specifically, two randomised control trials on early discharge after caesarean found conflicting evidence. One randomised control trial found lower rates of breastfeeding in the early discharge group (Bayoumi et al., 2016). In contrast, the other randomised control trial by Tan et al. (2012) found no meaningful difference in breastfeeding outcomes at two and six weeks.

The literature indicated that pain management was an important aspect of the woman's experience. A recent randomised control study comparing day-one (early discharge) to day-two discharge, found there was no impact on pain scores at discharge, day one, or six weeks postpartum (Ghaffari et al., 2021). A service evaluation by Aluri and Wrench (2014) found pain was well managed in an enhanced recovery care group with early discharge. However, difficulties with organising pain relief prescriptions, a lack of information about pain management, and needing better pain follow-up procedures once home were reported in a qualitative study (Kurth et al., 2016) and a published correspondence letter on a health service's experience with early discharge (Christmas et al., 2015).

When considering women's well-being, a number of randomised control trials demonstrated no statistically significant difference on maternal anxiety, depression, functioning, and well-being in women who had a reduced length of stay after caesarean

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section compared to those who did not (Brooten et al., 1994; Tan et al., 2012). However, a randomised control trial by Bayoumi et al. (2016) reported higher rates of depression in the early discharge group, although, clinical cut offs were not reported.

1.3.2.3. Neonatal Outcomes with Early Discharge after Caesarean Section

Two recent systematic reviews have considered neonatal re-admission rates within the context of early discharge. A meta-analysis of 15 randomised control trials comparing early discharge versus standard care showed that infants discharged early, that is, less than 48 hours after vaginal birth and less than 96 hours after caesarean section, were more likely to be re-admitted to hospital within 28 days (Jones et al., 2020). A systematic literature review of 17 studies again showed infants had a slight increase in re-admission rates but that postnatal care including home visiting midwifery varied (Jones et al., 2021).

1.3. Defining Enhanced Recovery Care after Surgery

Enhanced recovery care also known as ‘fast-tracked’ surgery was first discussed in the literature two decades ago in the context of colorectal surgery (Ljungqvist et al., 2017) and is now applied in numerous other surgical contexts such as orthopaedics, gynaecological surgeries, gastrectomy and thoracic (Ljungqvist et al., 2017; Mortensen et al., 2014; Nelson et al., 2016). The concept of ‘enhanced recovery’ developed as there were improvements in pain and anaesthetic procedures that enhanced post-operative recovery by reducing operative stress on the patient (Ljungqvist et al., 2017). Enhanced recovery care can be defined as a process to improve the patient’s post-surgical recovery through several techniques prior to surgery and in the post-surgical care phase (Lucas & Gough, 2013; Patil et al., 2019). Enhanced recovery care includes protocols and guidelines that standardise care and often result in reduced hospital stays (Lucas & Gough, 2013; Patil et al., 2019). Enhanced recovery

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protocols generally have the following elements: application of an evidence-based protocol; multidisciplinary team care; application of approaches to resolve delays in recovery and to reduce complications; and application of audit processes to facilitate change (Ljungqvist et al., 2017). Common improvements to care incorporated into enhanced recovery protocols include pre-operative education and preparation, surgical techniques, anaesthetic, pain management, earlier mobilisation and earlier cessation of fasting (Lucas & Gough, 2013; McNaney, 2011; Patil et al., 2019). Given these improvements in care, earlier discharge home has been a primary outcome for enhanced recovery pathways. Some enhanced recovery models of care include a planned early discharge given patients recovery is 'enhanced'. In the Australian context, there appears to be an evidence-practice gap regarding enhanced recovery care with few examples in the Australian health system. This has partially been surmised to be due to siloed and fragmented care for surgery, lack of incentive for leadership, and lack of government support despite the benefits (Duff, 2020).

1.4.1. The Benefits of Enhanced Recovery Care

Enhanced recovery care protocols have been shown through numerous systematic reviews to reduce lengths of stay, reduce healthcare costs and improve outcomes; including reducing minor and major complications (Ljungqvist et al., 2017; Ljungqvist, Young-Fadok, et al., 2017). A meta-analysis and systematic review of six randomised control trials demonstrated that for colorectal surgery patients enhanced recovery care protocols reduced length of stay (Varadhan et al., 2010). Another meta-analysis of 16 randomised control studies on enhanced recovery care for colorectal surgery demonstrated a reduced patient length of stay by 2.28 days (Greco et al., 2014). Regarding patient related benefits, a meta-analysis and systematic review of 13 randomised control studies demonstrated a reduction in general complications such as cardiac, respiratory and urinary tract infections, and operative

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complications such as wound infection, bleeding, and intra-abdominal abscesses (Zhuang et al., 2013). The meta-analyses reported above (Greco et al., 2014; Varadhan et al., 2010) also demonstrated that enhanced recovery care was associated with a 50-60% reduction in morbidity, and no increase in re-admission rates even with a reduced length of stay.

1.4.1.1. *Patient Experiences and Satisfaction with Enhanced Recovery Care Programs*

Several studies in various clinical settings have considered patient experience of enhanced recovery care. A systematic review of 11 qualitative studies of patients' experiences with enhanced recovery care found that information and communication was critical to their experience, and contributed to feelings of preparedness (Sibbern et al., 2017). Patients also reported needing a sense of security at discharge which was facilitated by information and support from professionals (Sibbern et al., 2017). It has also been noted in two qualitative studies that consistent high quality information before and after surgery can assist with transitioning to home from hospital and assisting patients with feeling prepared for home recovery (Bernard & Foss, 2014a; Gillis et al., 2017; Sibbern et al., 2017). A qualitative study with 16 women who experienced enhanced recovery care after gynaecological surgery, reported that pre-operative information and education increased empowerment and decreased feelings of anxiety (Rydmark Kersley & Berterö, 2021).

The findings from two qualitative studies with patients undergoing enhanced recovery care for colorectal surgery indicated that some patients preferred to recover at home due to reduced risk of infection, less interrupted rest, and the ability to eat and drink preferred food (Bernard & Foss, 2014a; Blazeby et al., 2010). However, while the home environment had positives for comfort and reduced infection risk, patients reported challenges with recovering independently from the hospital setting due to feeling vulnerable at home (Blazeby et al., 2010). Patients from the other qualitative study reported there were also some difficulties at

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home such as balancing feeling unwell and continuing with day-to-day activities. These patients also reported difficulty with relying on social supports (Bernard & Foss, 2014a).

The review also summarised that patients needed to feel motivated for the enhanced recovery care pathway process, however, this was a challenge when experiencing pain, nausea, and feelings of weakness (Sibbern et al., 2017). The review also highlighted a need for balance between addressing challenging symptoms and managing patient expectations for a quicker recovery (Sibbern et al., 2017). Another qualitative study reported that patients felt stressed about enhanced recovery care preparation and post-operative recovery (Gillis et al., 2017). Critically, patients reported that enhanced recovery care pathways required a ‘determined’ mindset, and that having a pre-operative desire to reduce their hospital stay, and having a clear understanding of the enhanced recovery care steps facilitated engagement in the process (Bernard & Foss, 2014a; Gillis et al., 2017). The patients also felt that there was a sense of increased responsibility on them and that they were more active in their recovery process at home (Bernard & Foss, 2014a). None of these reviews or qualitative studies have reported on caesarean section.

1.4.1.2. *Staff Perspectives of Enhanced Recovery Care*

Staff perspectives have been considered regarding enhanced recovery care in other clinical contexts such as colorectal surgery, and orthopaedics. A qualitative paper with healthcare providers showed that staff were generally supportive of an enhanced recovery care program after surgery (Pearsall et al., 2015). A meta-synthesis of eight qualitative studies on healthcare professionals including medical, nursing, and allied health staff regarding their experiences of enhanced recovery after surgery found that staff had a generally positive perspective (Cohen & Goberman-Hill, 2019). A more recently published qualitative study on clinicians working in the perioperative area, align with the findings from

the meta-synthesis as clinicians also reported personally viewing enhanced recovery care positively (Beal et al., 2021). Staff reported that they felt their colleagues and work places also viewed enhanced recovery care in a positive light (Beal et al., 2021). A 2022 scoping review on healthcare providers from a variety of settings stated that healthcare workers generally accept enhanced recovery care (Rosyidah et al., 2022). While generally accepting and holding a positive view of enhanced recovery care, staff identified challenges to acceptance and integration into practice (Cohen & Goberman-Hill, 2019; Rosyidah et al., 2022).

1.5. What are the Challenges of Implementing Enhanced Recovery Care Programs?

While enhanced recovery care and early discharge after caesarean section has benefits to patients there are challenges to implementation and acceptance.

1.5.1. Patient Related Challenges with Implementing Enhanced Recovery Care

A comprehensive systematic literature review on implementing enhanced recovery care in multiple clinical settings found that patient characteristics and demographics are important factors in successful implementation (Stone et al., 2018). Specifically, patients' age, comorbidities, and socio-economic status are thought to impact on the implementation of enhanced recovery care (Stone et al., 2018). Similarly, a qualitative study of healthcare providers suggested that opposing patient personalities, and patient language barriers may also impact on implementation (Martin et al., 2018). Another qualitative study with healthcare providers stated that patients' expectations with recovery presented a challenge (Lyon et al., 2014). That is, if a patient's expectations for recovery were too high, they may not follow the enhanced recovery procedures outlined. Patient pre-operative engagement with

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education was also an important facilitator to supporting implementation of enhanced recovery care (Lyon et al., 2014).

Three qualitative studies of healthcare providers demonstrated that patient comorbidities (including patients' mental health status) were thought to present challenges to implementation of enhanced recovery care (Cohen & Goberman-Hill, 2019; Lyon et al., 2014; Martin et al., 2018). Similarly, a prospective audit of enhanced recovery protocols following colorectal surgery found those discharged early were younger, had fewer comorbidities, and had a more favourable physical status (Keller et al., 2017). Interestingly, patients who had a delayed discharge had a history of prior abdominal operations and had more complicated surgery, for example longer operating times, increased blood loss and required blood transfusion (Keller et al., 2017). Furthermore, patient related operative complications, such as blood loss were also found to increase length of stay in an audit of all laparoscopic colorectal resection enhanced recovery care patients at a single hospital between January 2006 and December 2009 (Boulind et al., 2012). Taking this research together, patient factors including the person's psychosocial context, comorbidities, and complications arising from surgery can impact on enhanced recovery care outcomes.

1.5.2. System Related Challenges with Implementing Enhanced Recovery Care

System factors such as having adequate resources, clinical time and communication impacted on implementing enhanced recovery care pathways. Two qualitative studies on healthcare providers' experiences identified that enhanced recovery programs at their health services were lacking resources, had logistical constraints such as challenges with training staff and lacked effective communication (Martin et al., 2018; Pearsall et al., 2015). Time constraints have been identified in a number of studies including a meta-synthesis of qualitative papers with staff (Cohen & Goberman-Hill, 2019) as one of the main barriers to

implementation of enhanced recovery programs (Beal et al., 2021; Martin et al., 2018; Wang et al., 2022).

Another identified component of successful integration of enhanced recovery programs is the inclusion of quality planning at all stages with measurable outcomes for example length of stay or measuring readmission rates (Salenger et al., 2020). This supports implementation as it facilitates the creation and communication of evidence (Salenger et al., 2020). Similarly, a qualitative study identified that additional resources for implementation, communication and education, a supportive environment and consistency with infrastructure (e.g. templates, data collection and reporting) all influenced the successful implementation of enhanced recovery care in numerous clinical contexts (Gramlich et al., 2020).

1.5.3. Staff Related Challenges with Implementing Enhanced Recovery Care

Healthcare providers contribute to the successful implementation of enhanced recovery care (Lyon et al., 2014). Staff resistance to change and preference for the use of traditional methods have been expressed as a barrier in a number of studies including a systematic review (Stone et al., 2018), a meta-synthesis of qualitative studies (Cohen & Gooberman-Hill, 2019), and other recent qualitative studies (Martin et al., 2018; Pearsall et al., 2015; Wang et al., 2022). Multi-disciplinary collaboration and communication has also been identified as a staff related barrier to implementing enhanced recovery care (Stone et al., 2018; Wang et al., 2022). Leadership from senior staff has also been expressed as a critical element, although several studies found that senior staff were often resistant to enhanced recovery programs compared to their non-senior colleagues (Cohen & Gooberman-Hill, 2019; Gramlich et al., 2020; Herbert et al., 2017; Stone et al., 2018; Wang et al., 2022). While senior staff were more apprehensive due to a reluctance to engage with novel work practices, the systematic review found that a lack of awareness of enhanced recovery

programs was more common among less experienced or junior staff (Cohen & Goberman-Hill, 2019; Stone et al., 2018). This was suggested to be likely due to a deficit in education, experience, and the irregularity of patients completing enhanced recovery pathways (Stone et al., 2018). As a result, non-adherence to enhanced recovery protocols particularly postoperatively, were more likely among the junior cohort (Stone et al., 2018).

1.6. What Supports Implementing Enhanced Recovery Programs?

Facilitators of enhanced recovery care have been identified by several studies including in the meta-synthesis of qualitative papers (Cohen & Goberman-Hill, 2019). Several studies have identified that both effective communication of the evidence-base and staff collaboration support staff with acceptance, and therefore implementation of enhanced recovery care (Cohen & Goberman-Hill, 2019; Herbert et al., 2017; Wang et al., 2022). Critically, education of staff and patients is important to ensure information and knowledge is effectively disseminated (Cohen & Goberman-Hill, 2019). Similarly, a systematic review by Stone and colleagues (2018) reported that education, team communication and partnership would assist with implementation. A qualitative paper also discussed the need for training and suggested a feedback process for encouraging communication to support the integration of enhanced recovery care into the health service (Wang et al., 2022). Similarly, staff in another qualitative study (Lyon et al., 2014) reported the need for an enhanced recovery program co-ordinator to support implementation, this sentiment has been echoed in several other studies where an enhanced recovery ‘champion’ has been considered beneficial in integrating enhanced recovery protocols in various surgical contexts (Cohen & Goberman-Hill, 2019; Gramlich et al., 2020; Salenger et al., 2020).

Healthcare providers have also stated that flexibility, adaptability, and clinical autonomy were important to ensure patients’ needs are met and assisted with staff acceptance

of change, although this was recognised as needing to be balanced with the consistent application of protocols to reduce confusion (Cohen & Gooberman-Hill, 2019; Gramlich et al., 2020; Herbert et al., 2017; Stone et al., 2018). Workplace cultural considerations including, ensuring staff ‘buy in’ and leadership, as well as, the health service allowing time and resources for enhanced recovery care have also been identified as facilitators in numerous studies (Beal et al., 2021; Cohen & Gooberman-Hill, 2019; Gramlich et al., 2020; Stone et al., 2018).

While there is a plethora of research on enhanced recovery care in various clinical settings for example colorectal surgery, orthopaedic, and gynaecology little research has been conducted on caesarean section especially prior to 2018. The limited literature on enhanced recovery care in the context of caesarean section will now be explored.

1.7. Enhanced Recovery Care for Caesarean Section

As introduced in the Preamble, the program of research in this thesis examines the EREC pathway – an enhanced recovery pathway in South Australia which was designed to include a next-day discharge for women and their babies after elective caesarean section (Cusack et al., 2018; Klaer et al., 2018). Before describing this initiative in detail, the following section outlines the literature about enhanced recovery care for caesarean section more generally. Where relevant, previous research conducted about EREC prior to this thesis is highlighted.

In 2013 Lucas and Gough published an editorial calling for the introduction of enhanced recovery processes in obstetric care, specifically after elective caesarean section. They argued that enhanced recovery practices should be considered in obstetric settings as the cohort is generally young, fit, and healthy; health services often have elements of enhanced recovery care already implemented; there is potential to improve patient safety, and

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reduce pressure on the maternity system, with potential financial advantages. They outlined that one main benefit of enhanced recovery protocols post-caesarean section for patients and the system was the potential to reduce length of stay as seen in other clinical settings (Lucas & Gough, 2013). They also proposed that, based on previous research on early discharge (Brown et al., 2002), enhanced recovery care has the potential to improve psychosocial outcomes and improve the experience of women, as it de-medicalises caesarean section birth, and has the potential to improve the postnatal experience, and reduce infection rates (Lucas & Gough, 2013). Others have also argued that applying enhanced recovery care to caesarean section is pragmatic, given that there is often a need for rapid recovery and return to normal functioning, as there is an expectation that within days, women are providing care to themselves, an infant, and returning to usual daily living (Sorabella & Bauchat, 2021).

1.7.1. Defining Enhanced Recovery Care for Caesarean Section

There have been several publications outlining the protocol and guidelines of enhanced recovery care for caesarean section. Below is a summary of the common enhanced recovery protocol elements for the pre-operative, intraoperative and post-operative phases, outlined in a recent review published by the Society for Obstetric Anaesthesia and Perinatology (SOAP) committee (Bollag et al., 2021; Sorabella & Bauchat, 2021) and the Enhanced Recovery after Surgery (ERAS) Society (Caughey et al., 2018; Macones et al., 2019; Wilson et al., 2018).

The suggested pre-operative elements of enhanced recovery protocols for caesarean section include general antenatal education, breastfeeding education; and preparation, including medication and bowel care. Just prior to surgery elements of enhanced recovery can include insuring haemoglobin levels are optimised, there is a reduced fasting period, and

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use of carbohydrate drinks (Bollag et al., 2021; Sorabella & Bauchat, 2021; Wilson et al., 2018).

Intraoperative elements include prevention of spinal anaesthesia complications such as hypotension; maintaining normal body temperature; use of an uterotonic (a pharmacological technique to control uterus contractions and tone); pre-emptive antibiotic administration; nausea prevention, and pain management. Soon after birth breastfeeding and mother-infant bonding including skin-to-skin are promoted, the use of intravenous fluids are optimised, and umbilical cord clamping is delayed (Bollag et al., 2021; Caughey et al., 2018; Sorabella & Bauchat, 2021).

Post-operative protocols include earlier cessation of fasting: both oral intake of fluids and regular diet; chewing gum; earlier mobilisation; periods of maternal rest; prevention of nausea and vomiting; earlier urinary catheter removal; venous thromboembolism prevention; anaemia remediation; pain management; breastfeeding support; glycaemic control; promotion of bowel function; discharge counselling; and importantly facilitated early hospital discharge (Bollag et al., 2021; Macones et al., 2019; Sorabella & Bauchat, 2021; Sultan et al., 2020).

A rapid review of five protocols (Corso et al., 2017) as well as a more recent systematic review including ten protocols on enhanced recovery for caesarean section (Ilyas et al., 2019) demonstrated that early cessation of fasting was the only consistently reported feature of such protocols, and that early catheter removal and early mobilisation were the second most common features. A meta-analysis of 12 studies demonstrated that the most effectively implemented elements of enhanced recovery protocols were those of earlier mobilisation and earlier catheter removal (Sultan et al., 2021). While patient preparation, for example antenatal education, has been defined as a key feature of enhanced recovery care for caesarean section, the rapid review (Corso et al., 2017) reported that patient education was common, but not a consistently reported feature of available protocols. Subsequently the

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systematic review of ten studies (Ilyas et al., 2019) reported that patient education was an important component, with half of the reported protocols including patient education and four including some type of written information. Pain management is also a common but inconsistently reported feature of enhanced recovery care for caesarean section (Corso et al., 2017) with three out of ten papers included in the review (Ilyas et al., 2019) reporting regular post-operative analgesia.

1.7.2. Enhanced Recovery Care for Caesarean Section and Length of Stay

Enhanced recovery care for caesarean section has consistently been shown to reduce the length of hospital stay (Corso et al., 2017; Fay et al., 2019). A more recent systematic review (Sultan et al., 2020) and meta-analysis (Sultan et al., 2021) of mostly cohort studies comparing enhanced recovery protocols for caesarean section to standard care found that there was a reduction in length of stay. In contrast a pre-post evaluation study (Hedderson et al., 2019) included in the 2020 systematic literature review (Sultan et al., 2020) found no significant changes to length of stay. While they reported that hospital length of stay did not reduce, they explained this may be due to regulatory guidelines in the United States which mandate length of stay to 96 hours after caesarean section (Hedderson et al., 2019). In line with the findings of the review (Sultan et al., 2021), a recent small pilot study with a prospective cohort design comparing 27 women who had enhanced recovery care for caesarean section to standard care (without enhanced recovery), found a reduced length of stay (Mangala et al., 2021). Additionally, a comparative study with a pre- and post-intervention design (MacGregor et al., 2021) also demonstrated a decreased length of stay in the post-intervention (enhanced recovery) cohort.

Health services, with enhanced recovery care for caesarean section initiatives, have shown an increase in the number of women and babies who are discharged the next day after

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caesarean section (Bowden et al., 2019; Wrench et al., 2015). Early examples of this is a 2015 service evaluation of an enhanced recovery pathway for caesarean section from the United Kingdom which demonstrated that enhanced recovery care was associated with an increase in next-day discharges (Wrench et al., 2015). The number of women discharged on day one increased at the health service from 1.6% in 2012 to 25.2% in 2014 (Wrench et al., 2015). Additionally a 2019 evaluation and audit of an enhanced recovery pathway found that between October 2015 and April 2016, 76.2% of women who experienced enhanced recovery care were discharged on day one, with a reduction in overall length of stay at their health service (Bowden et al., 2019).

1.7.3. Outcomes Associated with Enhanced Recovery Care for Caesarean Section

1.7.3.1. *Women's Hospital Re-admission Rates and Complications Associated with Enhanced Recovery Care for Caesarean Section*

Enhanced recovery care for caesarean section has not been associated with an increase in re-admission rates, despite reducing the length of stay as demonstrated above (Corso et al., 2017; Fay et al., 2019). The recently published systematic review (Sultan et al., 2020) and meta-analysis (Sultan et al., 2021), comparing enhanced recovery protocols to standard care, found that while the grade of evidence was low, enhanced recovery care did not increase re-admission rates. A previous report assessing the safety of the EREC pathway showed no significant differences in overall maternal or neonatal hospital re-admissions. When comparing the re-admission rates between women assessed as retrospectively eligible in 2015 (that is, prior to EREC when there was no enhanced recovery pathway) and the first enhanced recovery care cohort in 2016, the total number of re-admissions relating to birth complications were minimal (Cusack et al., 2018; Klaer et al., 2018). In fact, re-admission rates for the enhanced recovery care cohort were similar to those at another local health

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service with no enhanced recovery care for caesarean section (Cusack et al., 2018; Klaer et al., 2018).

Regarding complications, a study investigating enhanced recovery care, pre- and post-implementation, showed no significant changes in surgical site infections (Hedderston et al., 2019). Another recent pre-post intervention study showed lower infection rates following caesarean section from 11.8% pre- intervention to 5.3% post- the implementation of the enhanced recovery care intervention (Birchall et al., 2022).

1.7.3.2. Pain Management with Programs of Enhanced Recovery Care for Caesarean Section

Importantly, a systematic literature review and meta-analysis of predominately cohort studies found that enhanced recovery programs reduce opioid consumption and other analgesia used during admission and after discharge (Sultan et al., 2020, 2021). A small pilot cohort study found a decreased reliance on pain relief in women who had enhanced recovery care for caesarean section (Mangala et al., 2021). A recent cohort study (McCoy et al., 2021) and comparative study pre- and post-intervention (MacGregor et al., 2021) both showed a decrease in post-operative opioid use, and improved pain scores. Another study found a significant decrease in opioid use in the post-intervention cohort, but an increase in nonsteroidal anti-inflammatory drugs (Birchall et al., 2022).

1.7.3.3. Infant Feeding with Programs of Enhanced Recovery Care for Caesarean Section

A few studies have considered breastfeeding outcomes associated with enhanced recovery pathways for caesarean section (Sultan et al., 2020). A randomised control trial showed that women in the enhanced recovery care group compared to standard care had higher rates of breastfeeding at discharge (67.2% vs. 48.3%) (Teigen et al., 2019). A recent cohort study also found that breastfeeding outcomes improved with the introduction of

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enhanced recovery programs, although this was measured using a binary (yes/no) measure conducted just prior to discharge (Chiao et al., 2022). Furthermore, an audit showed no clear adverse effects on breastfeeding outcomes with the introduction of an enhanced recovery program (Bowden et al., 2019).

1.7.3.4. *Women's Satisfaction with Programs of Enhanced Recovery Care for Caesarean Section*

While the above review shows there is no indication of patient harm, and some benefits from the introduction of enhanced recovery programs, it is important to understand women's satisfaction with enhanced recovery care. At the time of commencing this thesis (2018) there was one published study (Laronche et al., 2017) which included women's satisfaction. This multi-site study, which compared two sites with enhanced recovery care to one site without enhanced recovery care, found that satisfaction was higher at the sites with enhanced recovery care at day one; however, statistical significance was not reported. At this time, there were no qualitative studies which discussed patient satisfaction, or experiences with enhanced recovery care after caesarean section. Since 2019 there have been some studies which have investigated patient satisfaction. A systematic review (Sultan et al., 2020) showed that satisfaction was inconsistently reported, with low-grade evidence from the three studies included. Of the available evidence in the systematic review, two studies including the Laronche et al. (2017) paper and an audit study (Bowden et al., 2019) showed that enhanced recovery care for caesarean section improved satisfaction. In contrast, a randomised control trial showed no significant difference in satisfaction between trial arms (Teigen et al., 2019). None have investigated enhanced recovery care satisfaction in depth or with qualitative methods indicating a gap in the literature.

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1.7.3.5. *Neonatal Outcomes with Enhanced Recovery for Caesarean Section Programs*

Little research has been conducted on neonatal outcomes associated with enhanced recovery care for caesarean section. A recent retrospective cohort study comparing neonatal complications before and after the introduction of an enhanced recovery protocol, found that neonatal complications were significantly less in the enhanced recovery care cohort (33%) versus the non-enhanced recovery care group (47.4%). Specifically, the cohort study found there was a reduction in incidence of neonatal hypoglycaemia and jaundice (Chiao et al., 2022). The same study found that there were no differences in neonatal length of stay, neonatal intensive care unit admission, or 30-day re-admission rates.

1.7.3.6. *Financial Benefits of Enhanced Recovery Programs after Caesarean Sections*

A systematic review showed that the introduction of enhanced recovery programs had economic benefits (Sultan et al., 2020). A meta-analysis reported that of the three papers which included financial outcomes, enhanced recovery programs appeared to reduce costs per caesarean section, although a meta-analysis on this variable was unable to be completed (Sultan et al., 2021). Three observational studies with varying designs (Bowden et al., 2019; Fay et al., 2019; Mullman et al., 2020) and a randomised control trial (Pan et al., 2020) all demonstrated a reduction in costs associated with enhanced recovery for caesarean section programs. However, none of these studies had home follow up or included post-discharge costs. A report published on the EREC pathway showed that there was a net saving of 100 Australian Dollars in 2016 which included costings for home visiting midwives (Cusack et al., 2018; Klaer et al., 2018).

1.7.3.7. *Staff Perspectives of Enhanced Recovery for Caesarean Section Programs*

There is little or no literature on healthcare providers' perceptions and experiences with enhanced recovery pathways for caesarean section programs. One inaugural study from

the United Kingdom of 158 lead obstetric anaesthetists reported that 96% of clinicians supported enhanced recovery care for obstetric surgery (Aluri & Wrench, 2014). However, 36% of clinicians needed more evidence to support the proposition of there being a benefit of enhanced recovery care after caesarean section (Aluri & Wrench, 2014). A recent scoping review of the literature identified four papers of a quantitative nature (Rosyidah et al., 2021). The review showed that the literature is limited to anaesthesiologists and obstetricians, calling for more research into other healthcare workers from the enhanced recovery care team including midwives, nursing staff and other health professionals (Rosyidah et al., 2021). The review (Rosyidah et al., 2021) indicated there was support from clinicians, although, ‘support’ was defined as clinician adherence to protocols and/or the integration of protocols into practice, rather than staff views of enhanced recovery care for caesarean section. The authors of the review concluded there was a need for more evidence, as the available literature does not fully explore staff perspectives of enhanced recovery care for caesarean section (Rosyidah et al., 2021). This indicated a significant gap in the literature.

1.8. Thesis Aim and Gaps in the Literature

In summary, the evidence-base for enhanced recovery care for caesarean section indicates no consistent findings of negative maternal and neonatal outcomes, and indeed some benefits such as: lower infection rates; reduced opioid consumption and improved pain scores; benefits for breastfeeding, and improved health service costs. At the same time, in order for such pathways to be more broadly and sustainably implemented globally; and in Australia, some key questions need to be addressed.

This program of research used multiple methods to better understand enhanced recovery care with next-day discharge after elective caesarean section. It examined the issue

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in the context of the first Australian initiative of its type, with a longer-term view to informing the development of similar programs in the future.

To achieve this, three key gaps in the literature are addressed: 1) The lack of research synthesising the psychosocial outcomes and experiences of women; 2) The lack of literature, particularly qualitative, on women's experiences; 3) The lack of literature on staff experiences; and perspectives on enhanced recovery care particularly using in-depth qualitative methods. In addition to these gaps in the literature, this thesis responds to early impressions from staff at the Northern Adelaide Local Health Network described in Chapter 2, section 2.3.

The following Chapter (Chapter 2) will outline the research context, and where necessary, additional methodology.

Chapter 2: Study Setting and Study Design

Preamble

This Chapter will begin by describing the health service where this research work is located. Next, a detailed description of the *Enhanced Recovery after Elective Caesarean Section* pathway also referred to as the EREC pathway will be presented. Then an overview of the consultation process taken in co-designing the research program is outlined and the explicit research questions developed for this thesis are then presented in relation to the gaps in knowledge identified in Chapter 1 and from discussions with end-users from the Northern Adelaide Local Health Network (NALHN). This chapter also includes an overview of theoretical considerations and the methodological approach taken, as well as a discussion of the study designs of the four papers (Chapter 3-6) included in this dissertation. Where necessary, this Chapter will expand on the methodological approach taken where it has not been expanded on in the relevant Chapter.

2.1. Study Setting

2.1.1. The Health Service

NALHN is a large local health service in the Northern and North-Eastern suburbs of Adelaide, South Australia (SA Health, 2023a). As part of the state's publicly funded health system, NALHN services more than 400,000 people and has approximately 5,000 staff members (SA Health, 2023c). NALHN primarily consists of two hospital sites, a number of small community services (for example, mental health clinics and outpatient clinics), and home-based services. This research was conducted at the two hospital sites: the Lyell McEwin Hospital (LMH; Site 1) and Modbury Hospital (Site 2); see Figure 1. for a map of the health network and site locations. The health service catchment is predominately a middle and lower socioeconomic area (Australian Bureau of Statistics, 2018). NALHN also services

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patients who are outside the catchment, including those from rural and remote areas if there is a clinical need.

2.1.1.1. The Lyell McEwin Hospital (LMH)

The LMH is one of three major tertiary hospitals in Adelaide and provides care for complex obstetric, medical, surgical, diagnostic, and support services for those residing in Adelaide's Northern suburbs (SA Health, 2023c).

Regarding the maternity services at LMH, there is an antenatal clinic which provides a range of models of care including a 'midwifery-led model' which is typically for low-risk pregnancies involving a planned low intervention birth, 'group practice' which is a small team of midwives providing continuity of care by providing choice for either home or hospital antenatal care, and or, birth. 'Shared care' where antenatal care is shared with a community general practitioner and staff at the hospital, and a 'Medical care pathway' where women's care is primarily provided by obstetricians with the assistance of midwives at the health service. There are also various specialist models of care such as Northern Aboriginal Birthing Program, Diabetes Antenatal Care and Education, and the Enhanced Recovery after Elective Caesarean model of care. At the LMH intrapartum care is also available including caesarean sections, high-risk and low-risk labour wards, and a postnatal recovery ward. The LMH also runs a community home visiting midwifery service for postnatal care.

2.1.1.2. Modbury Hospital

Modbury Hospital, is a small, acute care, teaching hospital which provides inpatient, outpatient, and emergency services in Adelaide's north-eastern suburbs (SA Health, 2023b). Maternity services at Modbury Hospital include antenatal care only. Women receiving their antenatal care at Modbury Hospital go to the LMH for birthing and recovery.

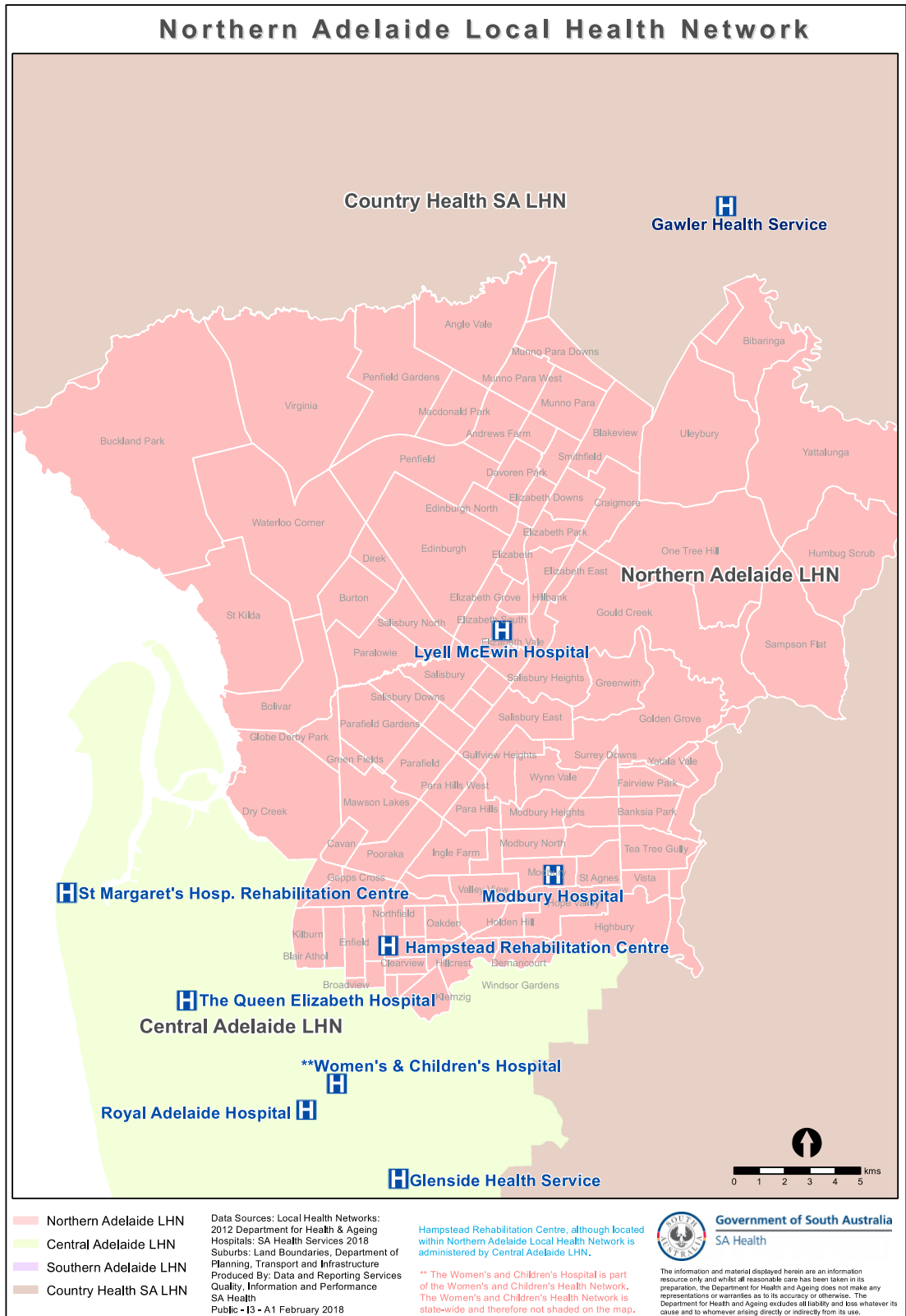


Figure 1 Map of NALHN downloaded on 2/3/23 from: https://www.sahealth.sa.gov.au/wps/wcm/connect/ce8ac9804a475b878c12ec7633bbffe0/LHN_NALHN.pdf?MOD=AJPERES

2.2. The Enhanced Recovery after Elective Caesarean Section Pathway (EREC)

As discussed earlier, this thesis examines an enhanced recovery care pathway for elective caesarean section which includes next-day (early) discharge. This model of care is called the EREC pathway. This model of care was first introduced at the health service in 2015 and implementation was established in 2016. The introduction and implementation was midwifery-led, meaning that it was developed by midwives in consultation with the Head of Obstetrics and Gynaecology at the health service. Enhanced recovery care was initiated by midwives based on the literature, and from consultation with consumers who had recently had an elective caesarean section. The pathway itself is also midwifery-led in terms of education and discharge.

2.2.1. Eligibility Criteria

Women having an elective caesarean section are screened for eligibility, usually at the first triage visit in the antenatal clinic. To be eligible for the EREC pathway, women must be planning an elective caesarean section and have no significant obstetric complications or comorbidities, including no significant mental health concerns which would require additional observation and investigation post-operatively. Women must have a support person available at home after caesarean section, and be living in the community midwifery catchment area of the NALHN health service as outlined in pink on Figure 1 of this Chapter. More specific exclusion criteria include: a history of deep vein thrombosis, pulmonary emboli, or substance misuse. Exclusion criteria also include women who have transient housing, physical or intellectual disability, domestic violence, involved with social services, and first-time mothers. The EREC pathway is standard care for women who meet the

eligibility criteria, and these women are automatically included on this model of care and only 'opted-out' if they no longer meet the criteria.

2.2.2. Antenatal Education

In conjunction with usual care, at the first triage visit, eligible women are introduced to the EREC pathway and are provided with introductory information by either a midwife or medical officer. Antenatal education is midwifery-led and women are initially provided with a package of written and pictorial information on topics such as being fit for surgery, pain relief, mobilisation, breastfeeding, bowel care, and wound care. Women are encouraged to ask questions at this appointment and at additional follow-up appointments prior to their caesarean section. An additional midwifery-led appointment is planned during the antenatal period to discuss the information package and further discuss preparation for discharge. Topics include what to expect post-operatively, what to prepare at home, discussion, and planning social supports, and what community supports are available (for example, home midwifery). There is an option for further discussion in subsequent antenatal appointments if needed.

2.2.3. The Hospital Stay

The woman's caesarean section is scheduled in the morning. Post-caesarean section breastfeeding in recovery is encouraged, analgesia provided, and women are encouraged to chew gum and increase fluid intake. Enhanced recovery care is started in the early evening on the same day as the caesarean section and includes cessation of fasting, mobilising, showering, urinary catheter removal, and trial of void. Pharmacy prepares medications for home, and also provide one-to-one counselling for women prior to discharge. If required, a carer's certificate is organised for the woman's support person. Women have one night in hospital; their partners and other family members are unable to stay the night as per hospital

policy. On day two, approximately 24-36 hours post-caesarean section, women are transitioned home provided they meet discharge criteria.

2.2.4. Discharge Criteria

Discharge home the next-day is criteria-led and completed by a midwife. To be eligible for next-day discharge women's pain must be controlled, blood pressure must be 90-150 / 60-90, pulse rate between 60-100 beats per minute, oxygen saturation be equal to or above 97%, and temperature below 37.5 degrees Celsius. Women must not have had significant blood loss (defined as equal to or less than 1000 millilitres of combined intra and post-operative blood loss) and be asymptomatic of anaemia; bleeding must be controlled at the wound site and the dressing intact for eight hours. The intravenous cannula must be removed with nil abnormalities, women must be tolerating food and fluids, have a sufficient urinary output, be able to mobilise and able to feed the baby. Paediatric checks must be completed, and medications and information be given prior to discharge. The women's psychosocial situation is re-checked to ensure it does not contradict discharge, including additional checks to ensure there is adult support at home. Women can also request a review by a medical officer. If criteria are not met, women are required to receive a medical review and a revised discharge plan is created.

2.2.5. Postnatal Care

One of the key elements of the EREC pathway is the transition of care from the hospital to the home. Once home, the community midwife visits for approximately five days post-discharge and women are offered a Mothercarer for additional home support.

The first midwifery visit is scheduled the day after discharge. This visit provides usual postnatal assessment, observations and care, including an assessment of the woman's

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wound, bowel function, pain management and observation for deep vein thrombosis and/or pulmonary embolism. There is also a review of infant feeding, if the woman is breastfeeding or planning to breastfeed, the midwife will view a feed. Neonatal screening and assessment including checks for infant weight, jaundice, gastrointestinal obstructions, and other necessary screenings are completed. The following day, there is a check-in phone call from a midwife and an additional two face-to-face home-visits are scheduled. It is generally anticipated that most women will be discharged from the home visiting midwifery service at post-discharge day 4, however, visits can continue depending on the needs of both the woman and infant.

In addition to the home visiting midwifery service, women have the option to request the services of a Mothercarer for several hours a day (5-6 hours) for approximately four days after discharge home. Mothercarers provide women with practical and emotional support. The Mothercarer role can include assistance with infant care such as education on bathing, sleep, and breastfeeding, as well as, other practical jobs such as childcare and light housework. Practical jobs can include doing the dishes, vacuuming, preparing meals, and shopping (Cusack et al., 2018; Zadoroznyj, 2007). It appears Mothercarers are a unique service to NALHN and were first introduced in Australia at the LMH in a pilot program developed from the Netherlands and UK (Australian Nursing & Midwifery Federation, 2004; Zadoroznyj, 2007).

2.3. Co-design with End-users

In addition to the methodological and literature gaps outlined in Chapter 1, this research program also took a pragmatic, end-user driven approach to address the research aim. Including end-users in the co-design of research is increasingly valued and proponents suggest that health research is limited in its applicability and relevance to end-users such as

patients and clinicians without the inclusion of a co-design process (Slattery et al., 2020). Indeed, research without consultation may result in a ‘gap’ in priorities between the researchers and those of the clinicians and patients (Slattery et al., 2020). Developing areas of research and specific research questions with a pragmatic end-user focus can increase the utility of the research work. There are many definitions of co-design in the literature, however, a general definition is meaningful end-user collaboration in research design that includes engagement at all stages of the research process (Slattery et al., 2020).

In 2018 when developing this research project, meetings were held with both the EREC Working Group, which consisted of midwives, obstetricians, hospital administrators, and researchers, and the Midwifery Advisory Group, which consisted of a number of senior midwives at the health service. Consultation with both groups was aimed at shaping the research questions and developing an appropriate methodology and study design.

The EREC Working Group identified that one of their main outcomes of interest was to facilitate an early transition home for women on the EREC pathway. The Working Group shared preliminary data collected in 2016 from the first cohort of women on the EREC pathway, revealing that nearly half (47%) were taken off the pathway and did not go home the next day for reasons that were unknown. This figure did not include documented reasons for an extended hospital stay such as postpartum haemorrhage or emergency caesarean sections. Furthermore, anecdotal evidence from midwives in 2018 suggested that the trend of women staying in hospital longer than anticipated was still ongoing. This further strengthened the Working Group’s concern and motivated their interest in understanding the cohort of women on the EREC pathway and the reasons why women were not going home the next day as planned. The Working Group hypothesised that the anticipated high number of women staying in hospital longer may be due to psychosocial reasons based on additional

anecdotal evidence, and that NALHN services an area with relatively high levels of socioeconomic disadvantage (Australian Bureau of Statistics, 2018). This consultation process resulted in a number of research questions (See Table 1.).

To refine the research program questions, methodology, and research design, additional face-to-face consultation occurred with the Head of Nursing and Midwifery at the health service and the Midwifery Advisory Group. Prior to conducting the research, a brief research proposal summarising the research plan was circulated to the Head of Nursing and Midwifery and the Midwifery Advisory Group. The Midwifery Advisory Group also assisted in establishing a relationship between the PhD candidate and the midwives at the health service, which assisted in establishing the research program at the two hospital sites, and with the day-to-day running of the project. An additional meeting was held to share preliminary findings with the Head of Nursing and Midwifery at the health service.

2.4. Thesis Aims and Research Questions

To recap, the overarching aim of this thesis is to better understand enhanced recovery care with next-day discharge after elective caesarean section, to inform the future development of similar models of care. To achieve this, a number of gaps in the literature were identified, including the lack of research reviewing the psychosocial outcomes and experiences of women who have a reduced length of hospital stay after caesarean section; the lack of literature on women's experiences with enhanced recovery care and a reduced length of stay, particularly using qualitative methods; and the lacking literature on staff experiences with, and perspectives on, enhanced recovery care particularly using in-depth qualitative methods. Finally, driven by concerns from the health service as outlined above, there was also a need to better understand the cohort of women on the EREC pathway, to enumerate the percentage of women who did not complete the pathway, and to understand the reasons why

some women stayed in hospital longer than expected. This led to the development of six research questions (see Table 1.).

Table 1

Research questions based on gaps in knowledge and from end-user consultation

-
- 1) To synthesise the literature on women's experiences and psychosocial outcomes (including infant feeding and pain) associated with a reduced length of stay after caesarean section.
 - 2) To understand from the woman's perspective, their experiences with enhanced recovery care after elective caesarean section and the associated next-day discharge.
 - 3) To enumerate the percentage of women assessed as eligible for EREC who subsequently did not complete EREC (next-day discharge) and to understand the reasons why.
 - 4) To describe women's antenatal satisfaction with preparation for EREC, preferences for postnatal care, and perception of support for EREC by hospital staff and family.
 - 5) To explore the antenatal biopsychosocial characteristics of women assessed as eligible for EREC with the view of identifying patient-related antenatal predictors of EREC completion.
 - 6) To understand staff experiences with, and perspectives on, enhanced recovery care after caesarean section with next-day discharge.
-

2.5. Overview of Study Design and Additional Research Methodology

2.5.1. Theoretical Considerations

While there are a variety of theoretical frameworks available to investigate the thesis aims (given this work explores a novel research area) a pragmatic approach was embraced rather than being constrained by one single theoretical framework. While largely non-theoretical, this work is informed by the biopsychosocial model (Engel, 1977). Briefly, the biopsychosocial model incorporates a biological, psychological, and social perspective to health and illness and takes a whole person perspective for research and patient care (Suls & Rothman, 2004). This is contrasted to the biomedical model of health, which generally focuses on biological or somatic considerations (Engel, 1977, 1980; Suls & Rothman, 2004). The biopsychosocial model is particularly relevant to maternity care as it encompasses the complexity of the experience and looks beyond biology, taking into account psychosocial considerations such as mental health, stressors, socioeconomic context, and social supports (Edozien, 2015).

While the biopsychosocial model is a common and well-established model for understanding health and well-being, its limitations will now be explored. One critique is that while the biopsychosocial model is taught to practitioners and used widely in research, there are gaps in its conceptual and practical applications. Given this, the model often acts as a descriptive model rather than a tool for treatment (Card, 2022). Other challenges are a tendency for the model to be thought of and applied as three separate entities: biology, psychology, and social context; when they are related, intertwined, and complex (Rowe, 2016). In so doing, treatment options or changes to practice are similarly applied in a discreet manner (Rowe, 2016). While the model itself does not advocate for a nested approach, it's frequent application in this way speaks to a broader issue of 'ambiguity' in its application.

Other critiques relate to the scientific rigor of the model, suggesting that it lacks explanatory and predictive applicability (McLaren, 1998). In summary, while there are some critiques, the biopsychosocial model is useful for framing and developing holistic health research and has guided this research.

2.5.2. Multiple Methods

This research program used multiple methods, also referred to as a multi-methods research design. Multiple methods are broadly defined as applying multiple methodologies to answer a research question or explore a topic (Brewer & Hunter, 2006). Mixed methods are often distinguished from multiple methods research as the former is often defined as combining approaches generally using a qualitative and quantitative design in a single study, whereas, multiple methods are independent studies applying different approaches on the same topic or research aim (Hesse-Biber, 2015). This approach is preferred as it applies the most appropriate study design for the research question, instead of applying a pre-defined method based on the perceived value of one methodological approach over another (Brewer & Hunter, 2006). One of the main benefits of multiple methods research is that by combining methods, the limitations of one approach are compensated for, and an understanding of the research aims and questions across data types allows for a more nuanced perspective (Brewer & Hunter, 2006; Hesse-Biber, 2015). This approach has benefits for exploratory research as it increases confidence in the findings, and also accounts for pragmatic considerations with conducting research (Hesse-Biber, 2015). This approach has become increasingly common in fields such as nursing, public health, and psychology (Frost & Shaw, 2015; Schwandt et al., 2015). Four independent studies were conducted to answer the research aim and the six research questions, taking into account literature gaps, methodological gaps, and the concerns

of end-users. The following study designs were applied: A systematic literature review, two qualitative studies, and a prospective cohort study.

2.5.2.1. Study 1: A Systematic Literature Review (Chapter 3)

To synthesise the literature on women's experiences and psychosocial outcomes (including infant feeding and pain) associated with a reduced length of stay after caesarean section a systematic literature review was chosen. Systematic literature reviews are a rigorous research methodology for synthesising the evidence of multiple studies (Higgins & Green, 2011). The systematic literature review took a mixed methods approach, meaning it did not restrict inclusion criteria based on one study design, and data were presented in a narrative synthesis grouped under themes. A systematic review protocol (Appendix A) was conducted prior to the start of the systematic review to ensure transparency with the review process. More specific details of the methodology are outlined in Chapter 3. The systematic literature review was developed in-line with the biopsychosocial model as described above (Engel, 1977). Previous literature has primarily focused on biomedical considerations such as readmission rates, which are critical, but lacking a holistic perspective. Considering the psychological and social implications of reduced length of stay following caesarean section, it is imperative for understanding the overall impact of reduced length of stay on women. The biopsychosocial model also informed the types of psychosocial measures included for review. For example, the review was open to a broad definition of the psychosocial component and included aspects of pain and infant feeding (Coons, 2013; Lobel & DeLuca, 2007).

2.5.2.2. Study 2: A Qualitative study with Women (Chapter 4)

To understand, from the woman's perspective, their experiences with enhanced recovery care after elective caesarean section and the associated next-day discharge, an

exploratory qualitative study with women on the EREC pathway, who had a next-day discharge, was conducted using pre-existing interviews completed in 2016. These interviews were also pre-analysed using thematic analysis (Braun & Clarke, 2006). Given the lack of literature, as identified in Chapter 1, and the lack of qualitative studies on women who had a reduced length of stay after a caesarean section, (as revealed in the systematic literature review (Chapter 3)), there was a need to collate and publish this work to increase the evidence-base for the wider research and healthcare community. Considering that this work is guided by the biopsychosocial model, the inclusion of women's experiences and perspectives strengthens the need to publish the qualitative evidence. The PhD candidate's role in this work was to prepare the manuscript for publication including a review of literature, writing of the paper and additional analysis of the data in writing the discussion. The findings from the qualitative study with women on the EREC pathway also informed the development of future research ideas and directions. Additional methodology is presented in Chapter 4.

2.5.2.3. Study 3: A Prospective Cohort Study (Chapter 5)

An exploratory prospective cohort study design was chosen to answer the following research questions: to enumerate the percentage of women assessed as eligible for EREC who subsequently did not complete EREC (next-day discharge) and to understand the reasons why; to describe women's antenatal satisfaction with preparation for EREC, preferences for postnatal care, and perception of support for EREC by hospital staff and family; and to explore the antenatal biopsychosocial characteristics of women assessed as eligible for EREC with the view of identifying patient-related antenatal predictors of completing the EREC pathway. This study is informed by the biopsychosocial model in several ways. Firstly, it considers a wide range of possibilities for additional length of stay including psychological, social, and biomedical reasons. Additionally, the biopsychosocial model informed the types

of questions included in the antenatal questionnaire (explored in more detail below and in Chapter 5).

Observational studies are a useful research tool for examining the characteristics of a single group of people, to observe the trend or occurrence of an outcome, and/or evaluate risk factors of an outcome over time. Prospective cohort studies are a type of observational study where the outcome of interest has not yet occurred (completing the EREC pathway) in a defined group of people (eligible for the EREC pathway) or population (Hackshaw, 2015; Rees, 2016). They are a particularly useful design for investigating an outcome, disease, or condition as they would occur without intervention, where an intervention or an experimental design is unethical or not feasible, and for identifying risk factors and predictors of an outcome (Hackshaw, 2015; Rees, 2016). Given this, a prospective cohort study was most appropriate for answering the research questions of interest. Moreover, there was no appropriate comparator, given all eligible women are exposed to the EREC pathway as it is standard care.

Briefly, the participants in this study are from a separate cohort to the 2016 qualitative study as described in section 2.5.2.2. This study included a cohort of consenting women from 2019 on the EREC pathway who were recruited and surveyed at baseline using a biopsychosocial questionnaire (Appendix B) which included questions relating to the woman's demographics, relevant obstetric history, depression, anxiety, stress, quality of life, overall health, and social support. The questionnaire also included questions relating to antenatal satisfaction with preparation for EREC, preferences for postnatal care, and perceptions of support for EREC by staff and family.

Consenting women were then followed-up in the postnatal period to determine if they completed the EREC pathway – defined as having had an elective caesarean section and being discharged home 24-36 hours after birth (next-day discharge). Study materials

including a flyer, invitation letter, an information sheet and consent form are provided in Appendix C. Additional information on the development of the biopsychosocial questionnaire are provided below and additional details regarding the specific procedure of the cohort study are provided in Chapter 5.

2.5.2.3.1. Questionnaire Design

Taking a biopsychosocial perspective in consultation with the EREC Working Group and Midwifery Advisory Group, a questionnaire using primarily validated measures, prioritising readability, and length was planned. Questionnaires were also considered based on their validity of use in pregnant cohorts, the availability of comparable norms, and relevance to the Australian healthcare context. The inclusion of linguistic diversity was considered to be important by the PhD candidate and EREC Working Group, as it was thought that not speaking English may impact on EREC completion. Given this, all participant material was translated into the two most common language groups (Nepali and Persian; see Appendices D and E) at the health service. Therefore, another criterion of interest for the development of the questionnaire was the availability of validated pre-translated surveys or permission to translate the material. The biopsychosocial questionnaire is outlined in more detail in Chapter 5.

2.5.2.4. Study 4: A Qualitative Study with Staff (Chapter 6)

To understand staff experiences with, and perspectives on, enhanced recovery care after caesarean section with next-day discharge, a qualitative study with doctors and midwives who had occupational experience working with the EREC pathway was conducted. Qualitative research is an effective research tool for exploring a complex problem or research question, especially when it is challenging; for example to measure concepts such as ‘experiences’ and ‘perceptions’ (Liamputtong, 2019). Therefore, qualitative interviews

analysed using thematic analysis (Braun & Clarke, 2006) were deemed the most appropriate design to allow for in-depth exploration of staff experiences and perspectives. Participant material including initiation letter, information sheet and consent form are provided in Appendix F. A detailed reporting of the methodological approach taken is outlined in Chapter 6.

2.6. Ethics

Studies 3 and 4 required additional ethics clearance. A pre-existing low-risk ethics application was active in relation to the EREC pathway which included the pre-collected interviews presented in study 2. An amendment was submitted to include studies 3 and 4. The amendment was approved by the Central Adelaide Local Health Network (CALHN) Human Research Ethics Committee (HREC) HREC/15/TQEH/286. The University of Adelaide HREC was also notified of the approved study. Site Specific Approvals were also sought, and approval was granted to conduct the study onsite at both the LMH and Modbury Hospital.

Chapter 3: Systematic Literature Review

The first publication in this thesis is the systematic literature review, submitted to the journal *Midwifery*. Accepted for publication on the 27th of September 2020. The journal article in the published format is presented in Appendix G.

Statement of Authorship

Title of Paper	Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes
Publication Status	<input checked="" type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style
Publication Details	Digenis, C., Salter, A., Cusack, L., Koch, A., & Turnbull, D. (2020). Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes. <i>Midwifery</i> , 91, 102855. https://doi.org/10.1016/j.midw.2020.102855

Principal Author

Name of Principal Author (Candidate)	Christianna Digenis		
Contribution to the Paper	Developed the research aims and study design. Undertook data analysis and interpretation of results. Wrote and edited the paper, managed reviewer comments, and acted as corresponding author for the manuscript.		
Overall percentage (%)	85%		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	19/07/2022

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Amy Salter		
Contribution to the Paper	Developed research aims, provided supervision for the development of the paper and feedback on manuscript.		
Signature		Date	30/03/23

Name of Co-Author	Lynette Cusack		
Contribution to the Paper	Developed research aims, provided supervision for the development of the paper and feedback on manuscript.		
Signature		Date	30/3/2023

Name of Co-Author	Ashlee Koch		
Contribution to the Paper	Second reviewer for subset of literature selection, reviewed papers for quality and provided feedback on manuscript		
Signature		Date	02/08/2022

Name of Co-Author	Deborah Turnbull		
Contribution to the Paper	Developed research aims, provided supervision for the development of the paper and feedback on manuscript		
Signature		Date	30.03.23

Abstract

Background: Globally, reducing hospital stays after caesarean section is becoming more prevalent. Whilst this reduction in length of stay after caesarean section has not been found to be associated with adverse maternal health outcomes, the psychosocial impact and women's experiences have not been systematically reviewed. This review aims to evaluate the literature on women's experiences and psychosocial outcomes (including infant feeding) associated with a reduced hospital stay after caesarean section.

Methods: A mixed methods systematic review examining records between 1980 and 2019 was undertaken. The review included research which defines a reduced length of stay in comparison with standard care, or a comparator with a longer discharge time. It considered data related to the antenatal period, time of discharge and postnatal period. The following databases were searched: PsycINFO, CINAHL, PubMed, Embase and ProQuest Dissertations and Theses. 13,760 records were identified, after duplicates were removed, 10,902 articles were reviewed for suitability by title and abstract. 78 full text articles were assessed, and the final review included 8 articles.

Results: A total of 8 articles were included, and four areas were examined: satisfaction with care, mental well-being, infant feeding, and pain. Articles were of mixed quality when assessed using the Mixed Methods Appraisal Tool.

Conclusions: This review indicated no evidence of a systematic negative impact on women's psychosocial outcomes and experiences. The review also identifies a number of characteristics of care associated with more positive experiences and psychosocial outcomes. These include the provision of support systems, access to pain management before and after discharge and continued care with home midwifery. The limited number of studies point to the need for more research, and especially those using qualitative methods.

Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes

Highlights

- First review on psychosocial outcomes and experiences after a reduced stay post caesarean.
- No systematic impact on infant feeding, pain, satisfaction, and mental wellbeing.
- Need for more research, especially qualitative.
- Positive experiences related to factors like adequate pain management and postnatal midwifery support.

Background

Caesarean section is an increasingly common mode of delivery. Globally, rates have increased from 12% in 2000 to 21% in 2015, an average increase of 3.7% per annum (Boerma et al., 2018). Coupled with an increase in caesarean section is a trend of reduced length of hospital stay. As for other modes of delivery, the length of stay post-caesarean section has been declining, predominantly in western countries (AIHW, 2019; Bowers & Cheyne, 2016; Ford et al., 2012). The average length of hospital stay post-caesarean section is expected to decrease further with the acceptance of enhanced recovery procedures which include the encouragement of mobility, early cessation of fasting, and early catheter removal (Lucas & Gough, 2013; Peahl et al., 2019). Some hospital settings with enhanced recovery have next day discharge for women and their babies after caesarean section (Aluri & Wrench, 2014; Bowden et al., 2019; Cusack et al., 2018).

Enhanced Recovery for Caesarean Section with Next-day Discharge

Converging evidence from a variety of different studies, including a review and randomised control trial (RCT) suggests that a reduced length of stay after caesarean section is not associated with an increase in maternal re-admission rates (morbidity) or mortality, (Bayoumi et al., 2016; Cusack et al., 2018; Grullon & Grimes, 1997; NICE, 2011, 1.6.7.1) and is considered safe in carefully selected and consenting participants (Grullon and Grimes, 1997). At the same time, a reduced length of stay potentially reduces the risk of infection and enhances family bonding by transitioning recovery to the home (Cusack et al., 2018).

Women's psychosocial experiences of a reduced length of stay after childbirth such as well-being, satisfaction and infant feeding have been reported in a small number of studies (Brown et al., 2002; Nilsson et al., 2015). A systematic review on early discharge in vaginal and caesarean section births showed no significant increase in maternal depression or decrease in breastfeeding rates between discharge groups. The review also found greater satisfaction in the early discharge groups however, sub-group analysis on mode of delivery was not conducted (Brown et al., 2002). In a meta-analysis of the impacts of early discharge on the parental experience, respondents reported that early discharge gave them a greater sense of responsibility and family togetherness, but that they also experienced insecurity when transitioning home early after childbirth (Nilsson et al., 2015).

The conclusions that can be drawn from the systematic review (Brown et al., 2002) and meta-analysis (Nilsson et al., 2015) however, are limited as they combine vaginal and caesarean section deliveries in the analysis. A review of the psychosocial sequelae of caesarean section concludes that physical and psychosocial experiences and recovery after childbirth differ between vaginal and caesarean section birth (Lobel & DeLuca, 2007). Caesarean section compared to vaginal deliveries can produce a number of different psychological responses from women including a negative childbirth experience, low mood,

reduced infant bonding, and can impair women's ability to breastfeed (Lobel and DeLuca, 2007). It has been proposed that this occurs because caesarean section combines childbirth and surgery which on their own are significant and challenging experiences (Lobel and DeLuca, 2007). There are also unique differences in both physical and maternal morbidity outcomes between caesarean section and vaginal births. Women birthing via caesarean section are at increased risk of surgical-related morbidity such as haemorrhage and damage to abdominal/pelvic structures, whereas, morbidity is lower in general with vaginal birth, but also has unique adverse outcomes such as perineal tearing (Lobel and DeLuca, 2007). Post-operative pain is common after caesarean section and generally the recovery is longer and more complicated when compared to a vaginal birth (Lavand'homme, 2018; Zanardo et al., 2018). Given this, it is clearly necessary to differentiate caesarean section and vaginal births when comparing women's experiences with childbirth and the postpartum period.

There has been no systematic review on women's experiences and psychosocial outcomes with a reduced length of stay after caesarean section. Therefore, a detailed review of the literature on women's experience is needed to address this gap. This is timely given the steadily increasing caesarean section rate and a trend towards reduced hospital stay. The aim of this paper is to report on the extant literature about women's experiences and psychosocial outcomes with a reduced hospital stay after caesarean section.

Methods

A mixed methods systematic review as defined by the Joanna Briggs Institute (2014) was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) recommendations (Moher et al., 2009). Prior to the commencement of the review process, the review protocol was registered with PROSPERO, an international

database of registered systematic reviews (reference number: CRD42018110990).

http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018110990).

Search Strategy

The search strategy was developed with the assistance of a senior research librarian who had a speciality in health and medical sciences, to capture a wide range of research listed in health and psychology-related databases. The following databases were searched from 1980 to 12/06/19: PsycINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Pubmed, Embase and ProQuest Dissertations and Theses. Search terms consisted of two key concepts: caesarean section and length of stay. The terms ‘experiences’ and ‘psychosocial’ were deliberately not included in the search strategy as these concepts can be difficult to define, and there is a tendency for such information to be included in the full-text article but not in the titles or abstracts (see Appendix 1 at end of this manuscript for database search strategy). The review included quantitative, qualitative, and mixed methods research; given this, we considered papers that examined experiences as defined in the broadest sense. ‘Psychosocial’ was considered to encompass the positive and/or negative social and psychological aspects of the woman’s life in relation to the caesarean section and length of stay (Long & Cumming, 2013b, 2013a). Importantly, variables such as infant feeding and pain were also considered given their recognised non-biological components (Coons, 2013; Lobel & DeLuca, 2007).

Email alerts for each database were monitored until 01/01/2020. A Scopus citation search was conducted with the articles identified for final review. The reference lists and primary authors’ citations of articles included in the review were hand-searched for relevant full text work. No language restrictions were applied to the search strategy. However, full text articles were only reviewed if articles were in English, French, or German. Five authors

were contacted for additional information, with two replying (S. Bowden, 22 January 2020; I. Wrench, 24 June 2019). All titles and abstracts were imported into Endnote x8, where duplicates were removed before the initial screening process.

Eligibility Criteria

The review included qualitative, quantitative (experimental and observational) and mixed methods studies. This approach was taken to include multiple levels of research evidence. Conference abstracts, case studies and other reviews were excluded as the aim was to focus on primary research that could be assessed for quality.

Eligible studies were required to include an examination of reduced length of stay. This was defined as a program of early hospital discharge (as defined in the paper) or a reduced length of stay in comparison to other discharge procedures, standard care or a comparison group. Studies where reduced length of stay was an unplanned outcome as a consequence of other interventions, rather than a study exposure variable, were excluded. Studies also needed to include extractable data on women who had a reduced length of stay as defined above and had given birth via caesarean section, either elective, emergency or non-specified. Women's experiences and psychosocial outcomes of a reduced length of stay were considered from the antenatal period to the time of discharge and the postnatal period.

Studies were excluded if they only reported on women who had a vaginal birth or, in cases where multiple delivery methods were included, did not have extractable data on women who birthed via caesarean section. Studies were also excluded if the birthing woman's views were not separated from others' views, such as partners, caregivers, and healthcare professionals.

Literature Selection

Eligibility was assessed in two phases, with phase one consisting of an initial screening of titles and abstracts for the eligibility criteria of reduced length of stay and caesarean section. The phase one screening process was conducted by two independent researchers (CD and AK); one (CD) screened all titles and abstracts and the second (AK) independently screened a sample of 10%. Discrepancies were discussed with a third reviewer (DT) where consistency was subsequently achieved. All articles that met the phase one criteria subsequently underwent a full-text review which assessed whether or not each article examined women's experiences or psychosocial outcomes (phase two). Articles that met all eligibility criteria were identified for an in-depth review of the full text for data extraction.

Data Extraction

The following data were extracted using a purpose-designed spreadsheet: women's demographics, study location, study design, eligibility criteria, mode of delivery, variables reported, sample size, definition of length of stay, relevant outcomes, results relating to experiences or psychosocial variables, and support offered to women after reduced hospital stay.

Data Analysis

Data are presented in a narrative synthesis with common concepts grouped together with the assistance of Nvivo12 (Popay et al., 2006).

Sub-group Analysis

Sub-group analysis was planned for papers examining discharge at 24-hours after birth, and 24-hours or more after birth, and between emergency compared to elective

caesarean section. However, this was not feasible due to the limited number of articles included in the final review.

Quality Appraisal

Included studies were critically appraised for quality using the Mixed Method Appraisal Tool (MMAT; version 2018) which allows for the appraisal of qualitative, quantitative observational, quantitative experimental and mixed methods study designs (Hong et al., 2018). Two researchers (CD and AK) independently reviewed all included studies and a third reviewer (DT) was available for consultation, however, this was not required. A descriptive evaluation of the quality of studies included for review is presented as recommended by the MMAT authors (Table 2.) (Hong et al., 2018).

Results

Eight studies were included in the final review (Fig. 1). The aims, methods, and results of eligible articles are summarised in Table 1. Two papers, Aluri and Wrench (2014) and Wrench et al. (2015) reported on the same extractable data, however, one (Aluri & Wrench, 2014) had aims more relevant to this review and more robust methodology and this is reported here. Study designs were categorised according to the MMAT guidelines (Hong et al., 2018) and included: randomised control trials (RCT) ($n = 4$), non-randomised designs ($n = 2$), descriptive ($n = 1$), and mixed methods design ($n = 1$). Included studies were from a range of countries including the United States (Brooten et al., 1994; Cornett, 1989), Malaysia (Tan et al., 2012), Egypt (Bayoumi et al., 2016), Nigeria (Oyeyemi et al., 2019), Italy (Zanardo et al., 2018), and the United Kingdom (Aluri & Wrench, 2014; Bowden et al., 2019).

Quality Assessment

All included studies ($n = 8$) met the screening questions of the MMAT, thus allowing them to progress to the second phase of screening (see Table 2). The RCTs were of overall high quality (Bayoumi et al., 2016; Brooten et al., 1994; Tan et al., 2012) with the exception of one, which met only one of the MMAT criteria (Oyeyemi et al., 2019). The two non-randomised studies were of good quality, meeting a majority of the criteria (Cornett, 1989; Zanardo et al., 2018). However, one was an unpublished dissertation which defined length of stay retrospectively and did not account for confounders such as complications which may have lengthened the stay (Cornett, 1989). The other had a problematic comparator (vaginal births) (Zanardo et al., 2018). The mixed methods study met all the criteria of the MMAT and was of excellent quality (Bowden et al., 2019). The descriptive study (Aluri and Wrench, 2014) was of overall good quality when assessing the paper as a whole. The method of telephone follow-up was not clearly described in the paper, however, the corresponding author provided additional details via email regarding the methods for data collection and follow-up questions; it was noted that demographic information was not collected for the follow-up participants (I. Wrench, 24 June 2019). Psychometrically valid measures were reported for anxiety and depression in Tan et al. (2012) and Bayoumi et al. (2016), pain in Oyeyemi et al. (2019) and all measures in Brooten et al. (1994) and Zanardo et al. (2018). However, a number of studies used author-devised and un-validated measures (Aluri & Wrench, 2014; Bowden et al., 2019) or used a mix of validated and author-devised measures (Bayoumi et al., 2016; Tan et al., 2012).

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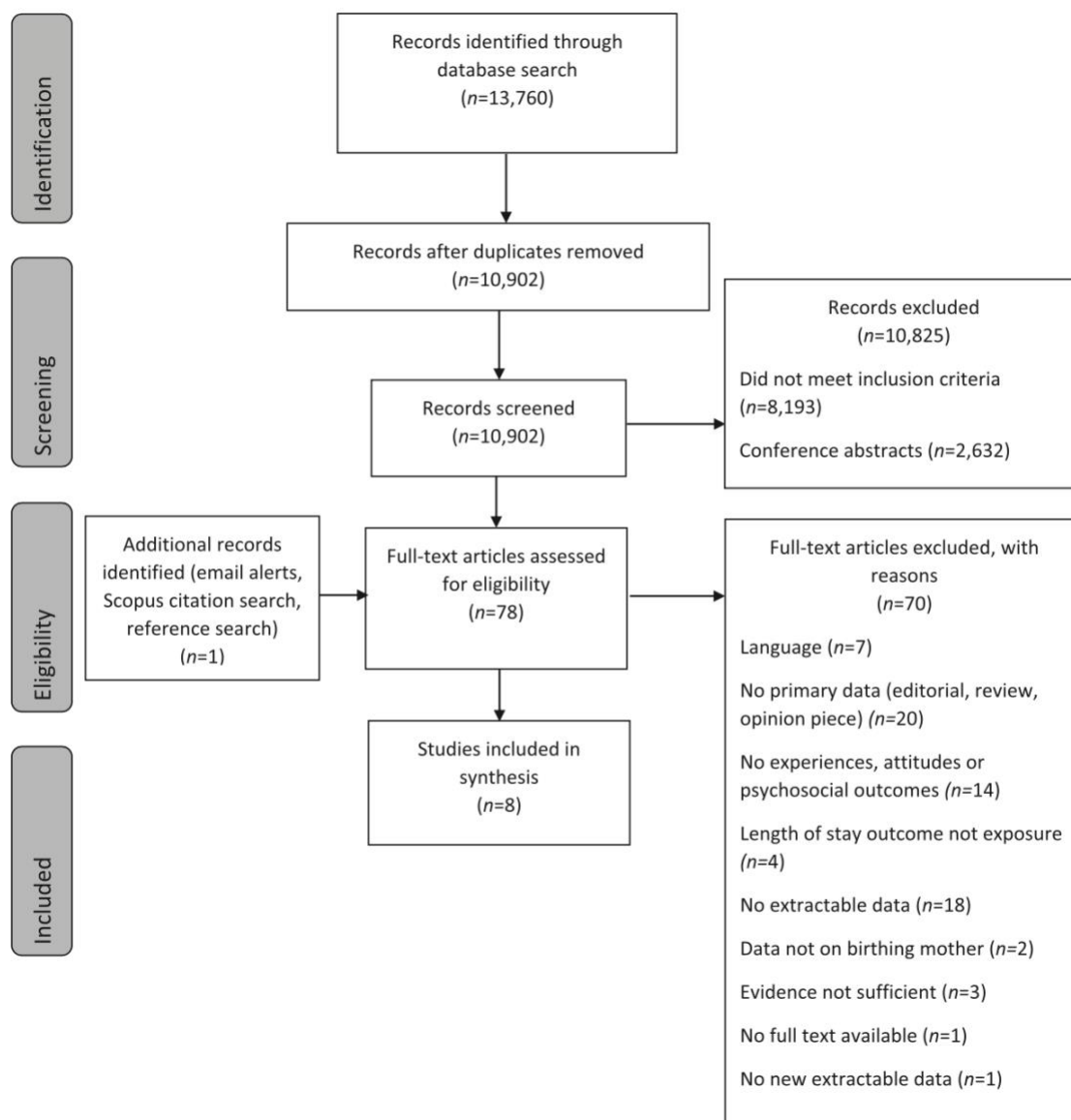


Figure 1 PRISMA flow diagram of study selection

Narrative synthesis of results

The results are described according to the following identified themes: pain, infant feeding, satisfaction, and mental well-being, which encompasses general well-being, anxiety, depression, stress, and functioning.

Pain

Five studies reported on women's pain after caesarean section and reduced length of stay. One RCT reported a significant difference between traditional stay and reduced length of stay treatment groups using a visual analogue scale. The traditional stay group (5 days) experienced more pain on average than women who went home with an early discharge (3 days) (Oyeyemi et al., 2019), although, the overall quality of this paper was low (Table 2) and pain was not measured after discharge (Oyeyemi et al., 2019). Another RCT reported no significant differences in self-reported pain between the 24-hour and 72-hour discharge groups (Bayoumi et al., 2016). Similarly, a descriptive study by Aluri and Wrench (2014) reported that women discharged the next day within an enhanced recovery pathway reported either no or mild pain at follow-up. Another study of an enhanced recovery pathway reported that women discharged the next day after caesarean section indicated excellent pain management (Bowden et al., 2019). Zanardo et al. (2018) reported that 58% of women who were discharged home early after caesarean section ranked high on present pain intensity, although 32% of caesarean section women on postpartum day 2 had no pain relief.

Infant Feeding

Information about infant feeding either breastfeeding, bottle feeding or mixed-feeding were reported in five papers. A RCT reported that exclusive breastfeeding was less common at six-week follow-up for the reduced length of stay group, compared to conventional length

of stay (Bayoumi et al., 2016). However, this was not found in the RCT by Tan et al. (2012) which reported no significant difference between reduced length of stay and conventional care on infant feeding at two and six weeks postpartum. Cornett (1989) reported mixed findings at different follow-up times with no significant difference for breastfeeding reported at one or eight weeks postpartum, but found it was significantly less prevalent for reduced length of stay women at four weeks. In a mixed methods study only women who were breastfeeding before discharge were eligible to be transitioned home at day 1 ($n = 98/101$) and all women who were contactable at the 7-day follow-up were still breastfeeding (Bowden et al., 2019). Furthermore, a descriptive study reported that at time of discharge 55% of caesarean section women with a reduced length of stay were exclusively breastfeeding and 43% were mix-feeding (Zanardo et al., 2018), however, no information on post-discharge feeding outcomes were reported.

Satisfaction

Three articles discussed women's satisfaction with a reduced hospital stay. A RCT comparing standard discharge with an early discharge group reported a statistically significant difference, with greater satisfaction reported in the reduced length of stay group (Brooten et al., 1994). In contrast, the other RCT with day 1 and day 2 discharge found no evidence of a difference between discharge groups on satisfaction scores, or on the likelihood of recommending their discharge to a friend (Tan et al., 2012). However, the two RCTs had different models of care for the reduced length of stay group with Brooten et al. (1994) including midwifery home visiting and preparation of women for discharge; whereas Tan et al. (2012) did not. In a mixed methods study of an enhanced recovery pathway, satisfaction was high at day 7 post discharge ($m = 4.75$ on a 5- point Likert scale) (Bowden et al., 2019).

Enhanced Recovery for Caesarean Section with Next-day Discharge

Furthermore, qualitative interviews conducted with women allocated to the pathway indicated that whilst many had a positive experience and reported better recovery.

'Better than expected ... a great experience ... better than the first' (Bowden et al., 2019, p. 6)

Others had difficulty with the pace of the pathway, particularly when there were additional stressors in the home environment:

'discharge home with a toddler at 24 hours was difficult and not acceptable, even with the support from my husband and mother' (Bowden et al., 2019, pg. 6).

Mental Well-being

Mental well-being encompassed a variety of variables including general well-being, anxiety, depression, stress, and functioning. RCTs found no statistically significant difference in general well-being between treatment groups (Tan et al., 2012) and rates of anxiety and depression (Brooten et al., 1994; Tan et al., 2012). However, one RCT reported that postnatal depression in the 24-hour discharge group was more common than in the 72-hour comparator (78% and 61% respectively), with the effect remaining after accounting for the women who had a repeat caesarean section (Bayoumi et al., 2016). In one RCT (Brooten et al., 1994) and a descriptive study (Aluri and Wrench, 2014) functioning was reported on and operationalised as being able to look after the baby, and able to attend to normal activities. Both studies reported that women with a reduced length of stay did not have difficulties with functioning after discharge (as compared with standard care in the case of the RCT). At discharge women who had a caesarean section and a reduced hospital stay reported lower stress levels than the comparator (vaginal births), with no other study reporting on stress (Zanardo et al., 2018).

Table 1

Summary of Included Studies.

Author, year	Aim	Length of stay Definition	Relevant participants	Relevant Design	Relevant findings
(Aluri & Wrench, 2014)	Survey of obstetric anaesthetists to determine current practice of enhanced recovery methods. Additional reporting on an evaluation of women experiencing enhanced recovery.	Comparison of day 1 and day 2 discharge within an enhanced recovery pathway ¹	Elective caesarean section women discharged on day 1 (n = 19)*	- Telephone survey of women collected at 1-week follow-up - Pain and functioning measured using purpose designed questions: Are you able to do normal daily activities? How is your pain? Are you able to attend to the baby?	- Women discharged at day 1 reported no or mild pain and were able to provide functional care to the baby
(Bayoumi et al., 2016)	Differences in maternal and neonatal outcomes comparing women discharged at 24 h to 72 h after caesarean section	Comparison between 24-h and 72-h discharge	(n = 2998) women who had either elective or emergency caesarean section discharged at either 24-h (n = 1495) or 72-h (n = 1503)	- RCT - Questionnaire collected at 6-week follow up - Pain, breast feeding, Arabic Edinburgh Postnatal Depression Scale (EPDS-Arabic)	- Statistically significant difference on EPDS-Arabic scores with higher EPDS in 24-h group compared to 72-h group. EPDS remained lower in the 72-h group when accounting for repeat-caesarean section - No statistically significant difference on pain scores - Statistically significant difference on breastfeeding rates with higher breastfeeding rates in 72-h group, no significant difference in initial breastfeeding when accounting for repeat-caesarean section

Table continues on next page.

Enhanced Recovery for Caesarean Section with Next-day Discharge

(Bowden et al., 2019)	To assess the clinical outcomes, length of stay and satisfaction from all women on an enhanced recovery pathway with day 1 discharge.	Women discharged at day 1 within an enhanced recovery pathway. Overall length of stay fell from 3.25 to 1.31 days	(n = 131) low-risk women scheduled for elective caesarean section identified antenatally for enhanced recovery (n = 77) discharged on day 1	- Mixed methods - Questionnaire at day 1 (face-to-face) and day 7 (telephone) - Interview at 7 day follow up - Pain, breastfeeding, maternal satisfaction for women discharged on day 1	- All contactable women were breastfeeding at day 7 - Pain at day 7 m = 4.61 on a 5-point Likert scale indicating excellent pain management - Satisfaction was high with m = 4.71 on a 5-point Likert scale - Interviews identified some women felt pressured by the timing of the pathway and that 24-h discharge with children at home was difficult - However, some women said enhanced recovery with day 1 discharge was a positive experience with better than expected recovery
(Brooten et al., 1994)	To establish the safety, efficacy, and economic impact of early hospital discharge in women delivering via emergency caesarean section	Statistically significant difference between standard hospital practice (m = 187 hrs, SD = 18 h) and early discharge group (m = 86 hrs, SD=20)	(n = 122) women with unplanned caesarean section. (n = 61) in control group and (n = 61) early discharge group	- RCT - 8-week follow-up collected on maternal satisfaction (patient satisfaction scale), anxiety and depression (multiple affective adjective checklist), functional status (enforced social dependency scale)	-Early discharge group has statistically significant greater satisfaction with care than the control group - There were no statistically significant differences between the groups in measures of maternal anxiety, depression, and functional status

Table continues on next page.

Enhanced Recovery for Caesarean Section with Next-day Discharge

(Cornett, 1989)	Women's perceptions of breastfeeding information and support and the impact on breastfeeding outcomes	Caesarean section deliveries length of stay ranged 40.7–129 h. Median was 94.6 h. Short stay was defined as less than and long stay was more than 94.6 h	(n = 119) women including vaginal and caesarean section deliveries. Women who delivered via caesarean section (n = 28): (n = 13) short stay and (n = 15) long stay	– Telephone survey at 1-week, 4-week and 8-week follow-up - Need for feeding information captured using a self-devised 10 item survey on various feeding topics e.g. positioning baby - Affective support was measured using a 12 item Postpartum Affective Support Scale, which was self-devised	- Breastfeeding Information needs were not statistically different between long and short stay caesarean section groups - Needing more information on positioning baby with long stay caesarean section women - Need for support was not statistically different for long and short stay caesarean section women - No statistically significant difference on complete and incomplete feeding status on caesarean section women at 1-week or 8-weeks - Statistically significant difference at 4-weeks with short stay less likely to breastfeed
(Oyeyemi et al., 2019)	To evaluate morbidity rates and cost between traditional discharge and short stay in women delivering via caesarean section	Traditional stay 5 days after birth. Short stay 3 days post birth	(n = 200) women delivering via elective caesarean section. n = 100 randomised to each of the study arms. 3 participants excluded. n = 98 women were discharged at day 5 and n = 99 women were discharged at day 3	- RCT - Pain (Visual Analogue Charts) at day 3 post-delivery (at discharge for short stay group)	- Statistically significant difference in pain scores with the traditional stay group experienced more pain

Table continues on next page.

Enhanced Recovery for Caesarean Section with Next-day Discharge

(Tan et al., 2012)	To compare women's satisfaction and breastfeeding rates discharged at day 1 and day 2 post-caesarean section	Day 1 (next-day) discharge compared to day 2 discharge	(n = 260) women recruited n = 179 allocated to day 1 discharge n = 181 to day 2 discharge. Intention to treat analysis day 1 n = 170 and day 2 n = 172	- RCT - Self-administered questionnaire at 2 and 6-weeks - General well-being and infant feeding (measured at 2 and 6-weeks) - Would recommend time of discharge to a friend and Satisfaction (measured at 2-weeks) - Anxiety, depression (Hospital Anxiety and Depression Scale (HADS) (measured at 6-weeks)	- Satisfaction with allocated protocol did not differ between groups. 50.6% of participants allocated to day 1 discharge expressed strong agreement with satisfaction with day 1 discharge compared to 33.1% of participants allocated to day 2 - No statistically significant difference on general well-being, recommendation of discharge protocol to friend and infant feeding - The difference in mean depression scores was statistically significant, however, it was not considered clinically meaningful. The mean difference in anxiety scores was not statistically significant
(Zanardo et al., 2018)	To characterise pre-discharge maternal pain and stress after caesarean section and short hospitalisation compared to vaginal birth	Discharged at 36 h after caesarean section	(n = 60) women who had a caesarean section (n = 60) women who had a vaginal birth	- Italian McGill pain questionnaire, psychological stress and infant feeding measured at 36 h (at discharge)	- At discharge 55% caesarean section women exclusively breastfed and 43% mix-fed - 58% of caesarean section women had high levels of pain at home after discharge. 1 woman reported mild pain. This was different to vaginal deliveries; location of pain was also different - Statistically significant difference in stress scores, with stress lower in women who delivered via caesarean section

* Comparison of day 1 (n = 19) to women discharged on day 2 (n = 27) is reported in Wrench et al. (Wrench et al. 2015). Introduction of enhanced recovery for elective caesarean section enabling next-day discharge: a tertiary centre experience. *International Journal of Obstetric anaesthesia* 24(2), 124–130. <https://doi.org/10.1016/j.ijoa.2015.01.003>.

Table 2

Summary of quality assessment using the Mixed Methods Appraisal Tool

	(Aluri & Wrench, 2014)*	(Bayoumi et al., 2016)	(Bowden et al., 2019)	(Brooten et al., 1994)	(Cornett, 1989)	(Oyeyemi et al., 2019)	(Tan et al., 2012)	(Zanardo et al., 2018)
RCT								
Randomisation appropriate		✓		✓		✓	✓	
Compared baseline		✓		✓		X	✓	
Complete outcome data		✓		✓		X	✓	
Blinding		?		✓		X	✓	
Participant compliance		✓		✓		X	✓	
Non-randomised								
Participants representative					✓			✓
Appropriate measures					✓			✓
Complete outcome data					✓			✓
Confounders accounted					X			X
Intervention as intended					✓			✓
Quantitative Descriptive								
Appropriate sampling	✓							
Representative sample	✓							
Appropriate measures	✓							
Risk nonresponse bias	X							
Appropriate analysis	✓							
Mixed methods								
Rational for mixed methods			✓					
Integration of methods			✓					
Appropriate interpretation			✓					
Addresses inconsistencies			✓					
Adherence to quality criteria of traditional method			✓					

✓ Met criterion, X Did not meet criterion, ? unable to assess if criterion was met

*note: The telephone follow-up interviews reported in this study were not appraised using the MMAT as they were not the study aims.

Discussion

This is the first systematic review to consider psychosocial outcomes and women's experiences with a reduced length of stay after caesarean section. Against a backdrop of limited literature ($n = 8$) four variables were identified: experiences with infant feeding, pain, satisfaction, and mental well-being. Overall, the research suggests that a reduced length of stay after caesarean section does not negatively impact on women, provided they are adequately prepared for discharge, are recovering well, and have continued pain relief and ongoing midwifery care at home. The findings reported here are corroborated by a qualitative study on women who had a reduced hospital stay with home visiting midwifery that was published outside the date cut-off for this systematic review (Cusack et al., 2020). These findings will be reassuring to clinicians and policy-makers who are in an environment where reduced hospital stays are becoming more prevalent.

Generally, we found that a reduced length of stay is not associated with greater self-reported pain (Aluri and Wrench, 2014; Bayoumi et al., 2016; Bowden et al., 2019; Oyeyemi et al., 2019; Zanardo et al., 2018). Whilst one article reported that there were high levels of pain at home after discharge, 32% of women in this study had no pain relief on postpartum day two, which would have contributed to participants' experience of pain at home (Zanardo et al., 2018). This is contrasted with another included study that involved a model of care where women were not discharged unless their pain was well managed; these participants reported excellent pain management after discharge at day 7 (Bowden et al., 2019). Maternity settings with reduced lengths of stay after caesarean can ensure adequate post-discharge pain management by making controlled pain levels a criterion for discharge. Overall, these findings are corroborated in an observational study, not included in this review, which

concluded that pain management is a key aspect of recovery and should be taken into account when discharging women following caesarean section (Carvalho et al., 2010).

Findings regarding infant feeding were varied and interpretation is limited by methodological shortcomings. These include unclear definitions of feeding types (Bayoumi et al., 2016), and limited follow-up (Zanardo et al., 2018). Although one study did demonstrate high breastfeeding rates at postpartum day seven, this paper examined a model of early discharge where women were supported postpartum by a home midwife and had breastfeeding initiation as a pre-requisite for discharge (Bowden et al., 2019). Such provisions might be considered by policy-makers designing future early discharge programs. Interestingly, previous relevant research not eligible for this review states that breastfeeding is not negatively impacted by a reduced length of stay and in some cases breastfeeding duration is longer (Bravo et al., 2011; Carty & Bradley, 1990). More broadly, a review of recovery after vaginal births suggests that the home environment is an important component to facilitate breastfeeding, in conjunction with home midwifery support (James et al., 2017).

A reduced hospital stay after caesarean section does not appear to be associated with a negative impact on women's satisfaction with care (Bowden et al., 2019; Brooten et al., 1994; Tan et al., 2012). Furthermore, one of the included RCTs demonstrated greater satisfaction where the model of care included home midwifery support (Brooten et al., 1994). High satisfaction rates with a program of enhanced recovery including postnatal home midwifery support were also observed in the mixed methods study (Bowden et al., 2019). It has been additionally reported that home visiting midwifery programs for women who had caesarean section or vaginal births had high satisfaction, although this was not in a reduced length of stay context (Nielsen Dana & Wambach, 2003). The model of care in the RCT reporting high satisfaction also included the preparation and assessment of the woman's

home environment (Brooten et al., 1994). In contrast, the RCT demonstrating no improved satisfaction examined a model of care which did not include such preparation (Tan et al., 2012). Considering this evidence overall, policy-makers should consider the inclusion of home midwifery to support recovery and satisfaction following reduced length of stay post-caesarean section.

Similarly, the majority of the review evidence indicated no substantial impact on mental well-being for women who experienced reduced length of stay (Aluri and Wrench, 2014; Brooten et al., 1994; Tan et al., 2012), except for one RCT which demonstrated higher rates of postnatal depression in the reduced length of stay group compared to standard care (Bayoumi et al., 2016). This unique finding could be accounted for by a lack of preparation, as randomisation was conducted at discharge, no home visiting midwifery was included, and a greater number of hospital re-admissions occurred in the reduced length of stay group (Bayoumi et al., 2016). Overall, these findings are in line with a previous systematic review examining vaginal and caesarean section which concluded that early discharge does not appear to have a negative impact on maternal depression, provided that women are healthy and have at least one home midwifery visit in the postnatal period (Brown et al., 2002).

Limitations and Strengths

The findings of the review need to be considered in view of several limitations. Whilst we employed a comprehensive search strategy, there is a possibility that grey literature such as reports, particularly from medical institutions, have been missed. Similarly, conference abstracts of which there were many ($n = 2632$), were excluded as they do not provide enough evidence for a systematic review, suggesting there exists a body of relevant research which is not yet published.

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It has been recognised that much of the literature does not separate type of caesarean section (i.e. emergency or elective) (Benton et al., 2019). This was also observed in this review despite literature stating that there are unique psychosocial outcomes associated with emergency caesarean section (Benton et al., 2019). Unfortunately, there was insufficient evidence in this review to allow sub-group analyses of emergency and elective caesarean section. A further limitation is the inconsistency in which length of stay was categorised in the studies (see Table 1), and this may impact the comparability of the findings across the studies.

A major contribution of this review is that it focuses on caesarean section, which previous research suggests is experienced differently to other modes of birth (Lobel & DeLuca, 2007). The review is also unique in that it examines women's experiences and psychosocial outcomes with a reduced hospital stay, whereas the current literature has mainly focused on medical perspectives such as re-admission rates. The review also captured papers from a variety of languages including English, French and German.

Recommendations for Future Research

Future studies should use psychometrically-validated measures and specify the features of the early discharge program under investigation, such as any provided preparation and inclusion of any home visiting midwifery. Whilst this review included primary research including qualitative and mixed methods designs, a majority of papers were quantitative in nature with the inclusion of one mixed methods study (Bowden et al., 2019). This suggests a need for more qualitative or mixed- methods research to gain a more in-depth understanding of women's experiences of early discharge (Pope & Campbell, 2001).

Recommendations for Practice and Conclusions

Against a backdrop of a small number of heterogeneous studies, this review indicates no systematic negative impact on psychosocial outcomes and the maternal experience associated with reduced length of hospital stay after caesarean section. The review also identifies a number of features of care associated with a more positive experience for women. These include the provision of support systems, access to pain relief before and after discharge, and the continuation of care with home midwifery. These measures should be considered in the implementation of future pathways facilitating the early transition of women from hospital to home after caesarean section.

Appendix 1

Search strategy for each database

Database	Search terms
Pubmed	<p>“cesarean section”[mh] OR cesarean*[tw] OR caesarean*[tw] OR cesarian*[tw] OR caesarian*[tw] OR abdominal deliver*[tw] OR postcaesarean*[tw] OR postcesarean*[tw] OR c-section*[tw] OR surgical birth*[tw] OR surgical deliver*[tw] OR obstetric surger*[tw] AND “patient discharge”[mh] OR discharg*[tw] OR postdischarg*[tw] OR sent home[tw] OR fast track recover*[tw] OR fast track surger*[tw] OR dismiss*[tw] OR enhanced recover*[tw] OR ERAS[tw] OR EROS[tw] OR “length of stay”[mh] OR length of sta*[tw] OR stay length*[tw] OR treatment duration*[tw] OR “home care services”[mh] OR home base*[tw] OR home car*[tw] OR home visit*[tw] Or length of hospital sta*[tw] OR lengths of stay*[tw]</p>
PsycInfo	<p>caesarean birth.sh OR cesarean*.mp OR caesarean*.mp OR cesarian*.mp OR caesarian*.mp OR abdominal deliver*.mp OR postcesarean*.mp</p> <p>OR c-section*.mp OR surgical birth*.mp OR surgical deliver*.mp AND discharge planning.sh OR hospital Discharge.sh OR discharg*.mp OR postdischarg*.mp OR transition of car*.mp OR dismiss*.mp</p> <p>OR enhanced recover*.mp OR ERAS.mp OR treatment duration.sh OR treatment duration*.mp OR length of sta*.mp OR length of</p>

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	<p>hospital sta*.mp OR lengths of stay.mp OR stay length*.mp OR home visiting programs.sh OR home care.sh OR home car*.mp OR home base*.mp OR home visit*.mp</p>
Embase	<p>“cesarean section”/exp OR cesarean*:ti,ab,kw OR caesarean*:ti,ab,kw OR cesarian*:ti,ab,kw OR caesarian*:ti,ab,kw OR “abdominal deliver*”:ti,ab,kw OR postcaesarean*:ti,ab,kw OR postcesarean*:ti,ab,kw</p> <p>OR c-section*:ti,ab,kw OR “surgical birth*”:ti,ab,kw OR “surgical deliver*”:ti,ab,kw OR “obstetric surger*”:ti,ab,kw OR “obstetric operation*”:ti,ab,kw AND “hospital discharge”/de OR “length of stay”/de OR “home care”/exp OR “treatment duration”/de OR discharg*:ti,ab,kw OR postdischarg*:ti,ab,kw OR “sent home”:ti,ab,kw OR “treatment duration*”:ti,ab,kw OR “fast track recover*”:ti,ab,kw OR “fast track surger*”:ti,ab,kw OR “transition of car*”:ti,ab,kw OR dismiss*:ti,ab,kw</p> <p>OR “enhanced recover*”:ti,ab,kw OR ERAS:ti,ab,kw OR EROS:ti,ab,kw OR “length* of hospital Sta*”:ti,ab,kw OR “length* of Sta*”:ti,ab,kw OR “stay length*”:ti,ab,kw OR “home bas*”:ti,ab,kw OR “home car*”:ti,ab,kw OR “home visit*”:ti,ab,kw</p>
CINAHL	<p>MH “cesarean section+” OR TI cesarean* OR AB cesarean* OR TI caesarean* OR AB caesarean* OR TI cesarian* OR AB cesarian* OR TI caesarian* OR AB caesarian* OR TI “abdominal deliver*” OR AB “abdominal deliver*” OR TI postcaesarean* OR AB postcaesarean* OR TI postcesarean* OR AB postcesarean* OR TI c-section* OR AB c-section* OR TI “surgical birth*” OR AB “surgical birth*” OR TI “surgical deliver*” OR AB “surgical deliver*” OR TI “obstetric surger*” OR AB “obstetric surger*” AND MH “patient discharge+” OR TI discharg* OR AB discharg* OR TI postdischarg* OR AB postdischarg* OR MH “length of stay” OR TI “length of stay*” OR AB “length of stay*” OR TI “length of hospital sta*” OR AB “length of hospital sta*” OR TI “lengths of</p>

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	<p>hospital sta*" OR AB "lengths of hospital sta*" OR TI "lengths of sta*" OR AB "lengths of sta*" OR TI "transition of car*" OR AB "transition of car*" OR TI dismiss* OR AB dismiss* OR TI "enhanced recover*" OR AB "enhanced recover*" OR TI eras OR AB eras OR MH "home care services" OR TI "home car*" OR AB "home car*" OR TI "home base*" OR AB "home base*" OR TI "home visit*" OR AB "home visit*" OR MH "treatment duration" OR TI "treatment duration*" OR AB "treatment duration*"</p>
<p>ProQuest dissertations and theses</p>	<p>AB, TI(cesarean*) OR AB, TI(caesarean*) OR AB, TI(cesarian*) OR AB, TI(caesarian*) OR AB, TI("abdominal deliver*") OR AB, TI(postcaesarean*) OR AB, TI(postcesarean*) OR AB, TI(c-section*) OR AB, TI("surgical birth*") OR AB, TI("surgical deliver*") OR AB, TI("obstetric surger*") OR AB, TI("obstetric operation*") AND AB, TI(discharg*) OR AB, TI("length of stay*") OR AB, TI("length of hospital sta*") OR AB, TI(dismiss*) OR AB, TI("enhanced recover*") OR AB, TI(eras) OR AB, TI(homecar*) OR AB, TI("home car*") OR AB, TI("home visit*") OR AB, TI("home base*") Or AB, TI("treatment duration*") OR AB, TI("fast track recover*") OR AB, TI("fast track surger*")</p>

Chapter 4: A Qualitative Thematic Analysis with Women

The second publication in this thesis is the qualitative study with women who completed the EREC pathway and went home the next day. This work was submitted to the journal *Midwifery* and accepted for publication on the 15th of January 2020. The PhD candidate's contribution to this paper was writing and editing of the manuscript, conducting the literature review and interpretation of the results for the discussion, limitations and strengths, future research, and conclusions. The journal article in the published format is presented in Appendix H.

Statement of Authorship

Title of Paper	Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study
Publication Status	<input checked="" type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style
Publication Details	Cusack, L., Digenis, C., Schultz, T., Klaer, B., & Hobbs, M. (2020). Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study. Midwifery, 83, 102632. https://doi.org/10.1016/j.midw.2020.102632

Candidate

Name of Candidate	Christianna Digenis		
Contribution to the Paper	Interpretation of results, development of original manuscript, editing of manuscript and assisted in managing reviewer comments.		
Overall percentage (%)	40%		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am an author of this paper.		
Signature		Date	2/8/2022

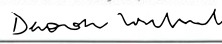
Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of primary author	Lynette Cusack		
Contribution to the Paper	Conceptualisation of the research aims and methodology, conducted the analysis, funding acquisition, provided supervision for the development of the paper and editing on the manuscript. Acted as corresponding author for the manuscript.		
Signature		Date	2/8/2022

Name of Co-Author	Tim Schultz		
Contribution to the Paper	Funding acquisition, conceptualisation of methodology, review & editing of the manuscript		
Signature		Date	2/8/2022

Name of Co-Author	Bronwen Klaer:		
Contribution to the Paper	Conceptualisation of research aims and methodology, conducted the analysis, review & editing of the manuscript Principal supervisor Professor Deborah Turnbull 		
Signature	Retired and unable to be contacted	Date	4/4/23

Name of Co-Author	Meredith Hobbs		
Contribution to the Paper	Conceptualisation of research aims and methodology, review & editing of the manuscript		
Signature		Date	23.8.22

Abstract

Background: A maternity service in Australia recently implemented an ‘Enhanced recovery after Elective Caesarean’ pathway, which includes antenatal preparation and facilitates an active role in postnatal recovery such as encouraging mobility and early cessation of fasting. The pathway includes next day discharge for women and their babies after elective caesarean section and safely transitions maternity care from hospital to home with community midwifery care. While enhanced recovery has been implemented in a number of surgical procedures to reduce hospital stay and to improve patient outcomes it has only been considered for elective caesarean sections in more recent years. Given this, enhanced recovery is not well established or researched in obstetric contexts. Furthermore, women’s experiences with reduced hospital stays post-caesarean, particularly next day discharge, is limited. A qualitative explorative descriptive study of women’s experiences with the pathway and the associated early transition home will help to inform clinical practice and the research evidence-base.

Methods: Eleven interviews were conducted with women who had experienced the pathway and next day discharge. Thematic analysis was conducted.

Findings: Three major themes and twelve sub-themes emerged from the data. Major themes identified were women’s general experience of an enhanced recovery pathway, their experiences following arrival at home and support at home. All women interviewed were satisfied with the pathway and home recovery. However, there are a number of aspects of care that are essential to a positive experience. This includes excellent support from social networks, healthcare staff and home midwifery care; well managed pain relief; and adequate and timely information, including reassurance that they or their baby could remain in hospital if required.

Conclusion: This study takes a woman-centred perspective adding to both literature and practice.

Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study

Introduction

The Australian Institute of Health and Welfare (AIHW) indicates that 35% of women gave birth by caesarean section in 2017 (AIHW, 2019). The rate of caesarean birth has increased by 4% over the last ten years (AIHW, 2019). With an increasing caesarean section rate, in 2015 a maternity service within South Australia introduced a practice development initiative called 'Enhanced recovery after Elective Caesarean (EREC)'. EREC is a criterion led discharge pathway that includes next day discharge between 24–36 h, for women and their babies after elective caesarean section (ECS), and safely transitions maternity care from hospital to home. This pathway includes antenatal preparation and improved postnatal care such as encouraging mobility and early cessation of fasting. To be eligible for this pathway, women must meet all of the following criteria: multiparous, living within the community midwifery catchment area, no major comorbidities, singleton foetus and social supports available in the community. Women on the pathway receive additional support at home from a visiting midwifery service and the option for the Mothercarer service. Most women did not choose to make use of the Mothercarer service. Mothercarers are employed by the health service to assist women postnatally with emotional and practical support in the home such as household duties, transport, care of children, and referral to ongoing services. They can offer up to 4 days of care for 5–6 h.

This article reports on a qualitative study that explored the experiences of women on the enhanced recovery pathway of care who transitioned home the next day. It is part of a larger study that investigated if a reduced hospital length of stay (LOS) model is a safe, accepted and cost-effective pathway of care.

Enhanced Recovery

Fast-tracked surgery or enhanced recovery has been implemented in a number of surgical procedures to reduce LOS and to improve patient outcomes. The process is in response to improved surgical, anaesthetic and pain management techniques as well as the implementation of earlier mobilisation and earlier cessation of fasting (Aluri & Wrench, 2014; Lucas & Gough, 2013; McNaney, 2011). Given these improvements, enhanced recovery is synonymous with reducing the patient's hospital stay.

More recently, enhanced recovery has been considered in obstetric care and has begun to be implemented in caesarean sections (Lucas & Gough, 2013; Peahl et al., 2019). As a result of changes in maternity practices and a reduced LOS there are benefits to both the patient and the health system (Lucas & Gough, 2013; Wrench et al., 2015). Reduced LOS after caesarean sections is not associated with an increase in maternal readmission or mortality and is considered safe in carefully selected and consenting participants (Bayoumi et al., 2016; Grullon and Grimes, 1997; National Institute for Health and Clinical Excellence (NICE), 2011, 1.6.7.1).

Patient Experiences

Based on patient experiences with enhanced recovery in other clinical settings (e.g. colorectal surgery), there is an expected improvement in the psychosocial experience of patients as it de-medicalises the recovery and reduces risk of infection (Lucas and Gough, 2013). Laronche et al. (2017) reported that maternal satisfaction and mother infant bonding were higher within a program of enhanced recovery after caesarean sections. However, enhanced recovery in this study focussed on early mobilisation, nutrition, catheter withdrawal and oral analgesia, rather than reduced LOS. Therefore, further investigation of the woman's

experience of a post-caesarean enhanced recovery pathway that includes reduced LOS is warranted.

While research into women's experiences with enhanced recovery have not been thoroughly investigated, women's experiences with a reduced hospital stay after caesarean section have been considered. The literature on reduced LOS specifically after caesarean section indicate that women's outcomes and satisfaction are comparable to longer hospital stays or standard care (Brooten et al., 1994; Deniau et al., 2016; Laronche et al., 2017; Tan et al., 2012). Randomised controlled trials have shown no statistically significant differences on functioning (Brooten et al., 1994) and well-being in women who had a reduced LOS after caesarean compared to usual LOS (Brooten et al., 1994; Tan et al., 2012). Pain management was reported as an important aspect of the woman's experience. While Aluri and Wrench (2014) found pain was managed well in their study, Christmas et al. (2015) reported difficulties filling out prescriptions, a lack of information and needing better pain follow-up procedures once home.

Adequate social support is a predictor of shorter hospital stays postpartum (Brown & Lumley, 1997; Shiell et al., 1994). Having social support at home such as living with a partner increases a woman's likelihood of having a reduced LOS (Brown & Lumley, 1997; Shiell et al., 1994). Importantly, within the EREC program one aspect of the inclusion criteria required women to have support at home.

Given the lack of literature specific to the context of enhanced recovery and reduced LOS within 24-hours, a qualitative study is required to better understand women's experiences. It aims to understand from the woman's perspective their experiences with enhanced recovery after ECS and the associated early transition home.

Methods

This is a qualitative explorative descriptive study based upon interviews with women after returning home from an ECS. This research was approved by the health service and university Human Research Ethics Committees.

In 2016 ($n = 269$) women were initially identified as being eligible for EREC ($n = 87$) women (32%) completed EREC and were discharged in 24–36 h post ECS, however it was noted that ($n = 125$) (47%) who were initially classified as suitable were subsequently taken off the EREC pathway for unknown reasons within the antenatal period.

Data Collection

A total of 11 women who completed EREC and had been discharged in 24–36 h were interviewed at least 2 weeks post discharge. The interview schedule was developed to explore with the participants their experience of the EREC pathway. Questions covered the women's and their families experience in the antenatal and postnatal period. This included the amount and relevance of information and support provided by the midwives and obstetricians, to help enhance their recovery and early transition home. The participants were also asked for any suggestions to improve the experience. The interview schedule was reviewed by the health services consumer group.

A research team member met women in the antenatal clinic at both the health services where EREC was implemented. The researcher introduced the study and provided women with a Participant Information sheet and permission was gained (signed consent) to contact them via telephone on discharge to participate in an interview. Women were assured that they may refuse to participate at any time, and this will not effect the care they receive from the

health service. A gift voucher of A\$50 was provided to women in acknowledgement of their time given for the interview.

The women were contacted by phone to organise a time to either meet with them or to interview them over the telephone. Two consent forms were posted with a return stamp addressed envelope for one signed consent form to be returned to the researcher before the telephone interview. For the face-to-face interviews the consent forms were signed before the interview.

Although 20 interviews were planned, data saturation was reached by the 10th interview, therefore, only 11 interviews were conducted (Braun & Clarke, 2006). Interviews took approximately 30 min; and included discussion about participants' experience of EREC including the positive and negative impacts on them, their baby and family. Interviews were audiotaped (with participant consent) and transcribed verbatim.

Data Analysis

Thematic analysis, a widely used method in qualitative research (Braun & Clarke, 2006), provided a systematic recording of themes in interview data. The six phases proposed by Braun and Clarke (2006, p.87) were followed to identify themes. To achieve credibility the transcripts were analysed separately by two researchers (LC & MS) who then came together to compare coding and analysis of transcripts and finalised thematic categories.

Table 1

Major themes and sub-themes identified from thematic analysis.

Major Themes	Sub-themes
1. Women’s general experience of an enhanced recovery following ECS.	a. Informed of the options b. Knowing what to expect c. Information provided to their family antenatally d. Information provided while in hospital about being prepared to go home early e. Experiencing a quicker recovery f. Experiencing effective pain relief g. Finding staff supportive and positive about EREC
2. Experiences following arrival home	a. Just happy to be home b. Coping in the home environment
3. Support at home	a. Having the support of family and friends b. Having the support of midwives c. Having the support of the Mothercarer was valued

Findings

Participant Characteristics

Participants ranged from 21 to 37 years of age. Prior to their current hospitalisation all women had previously had an emergency caesarean section, with an average five-day LOS. Participants interviewed were all discharged within 24–36 h for this ECS. The participants came from a range of cultural backgrounds including Caucasian, Asian and African.

Major themes

The qualitative data provided a better understanding of the key issues from women’s experience of the EREC pathway. Three major themes and twelve sub-themes shown in Table 1 emerged from the data.

Women's general experience of an enhanced recovery following ECS

This theme explored from women their key overall experience of the pathway from the time they were assigned to EREC to their early postnatal days at home.

Informed of the options

Most women felt that they were informed of the options with the EREC pathway and that it was a favourable choice for them. Most importantly for the women knowing that if they changed their mind or became unwell they could have the option to stay in hospital longer.

'When the nurse told me that you will stay one day in hospital and others at home ..., I thought yeah that's a good idea' W2.

'... if things weren't going right then you can stay in hospital' W10.

'... I want to go home because I want to walk and get better quick'... 'yeah it's my choice I say because I want to go home, I don't want to stay in hospital, ... because if you lay down in the bed in hospital you don't get better quick' W1.

Knowing what to expect

All the women interviewed had experienced at least one previous caesarean section, so they felt that to some extent they knew what to expect with a caesarean recovery.

'... I think because I had experienced a caesarean before a lot of it was just a refresher, oh yeah that's what happens, okay this is happening a lot sooner than what it was before ...' W9.

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They also had more confidence in going home with a baby having had at least one previous child.

'Because it's not my first baby it was fine, I mean I wouldn't probably recommend it for first baby. Because it was my second baby I kind of knew a lot'
W8.

Information provided to their family antenatally

One of the interview questions explored with the women 'how their family were assisted in the antenatal period to adjust to the idea of a reduced stay'. The information the woman received either verbally or in writing was valuable because they could use it to inform their families about the pathway. This was useful to assist the woman in reassuring her family that the pathway was right for her.

'No he [partner] didn't even read the information I told him about it. He agreed because it is what I wanted ... mum was a bit worried. She did ask some questions and I did read some of the brochure out to her' W3.

'So, when people asked me questions I already had the answers for them and because I was confident in it I guess that gave other people confidence in it so mum never doubted it for a second' W4.

'The information was relayed through me, so I kept discussing with my family' W11.

Information provided while in hospital about being prepared to go home early

Post-caesarean hospitalisation was, for some women, a bit ‘hazy’. Women interviewed generally reported that it was difficult to retain information within the early stages of their hospital recovery.

‘I was a bit out of it to be honest. I remember the pharmacist explaining medications. Don’t remember being talked to about first night fears ... I probably used my husband as an extra set of ears regarding the information about medication and things like that’ W5.

In the postnatal ward re-affirming key messages learnt during enhanced recovery antenatal preparation was important in preparing the women to transition home.

‘She [midwife] let me know what was going on, she talked me through things [mobilisation, stopping fasting, catheter removed, getting ready to go home]’ W6.

‘Community midwife visited me, the Mothercarer visited me [in hospital]. They [Midwife, Mothercarer] said they are going to come to my home and I think there is one pharmacist as well who gave me medications like pain management ... and written information about dosages’ W10.

Experiencing a quicker recovery

As all the participants had previously experienced emergency caesarean sections several reported that in comparison to their last experience the EREC pathway was very good as they felt it was easier physically and psychologically.

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'Experience this time was very good ... I was prepared in my mind ... that I have to get up from bed the next day' W11.

'In the morning I had the catheter taken out and then I got up by myself and had a shower and walked around the room' W3.

Experiencing effective pain relief

Effective and immediate access to pain relief through appropriate use of medicines was highlighted as important to women. Information on the medicines was also important when transitioning home.

'... make sure information is given about pain relief and then having the medication as well' W9.

Finding staff supportive and positive about EREC

The midwives' attitude (either positive or negative) toward transitioning home early on the postnatal ward influenced the woman's feelings of confidence in her ability to cope with a baby and recovery at home. Women's experience and progress was primarily influenced by staff attitudes. If the staff were aware the woman was on the EREC pathway and actively supported the process, then the women felt more confident in their decision. However, not all staff were aware of participants' involvement in EREC.

'From the moment I got into the hospital they knew I was on the EREC program and it was mentioned numerous times throughout the whole twenty-four or however long it was that we were there' W9.

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'The midwife came told me tomorrow were going to take a shower before 10 o'clock. So I was like OK. She said I will tell you how to get up from bed, how to take a shower, everything. It just went really well' W11.

'Some nurses [midwife] and midwifery students didn't know I was going home in 24-hours. I told them. I felt confident in my choice but felt that other women who were less confident may have experienced anxiety' W4.

Experiences following arrival home

This theme highlighted women's satisfaction with recovering earlier in the comfort and familiarity of their own home, with their new baby and family. There were a few challenges for women to navigate within the home environment, however none raised any concern about early transitioning home once they were home.

Just happy to be home

The women expressed their satisfaction to be home because it enabled them to feel more comfortable and see their other children.

'I really loved it to go home early, it was good for me because I felt ready and I feel more comfortable at home, so for me it was a great experience but I guess it depends on the person and how anxious they are' W8.

'... I feel very lucky that I came home the next day and I can see my son in front of me you know that kind of feeling. That satisfies me ... He [the son] said [when visiting her in hospital] Mumma lets go home' W10.

Coping in the home environment

While being at home much earlier was appreciated, it was not without its challenges.

'It was good, it was difficult at first because I've got stairs ... the bedrooms are upstairs' W3.

'difficult to not move or bend when you have other children to look after so having the support of family and friends is vital' W2.

Support at home

A critical criterion for inclusion of women on the EREC pathway was to have existing social support networks, including plans for family and friends support at home. The community midwifery service transitioned care from the hospital to home and provided the necessary reassurance that the woman and her baby were doing well. The women also have the option of extra support for around the home with a Mothercarer.

Having the support of family and friends

Some women had prepared before the ECS to have their social supports in place to ease the transition.

'... because we were coming home earlier a lot of people were like, we'll take time off work to help. We knew the day of the section so could plan support in advance' W3.

The biggest support provided by family was to look after any other children in the early days of the woman's recovery.

'And I've got wonderful support from my parents and they pretty much said look we're taking her [other child], we'll bring her back ...' W4.

'It was really good because my mum had her [eldest child] so that I didn't have to worry, so my mum had her for the simple fact that I couldn't move' W6.

Having the support of midwives

The home visiting midwife arrived soon after the women returned home. This is a very important part of the EREC pathway. Not only was it reassuring for the women to know that a midwife would visit to see that all was well with them and the baby, but it enabled early identification of any arising problems. It was also a chance to have one-to-one time with the midwife to ask questions.

'The midwives and just that reassurance that they're on top of it all, I mean they were very consistent in their visits and letting me know where [the baby] was at without making me worry as well, you know letting me know that she [the baby] was making those small steps to regain that weight ... I ended up having, the second week when I was home, I still had the midwife coming out every couple of days' W5.

'...you don't think of questions when you're in the hospital you're probably still a bit drugged up and you've got questions then afterwards when the midwife comes about bleeding, about how your scar feels, so having those midwives come out or even for baby and you, should I be feeding like this, should I be doing this' W9.

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'Midwives visits every second or third day was reassuring' W10.

Though lack of continuity of the midwife was for some frustrating, especially when they were having specific problems as this woman mentions:

'I suppose I found it a little bit frustrating sometimes having a different midwife, I mean I did see some of them more than once ... I mean you're very tired and very drained and a lot of it, the basics are there in the notes anyway, but just kind of having to go over that again and re-explain' W5.

Having the support of the Mothercarer was valued

Access to a Mothercarer who provided practical support was greatly appreciated.

'The carer that came to help helped a lot ... Because it made everything easy' W2.

'They are a good help. Looked after my little one [toddler] ... so I could rest ... did laundry. Looked after my baby so I could sleep' W11.

'They did the washing, the dishes, the vacuuming, all things I couldn't do...' W3.

Discussion

Using a qualitative approach this study investigates women's perspectives and experiences with EREC and the associated reduced hospital stay. Based on these interviews the EREC pathway and a reduced LOS is seen as acceptable for women who completed the pathway. All women interviewed were satisfied with the pathway and home recovery. This is consistent with the literature on women's satisfaction with reduced hospital stay in other

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obstetric contexts (Brooten et al., 1994; Deniau et al., 2016; Laronche et al., 2017; Tan et al., 2012). These findings are also consistent with the research on enhanced recovery in other surgical settings e.g. colorectal surgery, and in the early work on enhanced recovery programs in caesarean sections (Laronche et al., 2017; Lucas & Gough, 2013). However, the postpartum experience after ECS has specific challenges related to the physical and psychosocial adaptations that the woman transitions through, rather than only the healing of the abdominal wound. Examples of these extra challenges are the initiation of breastfeeding and changes to the family dynamics with the introduction of the new baby (Peahl et al., 2019). Given that women report satisfaction with the enhanced recovery pathway with consideration to the additional challenges of the postpartum period and motherhood, reports of a positive experience should be reassuring for the maternity service providers.

While women were satisfied with EREC, there are a number of aspects of care that are essential to ensure a positive experience. The women highlighted their requirements for flexibility in their discharge time if they or their baby were not recovering as planned, and reassurance about this from the start of the program would be comforting. Information in the antenatal period, about preparing for an early transition home and what to expect immediately after the ECS are other important factors for ensuring satisfaction with the pathway. This information provides practical advice as well as reassurance about the ongoing support that women will receive while recovering at home. This is both useful for the woman and their families who are at the frontline of support at home. Furthermore, that the information is provided at a time when women or their support person are able to absorb the information, for example not in the first 24-hours after the ECS as women report feeling unable to concentrate on new instructions. However, this is an important time for reiterating key messages from information provided prior to the ECS including management of pain relief.

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Women expressed that well managed pain relief, required instructions and access to pain medication for home. This is essential for a positive experience and feeling that they were recovering well. This is consistent with Aluri and Wrench (2014) and Christmas et al. (2015), who noted that well managed pain relief was an important factor for women with a reduced hospital stay after caesarean.

Interestingly, the interviewed women expressed confidence in organising and accepting social support to recover at home. This required partners, family, and friends to be organised to provide practical support, particularly with looking after other children in the family. Women reported that there were some challenges in preparing the home's physical environment as mobility was difficult during the early recovery period. What is unique about this pathway is the additional practical and emotional support in the home offered to all women through a Mothercarer role. Those women who chose to have this additional support report valuing the service.

The most critical aspect to the pathway is community midwifery support in the woman's home, this is essential to the pathway because it transitions postnatal midwifery care for both mother and baby from hospital to home. Women's satisfaction was related to the opportunity to have quality one-on-one care with a midwife while at home. Although some women expressed disappointment in not always having the same midwife visit. Generally, women had a positive attitude to recovery at home and a strong desire to being in the family environment. This is seen to support family togetherness and parental bonding, not only for the birthing mother but also for partners.

What was interesting for the pathway in this context is women reported that the staff's attitude impacted on their confidence on their decision to transition home early. Any negative attitudes from maternity staff about the EREC pathway made the women question their

preparedness and ability to cope at home. Given the high non-completion rate noted in the study context, staff attitudes to enhanced recovery and reduced hospital stays needs to be considered. Literature on the impact of healthcare staff attitudes on enhanced recovery in other clinical settings indicates that staff resistance and awareness of enhanced recovery is a barrier to uptake (Herbert et al., 2017; Stone et al., 2018). However, this has not been explored in the context of caesarean sections.

In considering research limitations this study was conducted in a maternity service that provided community midwifery support and therefore the findings cannot be generalised to the context where community midwifery services may not be available due to different models of maternity care or budget restraints. Another potential study limitation is that women with more positive attitudes or experiences are more likely to agree to be interviewed. A further constraint with this work was that in the context of EREC there is a high non-completion rate, where 47% of women did not complete the pathway for unknown reasons. Therefore, they did not go home within 24–36 h and did not get the additional home support. These interviews included only women who completed the pathway and were home within 24–36 h. This suggests that women who did not complete the pathway but still experienced EREC antenatally may have a different experience. This could have practical implications for understanding barriers to implementing enhanced recovery and a reduced hospital stay. Future research should seek to understand this group of women's experiences as they may highlight additional areas for improvement or barriers.

While having prior caesarean section is not a criterion for EREC eligibility, all women interviewed experienced prior emergency caesarean section. This could have contributed to their satisfaction of home recovery as they were not only confident in caring for a baby but also on the recovery process post-caesarean section. This also gave women a

reference point for how well they were recovering, perhaps also adding to their satisfaction as several expressed having a better recovery than their previous caesarean section.

Alternatively, it is possible their perceived rapid recovery after EREC may be due to the differences of an ECS, compared to an emergency caesarean section, rather than the benefits of the EREC program *per se*.

Conclusion

While the literature on enhanced recovery after caesarean section states an expected improved psychosocial experience and satisfaction this has not previously been evaluated adding to the importance of this study as it takes a woman-centred perspective. By acknowledging the postnatal period as unique in comparison to other clinical settings, understanding women's experience with enhanced recovery and 24-hour discharge after a caesarean section is critical to understanding the acceptance of such programs in obstetric care. This qualitative study indicates that a reduced hospital stay and enhanced recovery is not only safe (Bayoumi et al., 2016; Grullon and Grimes, 1997; NICE, 2011, 1.6.7.1; Wrench et al., 2015) but an accepted form of practice from the woman's perspective, provided supports are in place to facilitate this recovery.

Chapter 5: The Prospective Cohort Study

The third manuscript in this thesis is the prospective cohort study with women who were assessed as eligible for the EREC pathway in the antenatal period. This work was submitted to the journal *Midwifery*.

Statement of Authorship

Title of Paper	Obstetric and medical factors rather than psychosocial characteristics explain why eligible women do not complete the Enhanced Recovery after Elective Caesarean (EREC) pathway: a prospective cohort study.		
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Principal Author

Name of Principal Author (Candidate)	Christianna Digenis		
Contribution to the Paper	Consultation with health service, developed the research aims, study design and study material. Collected data, undertook data analysis and interpretation of results. Wrote and edited the paper, managed reviewer comments, and acted as corresponding author for the manuscript.		
Overall percentage (%)	85%		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	29/3/23

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Associate Professor Amy Salter		
Contribution to the Paper	Developed research aims and study design. Provided supervision for the development of the paper, supervision for data-analysis and feedback on manuscript.		
Signature		Date	30/03/23

Name of Co-Author	Associate Professor Lynette Cusack		
Contribution to the Paper	Consultation with health service, developed research aims and study design. Provided supervision for the development of the paper and feedback on manuscript.		
Signature		Date	30/3/2023

Name of Co-Author	Professor Deborah Turnbull		
Contribution to the Paper	Developed research aims and study design. Provided supervision for the development of the paper and feedback on manuscript.		
Signature		Date	30.03.23

Abstract

Background: An Australian health-service implemented an ‘enhanced recovery after elective caesarean’ pathway (EREC) with next-day discharge.

Problem: Previous anecdotal reports indicated that a large percentage of eligible women were not discharged the next day and therefore were not regarded as having completed EREC. Psychosocial factors were expected to be the leading reason for prolonged hospitalisation.

Aim: The study objectives were to: enumerate the percentage of women assessed as eligible for EREC who subsequently did not complete EREC and the reasons; explore antenatal predictors of EREC completion; and to describe women’s antenatal satisfaction with preparation, preferences, and perceived support.

Methods: This exploratory prospective cohort study enrolled consenting eligible women from antenatal clinics and used patient records and questionnaire data. Comparative statistical techniques were used.

Findings: 62% of women did not complete EREC, with medical and obstetric factors being the most common reasons (80%). There was statistically significant evidence of lower antenatal stress levels for those who completed EREC (median=5) relative to those who did not (median=8; $P=0.035$). Antenatally, 51% of women felt prepared for early discharge, 36% needed more information, 19% disliked hospital, 93% agreed that family togetherness after birth was important. Most agreed that staff (76%) and family (67%) supported EREC.

Conclusion: This study indicated that a large percentage of women assessed as eligible did not complete EREC and that obstetric and medical factors, rather than psychosocial characteristics, largely explained this. Higher stress levels in the antenatal period were demonstrated for women who did not complete EREC suggesting the need for further research into how to support these women.

Obstetric and medical factors rather than psychosocial characteristics explain why eligible women do not complete the Enhanced Recovery after Elective Caesarean (EREC) pathway: a prospective cohort study.

Highlights

- Insight into the first Australian site to implement enhanced recovery after an elective caesarean.
- Demonstrates that longer hospitalisations were for medical and obstetric reasons rather than psychosocial.
- Provides reassurance to clinicians and women that the EREC pathway is working as intended, with women remaining in hospital longer if medically indicated.

Introduction

Enhanced recovery after surgery (ERAS) has been implemented in several surgical settings with the intention to reduce length of hospital stay and to improve patient outcomes. ERAS is defined as an improved care approach for surgery, which includes preoperative care and education, improved surgical, anaesthetic and pain management techniques and changes to post-operative rehabilitation such as earlier mobilisation, catheter removal, and cessation of fasting (Aluri & Wrench, 2014; Ilyas et al., 2019; Lucas & Gough, 2013; McNaney, 2011). Given these improvements, it is expected that the patient will have a quicker recovery (Aluri & Wrench, 2014; Lucas & Gough, 2013; McNaney, 2011), contributing to the increased trend of reduced hospital stays (McNaney, 2011).

More recently, ERAS protocols have been implemented in obstetric care, specifically after caesarean sections (Aluri & Wrench, 2014; Bowden et al., 2019; Cusack et al., 2018; Lucas & Gough, 2013; Pehl et al., 2019). Research on enhanced recovery in obstetric settings indicate a reduction in lengths of stay (Corso et al., 2017; Fay et al., 2019; Suharwardy &

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Carvalho, 2020) with no significant impact on readmission rates (Cusack et al., 2018; Fay et al., 2019) and evidence of improved outcomes specifically in relation to opioid use (Mullman et al., 2020) and pain levels (Pan et al., 2020). Importantly, two reviews have shown that enhanced recovery protocols on balance improved patient outcomes, satisfaction, reduced hospital stays and costs, with no indication of patient harm (Suharwardy & Carvalho, 2020; Sultan et al., 2020). A qualitative study with women who completed an enhanced recovery pathway after a caesarean with next-day discharge also indicated that the pathway was acceptable and all women interviewed were satisfied (Cusack et al., 2020). The same study also indicated that certain aspects of care were an essential part of a positive experience. These included antenatal support from social networks and healthcare staff, adequate and timely information and reassurance of additional hospitalisation if required (Cusack et al., 2020).

In 2016, a maternity service in South Australia implemented a practice development initiative called 'Enhanced Recovery after Elective Caesarean (EREC)' (Cusack et al., 2018), the first of its kind in Australia. EREC involves antenatal preparation and proactive postnatal care such as encouraging mobility, early cessation of fasting, and criteria-led hospital discharge. The pathway protocol includes next-day discharge for women and their babies 24–36 hours after an elective caesarean. Women on the pathway receive additional community support at home from the local hospitals' visiting midwifery service and the option of 'Mothercarers'. Mothercarers assist women in the postnatal period with emotional and practical home support such as performing household duties. To implement EREC, a working group consisting of midwives, obstetricians, hospital administrators and researchers was established. Among objectives such as monitoring the safety of the pathway, the Working Group was especially interested in the outcome of a next-day discharge for women. Given this, completion of the EREC pathway was defined as having a next-day discharge. Initial reports from midwives suggested that a substantial sub-set of women eligible for next-day discharge were

remaining in hospital beyond this period. The Working Group believed that psychological and social reasons including lack of social support, mental health concerns, and personal preferences would be the biggest contributing factor for having a longer length of stay and therefore not completing the pathway within the specified timeframe. This belief was largely based on anecdotal evidence and the fact that the health service was located in an area with relatively high levels of socioeconomic disadvantage (Australian Bureau of Statistics, 2018). Literature suggests that in non-maternity settings, individual patient demographic, psychological, and social reasons impact on successful uptake of ERAS. A systematic review by Stone et al. (2018) on ERAS implementation and a qualitative study on enhanced recovery with colorectal surgery (Lyon et al., 2014) reported that successful implementation was dependent on individual characteristics of the patient (Stone et al., 2018). In particular, barriers to successful implementation included various comorbidities, age, socioeconomic status, patient expectations and personality (Lyon et al., 2014; Stone et al., 2018). Research on enhanced recovery for colorectal surgery patients indicated that preoperative anxiety and previous medical history predicted prolonged hospital stays (Keller et al., 2017). Operative, demographic and procedural deviations also predicted a prolonged length of stay following enhanced recovery with laparoscopic colorectal surgery (Boulind et al., 2012). The systematic review by Stone et al. (2018) did not include any obstetric studies, indicating a gap in the literature (Stone et al., 2018).

In response to this gap and observations from midwives, this exploratory study's main aim was to understand factors that may predict completion of the EREC pathway within the specific timeframe. Specific objectives were to: 1) enumerate the percentage of women assessed as eligible for EREC who subsequently did not complete EREC defined as having a next-day discharge; 2) categorise the reasons for women not completing the pathway and to determine if psychosocial factors were the most common reason as expected by the Working

Group; 3) explore potential patient-related antenatal predictors of EREC completion and 4) describe women's antenatal satisfaction with preparation for EREC, preferences for postnatal care, and perception of support for EREC by hospital staff and family.

Methods

Study design and research setting

An exploratory prospective cohort study was implemented at a large tertiary metropolitan health service in South Australia, Australia. At this health service, women's antenatal care is provided at two hospital sites (site 1 and site 2), with birthing and recovery occurring only at site 1. Women were assessed as eligible for the EREC pathway by obstetric staff at the health service. To be eligible for EREC women had to: be scheduled for an elective caesarean section; be multiparous with a singleton fetus; be living within the community midwifery catchment area (northern metropolitan area); have no major comorbidities including mental health concerns; and have social supports in the community.

For this study, women on the EREC pathway were recruited in the antenatal clinics of the two hospital sites. To participate in the study, women had to be on the EREC pathway, be over the age of 18, and between 13-36 weeks gestation when they consented to participate.

EREC completion was defined as having had an elective caesarean section and being discharged home 24-36 hours after birth (next-day discharge). The study design and recruitment process are presented in Figure 1. The study was approved by the Central Adelaide Local Health Network Human Research Ethics Committee and University Human Research Ethics Committee. was conducted in accordance with the National Health and Medical Research Council National Statement (NHMRC) on Ethical Conduct in Human Research 2007 (updated 2018) (NHMRC, 2007). This paper was written in accordance with the STROBE statement for cohort studies (von Elm et al., 2007).

Participant recruitment

The baseline antenatal recruitment period was between June and December 2019. The main researcher (CD) systematically recruited women to the study at different days and times during this 7-month recruitment period, to maximise the opportunity for a representative study sample of participants. The waiting rooms of both antenatal clinics displayed flyers alerting women to the study. Potentially eligible women were identified to the researcher by midwives from the antenatal clinics and CD scheduled attendance for recruitment at the antenatal clinics accordingly. The researcher approached potentially eligible women in the waiting room and if they were amenable, verbally introduced the study to them, and provided a study invitation letter, information sheet, and consent form. Women were required to give informed consent to complete a questionnaire (detailed below) and to allow access to their patient records for the purposes of this study. Women from non-English speaking backgrounds, including those who required a translator, were also approached for recruitment. Study materials were translated into Nepali and Persian, the two most common language groups other than English at the maternity service, and translators were also asked to assist where necessary.

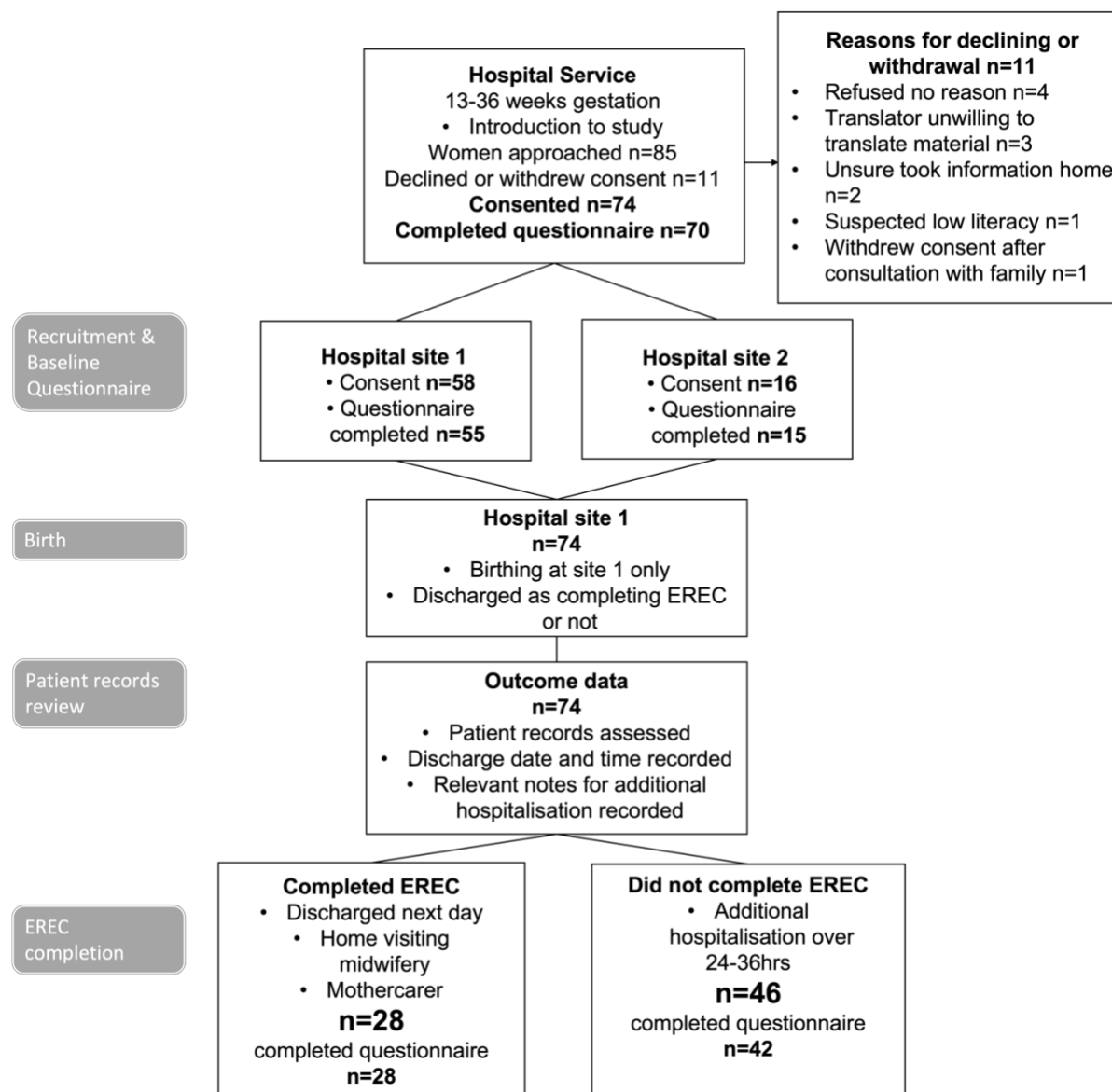


Figure 1 Study Flow Diagram

Piloting of the Antenatal Questionnaire

The EREC Working Group and a Midwifery Advisory Group which consisted of several senior midwives reviewed the questionnaire prior to piloting to ensure face validity and readability. Two participants were recruited in an initial pilot phase which resulted in no need for changes to the process or questionnaire, and given this, a decision was made to include them in the main study.

Antenatal Questionnaire

The antenatal questionnaire included questions about demographic details, physical health, psychological well-being, social support, and opinions about the EREC pathway.

Demographic

Demographic data included: maternal date of birth, postcode, country of birth, date of arrival to Australia (if born overseas), language spoken at home and highest level of education. Categories for highest level of education completed were developed using questions based on the Australian Bureau of Statistics classification standards (Australian Bureau of Statistics, 2001).

Physical

Data collected on women's relevant medical history included: weeks gestation at time of completing the questionnaire and date of scheduled caesarean section (if known), parity and previous mode of birth. Women's current physical health status was determined using the EuroQol Five Dimensions (EQ-5D-5L) questionnaire, a commonly reported measure of overall health (EuroQol Research Foundation, 2019; Herdman et al., 2011; McCaffrey et al., 2016). The EQ-5D-5L has two parts, the first is a measure of five health states (mobility; self-care; usual activities; pain/discomfort; and anxiety/depression) relating to quality of Life (QoL) and the second is a visual analogue scale (VAS) to indicate perceived current level of health from 0 (worst health imaginable) to 100 (best health imaginable). The five health states are scored on a five-level response scale ranging from -0.281 to 1, which are compared with UK norms (Devlin et al., 2018; EuroQol Research Foundation, 2019; McCaffrey et al., 2016). The EQ-5D-5L was available in both Nepali and Persian (EuroQol Research Foundation, 2019).

Psychological

Depression, anxiety, and stress were measured using the 21-item Depression, Anxiety, and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995) with responses on a five-point Likert scale where higher scores indicate higher levels of distress. Responses are multiplied by two with a possible range of 0-41 for each sub-scale (Lovibond & Lovibond, 1995). The DASS-21 is typically interpreted by using cut-off scores for levels of severity which include normal, mild, moderate, severe and extremely severe (Lovibond & Lovibond, 1995). The DASS-21 was available in both Nepali and Persian (Sahebi et al., 2005; Tonsing, 2014)

Social Support

Social support was measured using the eight-item modified Medical Outcomes Study Social Support Survey (mMOS-SS) (Moser et al., 2012). The mMOS-SS consists of two sections that are scored separately. Section one is a single question asking for the rough number of close friends and family available for social support. Section two consists of eight-items on a five-point Likert scale asking about available support in specific domains, e.g., for help with daily chores if you were sick. The total average scores of section two are transformed to a 0-100 scale, with higher scores indicating greater support (Moser et al., 2012).

Women were also asked additional purpose-designed questions about their practical support at home. Specifically, they were asked to indicate using a five-point Likert scale (e.g., all of the time, some of the time) how often an adult would be available for support at home after hospital discharge and how often they would likely have support with childcare (if applicable) in the first few days after discharge.

EREC Specific Questions

Women's antenatal satisfaction with preparation for EREC, preferences for postnatal care and perception of support for EREC by healthcare providers and family were assessed with purpose-designed questions. They were asked to indicate on a five-point Likert scale their: preparedness for early discharge; need for more information on EREC; preference for hospital versus home recovery; dislike of hospital; preference to be together as a family after birth and if both their family and hospital staff seemed to support EREC.

Data Collection

Questionnaires could be returned directly after completion during the antenatal visit, or via a prepaid return envelope addressed to the researcher. One woman filled in the translated questionnaire in Nepali. DASS-21 scores were calculated on the day of return and women whose scores were in the moderate to extremely severe range (see supplementary table S1 for data by severity ratings) were contacted by a midwife to follow-up on their mental health and to offer additional support.

To determine completion of EREC, women's electronic patient records were accessed to derive: admission date, mode of birth (vaginal, emergency caesarean, elective caesarean), discharge date and time. Where applicable, relevant notes outlining reasons for non-completion of the EREC pathway were abstracted. Two researchers (LC and BK) with clinical midwifery backgrounds independently coded the notes in the first instance and then met to discuss the codes (with no disagreements). Reasons were coded into the following categories: medical, obstetric, neonatal, psychosocial, and unknown. Medical reasons were defined as either a pre-existing condition or a condition which could have occurred regardless of pregnancy or birth (e.g., high blood pressure, diabetes, respiratory issues). Obstetric reasons were defined as specifically relating to pregnancy, birth, or recovery (e.g.,

preeclampsia, emergency caesarean section, vaginal birth, postpartum haemorrhage).

Psychosocial reasons were defined as a mental health concern (e.g., depression) or social situation such as inadequate social support and relationship or housing issues. Unknown reasons were defined as those where no relevant notes indicating a reason for a prolonged stay were recorded.

Data Analysis

As this was a pragmatic exploratory study, no formal sample size calculation was conducted. Sample was dictated by researcher capacity and processes were put in place to maximise sample size and to recruit a representative sample of participants.

Data analysis was conducted using R, version 4.0.3. Where participants' responses to the questionnaire were unclear (e.g., marking two inconsistent answers), they were coded as missing. After team discussion to ensure no loss of meaning, some categorical responses to questions were collapsed for reporting due to insufficient data in some categories. Responses to the question relating to the number of available supports at home were collapsed into four categories with 'one adult' and 'more than one adult' collapsed into a single category 'one or more adult'. Similarly, responses to the question relating to available supports for childcare of 'most', 'some' or 'little' of the time were collapsed into one category 'adult part of the time'. Country of birth was categorised into Australia and 'other' with the 'other' category encompassing 15 different countries.

As quantitative data were typically found to have skewed distributions with the homogeneity of variance assumption commonly violated, comparisons of characteristics for women who completed EREC versus those who did not were made using a Mann Whitney U test. By convention, confidence intervals for the differences in medians were not reported for the Mann Whitney U test. P-values are not adjusted for multiple comparisons as this was an exploratory study.

Results

Study Uptake

A total of 85 women were approached during the recruitment period. Of these, 11 women declined to participate or withdrew consent, leaving 74 women consenting to participate (described in Figure 1). Of the 74 women who consented, 70 completed the questionnaire resulting in a completion rate of 82%.

Estimates from hospital records indicated that approximately 112 women should have been eligible during the recruitment period. Obtaining complete data on 70 women thus equates to enrolling approximately 62.5% of the potentially eligible population over the recruitment period.

Participants

Women who consented to the study and completed the antenatal questionnaire had a mean age of 31, which is comparable to the available data on the age of women birthing in Northern Adelaide in 2019 (Australian Bureau of Statistics, 2019). Study participants were more commonly born in Australia and spoke English at home (Table 1) and most women (93%) had a previous caesarean section. Median scores on depression, anxiety, and stress were within the normal range in terms of severity cut-off. Median gestation at time of completing the antenatal questionnaire was 31 weeks. Women generally reported high levels of social support and all participants expected to have an adult at home for most of the day after birth, with a majority (61%) expecting this adult to assist all day. Similarly, post-discharge, all but one participant expected to have support with childcare, with 51% expecting someone all of the time and 29% at least part of the time. Women also had moderate QoL and overall health.

Findings

Of the 74 women assigned to EREC in the study, 46 did not complete the pathway. Thus, 62% of women did not complete the EREC pathway (i.e., were not discharged the next

day) (see Figure 1). Documented reasons for not completing the EREC pathway are described in Table 2, where length of stay beyond 24-36 hours was largely due to obstetric and medical reasons.

Given the dominance of medical and obstetric reasons, it was clear that a predictive model for completion of the EREC pathway would be uninformative. The demographics and antenatal biopsychosocial profiles for women who completed or did not complete the pathway were subsequently compared, with results in Tables 3 and 4 respectively.

As observed in Table 3, women who did not complete EREC were slightly more likely to speak English at home and less likely to have support of an adult all the time in the first few days, with both childcare and general home support.

There was no significant evidence of differences between the two groups on median levels of anxiety, depression, QoL, overall health or social support (Table 4). However, women who completed the pathway had significantly lower median antenatal stress levels relative to those who did not ($5-8 = -3$) ($U = 402, P = 0.035$).

Our final objective was to describe women's antenatal satisfaction with preparation, preferences for care and perceived support for EREC from others. From Table 5 we can see that only 51% agreed or strongly agreed that they felt prepared for early discharge and 36% reported they needed more information. Sixty-eight percent indicated that they either strongly disagreed or disagreed with the statement that they disliked hospitals, although women's preferences for recovering in hospital versus home varied widely. Ninety-three percent of women either agreed or strongly agreed that being together as a family after birth was important. Furthermore, most women agreed or strongly agreed that hospital staff (76%) and family (67%) were supportive of EREC. Post-hoc analysis comparing women who completed EREC versus those who did not on preparation and preferences (Table 5) were conducted using the Mann Whitney U test. Comparisons were not originally made as the preparation

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and preference questions were single-item, categorical, and self-devised measures with undetermined psychometric properties. Additionally, the analysis should be interpreted in the context of the broader findings which indicate that medical and obstetric factors explain additional hospitalisation. Nevertheless, when comparing the single-item questions on satisfaction and preferences (Table 5), there were no statistically significant differences on five of the seven questions between those who completed EREC versus those who did not. There was a statistically significant difference on the following items - 'I feel I will be prepared for an early discharge' (P=0.001) and 'I prefer to recover at hospital' (P=0.03). Women who completed EREC indicated greater agreement with the statement regarding preparation (median= 4) compared to those who did not (median= 3). Women who did not complete EREC agreed more with the statement (median= 3.5) 'I prefer to recover at hospital' compared to those who completed EREC (median=3).

Table 1
Antenatal descriptive statistics for women at the time of questionnaire completion

Age[^] : mean(SD)	31(4)		<u>frequency(%)</u>
Country of birth	<u>frequency(%)</u>	Previous caesarean emergency or elective	
Australia	46(66)	yes	65(93)
Other	23(33)	no	2(3)
Missing	1(1)	missing	3(4)
Language spoken at home		Available home support first few days	
English	59(84)	One or more adult all day	43(61)
Persian	3(4)	Adult after work	8(11)
Punjabi	2(3)	Adult most of the day	6(9)
Nepali	1(1)	None of the time	0
Arabic	1(1)	missing	13(19)
Vietnamese	1(1)	Available childcare support first few days	
Kiswahili	1(1)	Adult all the time	36(51)
missing	2(3)	Adult part of the time	20(29)
Highest level education completed		None of the time	1(1)
Post-graduate	5(7)	missing	13(19)
Graduate diploma/certificate	1(1)		
University Bachelors	9(13)	Weeks Gestation	<u>Median, IOR</u>
Diploma	4(6)	Depression*	31, [23,34]
Certificate	23(33)	Anxiety*	2, [0,6]
High school	23(33)	Stress*	4, [2,6]
Primary school	0	Health State (QoL)**	6, [4,14]
missing	5(7)	Overall health (VAS)**	0.77, [0.68,0.84]
Parity at antenatal visit		Social support**	75, [70, 90]
1 live birth	39(56)	Number people to provide social support	91, [75,100]
2+ live births	27(39)		6, [4,10]
missing	4(6)		

*Higher score means worse depression, anxiety, and stress (0-42 each sub-scale). **Higher score means better social support (0-100), QoL (-0.281-1) and overall health (0-100). Note: one response was missing for all continuous variables other than age, two missing for social support, three for the number of people to provide social support and 4 missing for weeks gestation.

[^]Symmetric distribution indicating mean and SD are appropriate descriptors.

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Table 2

Documented reasons for not completing EREC pathway

(n=46)

	<i>frequency(%)</i>
Obstetric	29(63)
Medical	8(17)
Neonatal	2(4)
Psychosocial	2(4)
Obstetric and Psychosocial	1(2)
Unknown	4(9)
Total	46(100)

Table 3.

Antenatal descriptive statistics of women who completed the questionnaire delineated by EREC completion (n=70)

	Completed EREC (n=28)	Did not complete EREC (n=42)
Age[^]: mean(SD)	31(5)	32(4)
	<u>frequency(%)</u>	<u>frequency(%)</u>
Country of birth		
Australia	19(68)	27(64)
Other	8(29)	15(36)
missing	1(4)	0
Language spoken at home		
English	22(79)	37(88)
Other	5(18)	4(10)
missing	1(4)	1(2)
Education highest level completed		
Postgraduate	3(11)	2(5)
Graduate diploma/certificate	1(4)	0
University bachelors	4(14)	5(12)
Diploma	2(7)	2(5)
Certificate	8(29)	15(36)
Highschool	8(29)	15(36)
missing	2(7)	3(7)
Parity at antenatal period		
1 live birth	18(64)	21(50)
2+ live births	9(32)	18(43)
missing	1(4)	3(7)
Home support available first few days		
One or more adult all day	19(68)	24(57)
Adult most of the day	4(14)	2(5)
Adult after work	0	8(19)
missing	5(18)	8(19)
Help with other children available first few days		
Adult all the time	18(64)	18(43)
Adult part of the time	6(21)	14(33)
None of the time	0	1(2)
missing	4(14)	9(21)

[^]Symmetric distribution indicating mean and SD are appropriate descriptors.

Table 4.

Comparison of antenatal, psychological well-being, QoL, overall health and social support delineated by EREC completion (n=69)

	Completed EREC (n=28)	Did not complete EREC (n=42)	P-value
	Median, IQR	Median, IQR	
Depression*	2, [0,2.5]	2, [0,6]	0.31
Anxiety*	4, [2,6]	6, [2,12]	0.09
Stress*	5, [2,10]	8, [4,16]	0.035
Health states QoL**	0.80, [0.74,0.86]	0.75, [0.67,0.72]	0.31
Overall health (VAS)**	80, [50,90]	75, [10,86]	0.052
Social support**	93.8, [80.5,100]	87.5, [71.9,100]	0.16
Number people to provide social support***	6, [5,10]	6, [4,10]	0.50

*Higher score means worse depression, anxiety, and stress (0-42 each subscale), **Higher score means better social support (0-100), QoL (-0.281-1) and overall health (0-100),

***Based on 67 responses (3 missing)

Table 5.

Frequency(%) of antenatal agreement on satisfaction with preparation, preferences for care and perceived support for EREC (n=70)

	Strongly disagree	disagree	Not sure	agree	Strongly agree
Satisfaction with preparation					
Prepared for early discharge	5(7)	7(10)	22(31)	21(30)	15(21)
Need more information about EREC	10(14)	23(31)	12(17)	23(33)	2(3)
Preferences for care					
Prefer to recover at hospital	7(10)	17(24)	17(24)	16(23)	13(19)
Dislike hospital*	8(12)	39(56)	9(13)	8(12)	5(7)
Together as a family is important	0	2(1)	4(6)	26(37)	39(56)
Perceived support for EREC by significant others					
Hospital staff supportive of EREC**	0	2(3)	14(21)	33(49)	18(27)
Family supportive of EREC***	1(1)	7(10)	14(21)	22(32)	24(35)

*based on 69 responses (1 missing), **based on 67 responses (3 missing), ***Based on 68 responses (2 missing)

Discussion

Concerns that a large percentage of women initially assessed as eligible were subsequently not completing EREC were confirmed in this study, as 62% of study participants did not go home the next day. Psychological and social reasons were initially purported to be the main reason for not completing the pathway. However, this study indicated that the main reasons related to physical concerns, that is, obstetric reasons (63%; such as preeclampsia, postpartum haemorrhage), or medical reasons (17%; such as high blood pressure and diabetes). These findings are consistent with previous literature which found that pathology and intraoperative complications (e.g. operating times and blood transfusions) were the strongest predictors of prolonged hospitalisation after ERAS (Keller et al., 2014, 2017). Women and staff should be reassured by this finding, as it indicates that women are not being discharged home if they are not medically well. This finding, alongside other data regarding hospital readmission rates (Cusack et al., 2018; Klaer et al., 2018) suggest that the EREC pathway is not associated with negative clinical sequelae.

Furthermore, psychosocial reasons may not have greatly influenced EREC completion due to the pathway's eligibility criteria of requiring adequate social support and women not having major comorbidities, including major psychiatric concerns. Baseline data supports this, as women in the cohort had high levels of social support (see Table 1) (Moser et al., 2012; Sherbourne & Stewart, 1991) and on average DASS-21 scores were in the normal range when compared using severity cut-offs for depression (90%), anxiety (65%), and stress (80%; see supplementary Table S1 for data by DASS-21 severity ratings) (Lovibond & Lovibond, 1995). When compared to Australian norms, this cohort had similar or the same median depression and stress levels but with slightly higher median anxiety scores. Although, importantly, it should be noted that normative data on the DASS-21 is not pregnancy specific (Crawford et al., 2011). Furthermore, all women who scored moderate to extremely severe on the DASS-21

were referred to midwives for additional follow up and this may have acted as an antenatal intervention and influenced their outcomes on EREC. That is, they may have received additional support which reduced their likelihood of not completing EREC due to psychosocial reasons. Women in the study cohort were also more likely to speak English as their first language when compared to representative local data (Australian Bureau of Statistics, 2017).

There was no significant evidence of a difference between groups on anxiety, depression, QoL, and social support (Table 4), which is understandable given that medical and obstetric reasons were the main factors for not completing EREC. In contrast, women who did not complete EREC had higher median antenatal stress scores indicating worse stress on average. Although, the median stress scores of both groups were still in the normal range. Furthermore, the p-value was not adjusted for multiple comparisons and the observed difference may not be of clinical importance. Nevertheless, more research is needed to better understand the experiences of stress among women assigned to EREC in the antenatal period as this could assist in tailoring the support services for women on the pathway.

Women's antenatal reports about their preparation for EREC indicated that there was some room for improvement in information provision and preparation for discharge. We note that this may have been affected by women's gestation at the time of completing the questionnaire, that is, women who completed the questionnaire later in their pregnancy may have felt more prepared (the interquartile range for questionnaire completion was from 23 to 34 weeks gestation). This is generally supported by our previous qualitative study which indicated that post-discharge, women reported generally feeling informed and prepared to go home when the time came, although new information post-discharge was sometimes difficult to retain (Cusack et al., 2020). Women's preferences for care may in some instances influence the likelihood of early discharge. Women's preference to recover at hospital varied among study participants, although most women indicated that they did not dislike hospital.

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Most women agreed that being together as a family after birth was important and previous evidence showed that recovering with family was seen as a particularly positive outcome of EREC (Cusack et al., 2020). Perception of support for EREC by significant others (hospital staff and family) is also known to be an important indicator of confidence with enhanced recovery (Cusack et al., 2020), so it was reassuring to see that women in the current study generally felt that both staff and family were supportive of EREC and early discharge. This is a positive indication, as staff buy-in supports the successful implementation of enhanced recovery (Cusack et al., 2020; Lyon et al., 2014; Stone et al., 2018), and support from family facilitates preparation and recovery at home (Cusack et al., 2020). The post-hoc findings that there were significant differences between women who completed EREC versus those who did not regarding feeling prepared and preferences for hospital recovery further strengthens the conclusion that more research is needed to better understand the experiences of women assigned to EREC in the antenatal period. This could assist in tailoring the support services for women on the pathway.

Strengths and limitations

This is the first Australian study to report on enhanced recovery after an elective caesarean and our systematic recruitment approach resulted in us acquiring approximately 62.5% of the estimated eligible population assigned to EREC. While this is only an estimate (due to researcher constraints on being able to cover the entire recruitment period), and it is unclear as to the extent and direction of bias, it suggests that the findings will be useful to others planning similar services. Similarly, while the response rate was high, there is a possibility that women who declined, withdrew, or did not attend appointments and were therefore not approached, were at greater risk of not completing the pathway due to psychosocial factors which we were unable to document. Additionally, EREC completion was

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defined according to length of hospital stay as documented in electronic notes and these notes had minimal details about the precise time at which the woman left the pathway. It is possible, then, that women may have been taken off the pathway before hospital admission for birth and that these may have been for psychosocial reasons; this level of detail would not be captured in electronic patient notes. Future studies could investigate the precise time in the woman's journey that they were opted out of the pathway and the reasons why. Another useful area of future research would be the identification of specific medical or obstetric factors identifiable in the antenatal period which could later influence completion of EREC. This knowledge could lead to interventions to better support these women or a broadening of the exclusion criteria for the pathway which would assist in the implementation of enhanced recovery at the maternity service.

Implications/conclusions

This prospective cohort study indicated that a large percentage of women assessed as eligible for EREC were not discharged the next day and subsequently did not complete the EREC pathway. Obstetric and medical factors, rather than psychosocial characteristics, largely explained why eligible women did not complete the EREC pathway. These findings further demonstrate that the pathway is operating as intended, as length of stay is extended if medically indicated. This paper adds further information to the growing implementation literature for enhanced recovery, in this instance within the context of an elective caesarean section.

Supplementary Material

Supplementary Table S1

Frequency(%) of severity ratings for antenatal DASS-21 scores for depression, anxiety and stress (n=69) for women who completed the questionnaire

	<u>Depression</u>	<u>Anxiety</u>	<u>Stress</u>
Normal	62(90)	45(65)	55(80)
Mild	4(6)	6(9)	4(6)
Moderate	2(3)	11(16)	5(7)
Severe	1(1)	3(4)	4(6)
Extremely severe	0	4(6)	1(1)

Chapter 6: A Qualitative Thematic Analysis with Healthcare Providers

The fourth and final manuscript in this thesis is the qualitative study with healthcare providers who work with the EREC pathway. This work was submitted to the *Journal of Clinical Nursing*.

Statement of Authorship

Title of Paper	Healthcare providers' experiences with and perspective on delivering the enhanced recovery after caesarean section (EREC) pathway with next-day discharge: A qualitative thematic analysis.
Publication Status	<input type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input checked="" type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style
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Principal Author

Name of Principal Author (Candidate)	Christianna Digenis
Contribution to the Paper	Devised study aims, study design and study material. Collected data and conducted the analysis. Wrote, edited, and submitted manuscript. Text
Overall percentage (%)	85%
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.
Signature	_____ Date 29/3/23

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Associate Professor Lynette Cusack
Contribution to the Paper	Developed research aims and study design. Provided supervision for the development of the paper, feedback on analysis, and feedback on manuscript.
Signature	_____ Date 30/3/2023

Name of Co-Author	Associate Professor Amy Salter
Contribution to the Paper	Developed research aims and study design. Provided supervision for the development of the paper, feedback on analysis, and feedback on manuscript.
Signature	_____ Date 30/03/23

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Name of Co-Author	Ms. Amelia Winter		
Contribution to the Paper	Acted as a second coder for data analysis and provided feedback on manuscript		
Signature		Date	29/03/23

Name of Co-Author	Professor Deborah Turnbull		
Contribution to the Paper	Developed research aims and study design. Provided supervision for the development of the paper, feedback on analysis, and feedback on manuscript.		
Signature		Date	30.03.23

Abstract

Aims: To understand the perspectives and experiences of healthcare providers who have experience working with an enhanced recovery care after elective caesarean section pathway.

Background: An Australian health service implemented an Enhanced recovery after Elective Caesarean (EREC) pathway, with next-day discharge and home midwifery. Literature on staff experiences with, and perspectives on, enhanced recovery care after caesarean section is limited. This qualitative study seeks to address this gap and will help to inform clinical practice and the evidence-base.

Methods: 23 semi-structured interviews were completed with 5 doctors and 18 midwives who had occupational experience working with EREC. Data were analysed using thematic analysis. COREQ guidelines were followed.

Results: Five main themes and 13 sub-themes were identified. Major themes identified were: EREC is more than just early discharge; experiences with the EREC process; women-centred care; staff engagement with EREC; and the impact of EREC within the health system. Healthcare providers generally accepted EREC and found enhanced recovery care to be a positive and beneficial model of care. Staff identified five main challenges with EREC: early discharge; eligible women's automatic inclusion on the pathway; engaging women; change for staff, and organisational constraints and procedures. Elements that support integration include: education for women; reassurance and communication with women and families; prepared care and supports including home midwifery; staff education, and communication of the evidence; clear guidelines and protocols; defined staff roles; enough clinical time, and clinical flexibility.

Conclusion and Clinical Implications: Knowledge from staff in this study would be useful for other health services to consider when looking to deliver similar models of care.

Healthcare providers' experiences with and perspective on delivering the enhanced recovery after caesarean section (EREC) pathway with next-day discharge: A qualitative thematic analysis.

Impact

What problem did the study address?

- Literature on staff experiences with and perspectives on enhanced recovery care after caesarean section is limited. Given this, a qualitative study on staff who have experience with enhanced recovery care after caesarean section will help inform similar pathways.

What were the main findings?

- Healthcare providers generally accepted enhanced recovery care and reported it as a positive and beneficial model of care.
- Challenges included implementing early discharge, eligible women's automatic inclusion on the pathway, engaging women, change for staff, and organisational constraints and procedures.
- EREC-type care can be supported through effective communication with and education for women and their families; prepared care and supports; including home midwifery; staff education and communication of the evidence; clear guidelines and protocols; defined staff roles; ensuring enough clinical time and clinical flexibility.

Where and on whom will the research have an impact?

- Health services and staff seeking to implement enhanced recovery care in a wide range of clinical settings, especially those seeking to implement enhanced recovery care for caesarean section.
- Health services and staff seeking to implement a reduced length of postnatal stay after caesarean section.

Introduction

Globally, programs of enhanced recovery after surgery (ERAS) are increasingly common. ERAS is defined as an improved approach to patient care pre- and post-surgery. Common elements of ERAS include guidelines that standardise care, patient education, early mobilisation, early cessation of fasting, and earlier catheter removal (Patil et al., 2019). Given these improvements facilitate quicker patient recuperation, most ERAS programs include or expect a reduced hospital length of stay (Patil et al., 2019; Sultan et al., 2020; Varadhan et al., 2010). Enhanced recovery has been applied to obstetric care in the context of caesarean sections (Lucas & Gough, 2013; Peahl et al., 2019). Evidence including a rapid review of protocols and systematic reviews (Corso et al., 2017), a recent systematic review and meta-analysis (Sultan et al., 2020, 2021), report (Cusack et al., 2018) and qualitative paper (Cusack et al., 2020) have shown that enhanced recovery care for caesarean section decreases length of stay; improves costs for the system; has no indication of patient harm; no increase in hospital re-admissions; has benefits for pain and pain management and either improves or maintains patient satisfaction.

In 2016, a large maternity service in South Australia implemented a practice development initiative called Enhanced Recovery after Elective Caesarean (EREC) (Cusack et al., 2018). At this time, enhanced recovery care in the context of caesarean section was an emerging concept (Lucas & Gough, 2013). The EREC pathways implementation and delivery

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is midwifery-led and to be eligible women must: live within the community midwifery catchment area; be carrying a singleton fetus; have social support and no major comorbidities (physical and or psychological). Women are automatically included on EREC if they meet the eligibility criteria and are only 'opted-out' if they no longer meet these criteria; for example, if medical or psychosocial reasons arise. EREC includes antenatal education and preparation and improved postnatal care including: early cessation of fasting; early catheter removal; early mobilisation; prepared analgesia; and criteria-led hospital discharge. Given this 'enhanced recovery', a reduced length of stay with a next-day discharge approximately 24-36 hours after surgery is planned this is also referred to as 'early discharge' throughout the paper. The pathway aims to transition the remainder of postnatal care and recovery at home with additional midwifery care, and the Mothercarer service for additional practical and social support.

In non-maternity settings, challenges to enhanced recovery care implementation have been reported and are thought to be multifaceted and include patient, staff and system factors (Beal et al., 2021; Cohen & Gooberman-Hill, 2019). A systematic review on colorectal surgery found that patient characteristics and demographics played a role in the successful implementation of enhanced recovery care (Stone et al., 2018). Staff barriers to implementation included challenges with beliefs and attitudes, difficulty with change, and challenges with communication (Salenger et al., 2020; Stone et al., 2018). Operative complications and procedural deviations, resulting in delayed patient mobilisation have also been purported to delay enhanced recovery care processes (Boulind et al., 2012; Stone et al., 2018).

Understanding the experiences and perspectives of healthcare providers is an essential part of implementing enhanced recovery care protocols, as it allows for a better understanding of the challenges and enablers (Seow-En et al., 2021). Literature on providers' perspectives and experiences delivering ERAS including a meta-synthesis of qualitative studies in various clinical settings such as colorectal and orthopaedic surgeries demonstrated that staff generally

view enhanced recovery care positively (Cohen & Gooberman-Hill, 2019). However, there are some identified challenges in the literature from the staff's perspective including resistance to change, lack of confidence, lack of resources, and challenges with following enhanced recovery care protocols (Cohen & Gooberman-Hill, 2019; Herbert et al., 2017; Salenger et al., 2020; Stone et al., 2018). A recent scoping review of staff attitudes regarding enhanced recovery care for caesarean section (Rosyidah et al., 2021) found limited data. The existing evidence-base was restricted to quantitative studies and no studies considered healthcare providers' attitudes and experiences (Rosyidah et al., 2021). The same study recommended future research on staff attitudes to enhanced recovery care in the context of caesarean section.

Aim

To understand staff experiences with, and perspectives on, enhanced recovery care after caesarean section with next-day discharge.

Methods

Recruitment and Setting

The qualitative study was conducted within a health-service catchment area comprising two hospital sites in metropolitan Adelaide, South Australia. Antenatal care is provided at both sites with the intrapartum and postnatal components of care occurring at one site only. To be eligible for the study, midwives, and medical doctors (at any level of seniority) were required to have direct occupational experience of the EREC pathway either through the provision of care, or by virtue of being in a managerial position. A purposeful maximum variation sampling approach (Braun & Clarke, 2013; Palinkas et al., 2015) was taken to capture responses from a wide range of participants based on seniority, work experience and site location (Braun & Clarke, 2013; Palinkas et al., 2015). We initially contacted and provided an invitation letter to four senior midwives from each of the main wards and clinics; one senior doctor, and emailed all obstetrics and gynaecology registrars and medical officers at the health

service. Potential respondents were recruited during day-to-day interactions between them and the first author (CD) with some interviewees approaching CD wanting to be interviewed; snowball approaches were also used.

Data Collection

Semi-structured face-to-face individual interviews were conducted by CD at both hospital sites between May 2019 and October 2019 so respondents could report on the first three years of the pathway's establishment and implementation. Since this period, there have been minimal changes made to the pathway other than it is no longer called EREC and has become routine care for eligible women. Indicative interview questions are presented in Table 1. One pilot interview was conducted resulting in no significant changes to the process or interview questions; this interview was included in the study. While some interviews were scheduled, often interviews would occur impromptu and opportunistically between participants' clinical work. All interviews were conducted in a space of the participant's choosing, with most completed in a private, quiet space; however, some staff felt comfortable to speak openly in a public space and requested to be interviewed at the midwifery station so they could be available to conduct clinical work.

Table 1

Indicative interview questions

-
1. Can you please describe to me the types of experiences you have had providing care to women on the enhanced recovery pathway/EREC?
 2. What are your general opinions of the pathway?
 3. What do you think others who work with women on the pathway think about it?
 4. What are some of the reasons that women on the pathway stay longer than 24 hours?
 5. What are the strengths or the positives of the pathway?
 6. What are the negatives or weaknesses of the pathway?
 7. What, if anything, would you like to see changed to assist other mothers allocated to the pathway?
-

Interviews ranged from 11 to 49 minutes with an average of 25 minutes. All transcriptions were recorded and coded verbatim. Participants were offered a transcript, however, none requested this. Data were collected until the maximum variation sampling matrix was completed (Palinkas et al., 2015) and until data saturation (Hennink et al., 2017), as decided in consultation with members of the research team.

Participants were asked to describe how long they had worked at the service and their current occupational roles; details of age and gender were not collected to preserve anonymity. Seniority was defined as follows: Non-senior staff: new graduates, medical officer, registrars or those without senior positions and less than ten years clinical experience. Senior staff:

consultants, nurse unit managers, associate nurse unit managers or those with ten or more years clinical experience.

Ethical Considerations

This study was approved by the health service and University Human Research Ethics Committees. Participants were provided with an information sheet and consent form where verbal and written consent was gained for all participants, including knowledge that their participation was voluntary, and they could withdraw at any time. The researcher had no prior relationship with the staff or the health services and was not involved in the day-to-day running of the health service or the EREC pathway. The researchers are from a multi-disciplinary background bringing a variety of views and experiences when conducting this research. All the researchers identify as women and some members of the team are parents.

Data Analysis

Thematic Analysis guided by the six-phased process outlined by Braun and Clarke (Braun & Clarke, 2006, 2013, 2019) was used: 1) data familiarisation, 2) data coding, 3) initial generation of themes, 4) development and review of themes 5) refining, defining, and naming themes, and 6) writing the report. An inductive approach to the analysis was taken, therefore the whole dataset was coded. The researchers took a realist perspective and a semantic approach to the analysis, and therefore did not analyse or create additional meaning beyond what was reported by participants. Tracy's (2010) eight 'big-tent' criteria for quality in qualitative research were used.

Rigour and Reflexivity

Authors DT and CD met prior to coding to discuss the aims and approach to analysis. All interviews were analysed and coded by the first author. As part of reflexive practice, DT independently coded one transcript, and AW independently complete coded two transcripts and acted as a second coder for some sub-sections of transcripts. Themes were generated from

the coded data and named in an iterative and collaborative manner by the research team, led by the first author (Braun & Clarke, 2013, 2019). Field notes and an audit trail were kept during the project to ensure transparency and self-reflexivity, including reflections post-interview, during the coding, and analysis; discussions between the research team were also conducted based on these reflections (Tracy, 2010). This paper was written in accordance with the COREQ checklist for qualitative analysis (Tong et al., 2007).

Findings

Participants

Twenty-three interviews were completed with midwives and doctors who had occupational experience working with the EREC pathway. Specifically, participants in the study included: medical doctors (n=5), midwives in the antenatal clinic at site 1 (n=5), midwives in the antenatal clinic at site 2 (n=4), midwives from the recovery ward (n=5) and midwives from the home visiting midwifery service (n=4). Most doctors worked across both sites and wards; some midwives rotated through different wards/clinics and were categorised based on their current primary place of work. Eight participants identified as non-senior and 12 identified as senior (data were missing for 3 participants who identified as midwives). Experience as doctors or midwives ranged from 6 months to 40 years.

Themes

Five main themes were identified: EREC is more than just early discharge; experiences with the EREC process; women-centred care; staff engagement with EREC; and the impact of EREC within the health system. Major themes and the associated 13 sub-themes are presented in Table 2.

Table 2

Major themes and sub-themes identified from thematic analysis

Major Themes	Sub-themes
1. EREC is more than just early discharge	a) It is enhanced recovery, not early discharge b) It is transitioning care to home
2. Experiences with the EREC process	a) Varied engagement from women b) Challenges understanding women's eligibility for EREC c) Challenges with EREC procedures and guidelines
3. Women-centred practice	a) Women's choice within EREC b) Consideration of women's cultural background c) Women's concerns about going home early d) Family influences on going home early
4. Staff engagement with EREC	a) Varying views of EREC b) Coping with change in practice
5. The impact of enhanced recovery care within the health system	a) Reduced health system pressure b) Increased workload with less clinical time

Theme 1: EREC is more than just early discharge

The first theme considers the way participants conceptualise EREC in terms of the broader care available to women, and the many elements that make up the EREC pathway as opposed to just the early discharge component.

It is enhanced recovery, not early discharge

This sub-theme specifically focuses on the many elements of the EREC pathway relating to enhanced recovery care and the frustration some staff expressed regarding a perceived hyper-focus on early discharge. Most discussed specific elements of enhanced recovery care that supported women in having a quicker recovery for example mobilising earlier, catheter removal, and pre-prepared analgesia and home supports. Most staff felt that

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women on the EREC pathway were generally better supported than others who had experienced a caesarean section birth because of the focus on education and preparation, as well as the additional supports available through family, home midwifery and Mothercarers.

... it's not that we're [discharging at] 24-hours ... it is enhanced recovery, and they are going to be well supported, and healing at home is going to be beneficial for them, rather than sitting in a hospital bed, not mobilising ... their medications are given to them and are explained... (Interview 15, Midwife, Seniority Unknown)

It is transitioning care to home

This sub-theme captures transitioning recovery and care out of the hospital and into the home environment. Most felt that home midwifery and Mothercarers were beneficial and supported with recovery at home: physical check-ups for both the woman and baby; breastfeeding; emotional, and social support. Respondents also commented on the added benefit of having focused uninterrupted care at home with the midwives in comparison to care received in hospital.

yeah that they do get a Mothercarer, that the Mothercarer goes for five hours a day for four days in a row ... the midwifery care that you get at home would be better than you get in hospital, and I only mean that from ... a time factor thing ... at home you have a midwife for 45 minutes all to yourself, no interruptions, no phone calls, no other bells ringing ... and they can teach you [breastfeeding] in your environment (Interview 13, Midwife, Senior)

The home environment was generally thought to ‘enhance recovery’ as it was seen to be a place of rest, reduced risk of infection and had benefits for facilitating family bonding with the new baby and other children.

They probably are better off recovering at home than they are with us [in hospital] ... better than being in hospital having 45 min obs [observations] they’re able to get back into their own home and spend time with their baby and partner... it's nice for them to be with their families (Interview 10, Midwife, Non-Senior)

At the same time the home environment was considered by participants to have some challenges such as the risk of women ‘doing too much’ and not resting, and concern that not being ‘at the end of a bell’ in the early days might be a stressful experience for women.

... but it’s also a little bit scary that you don’t have a health professional at the end of a buzzer um so that can be a little bit scary for the women too (Interview 2, Midwife, Senior)

Among midwives especially, there was concern that breastfeeding may be negatively impacted by transitioning care to home soon after caesarean section, as women may need support. There was also concern that women were being sent home ‘before their milk came in’, although most acknowledged this often occurs regardless of EREC, as discharge is typically 24-73 hours after caesarean section.

I can sense it is very difficult for a woman to cope with breastfeeding problems and sending her home the next day (Interview 12, Midwife, Senior)

Theme 2: Experiences with the EREC process

Theme 2 addresses how EREC has been implemented in practice, including challenges such as engaging and gaining 'buy-in' from women and staff, as well as confusion about eligibility for the pathway.

Varied engagement from women

Many felt that women were engaging well with EREC from antenatal education to postnatal recovery. However, most had some concerns about women's engagement with the pathway content and processes especially with antenatal education, which was a key factor to feeling prepared and ready for early discharge. Perceived barriers to engagement varied and included: language barriers; psychosocial factors; past experiences with childbirth; expectations about recovery, and following post-caesarean section recovery guidelines, e.g., no heavy lifting.

Yeah so to me that unique group of women are actually listening and asking questions and reading the literature and showing to us that they've got an interest in it ... I think a lot of stuff that we give is written literature and a lot of it hasn't moved in their hand held record every visit, and you can see that and you know you'll ask questions and they'll say 'I haven't actually read it' (Interview 17, Midwife, Senior).

Challenges understanding women's eligibility for EREC

One of the biggest reported challenges was understanding the eligibility procedures, and reasons why women were being 'opted-out' of the pathway. While healthcare providers were aware of eligibility criteria and antenatal screening, there were some inconsistencies or confusion about eligibility for some groups of women e.g., those who speak a language other than English at home and those having a caesarean section for the first time. Additional concerns were raised about how best to assess women's social supports.

... well social reasons and psychological reasons it's very vague on the inclusions and exclusion criteria about what is included and why they shouldn't be on EREC (Interview 7, Midwife, Seniority Unknown)

Generally, staff felt the most common scenario for being 'opted-out' of EREC after initially being assessed as eligible were medical reasons, such as postpartum haemorrhage, high blood pressure and infant feeding. While less commonly discussed, it was thought that some women were 'opted-out' of EREC after their initial assessment due to psychological or social reasons. However, staff identified that it was unclear whether women's circumstances had changed during the course of the pathway, or rather that the initial eligibility assessment did not accurately reflect their real circumstances, and therefore they had 'slipped through the cracks'.

... significant social issues [stop women from staying on the pathway] which means they're not suitable to actually go home or complications in the pregnancy are usually the main ones or possibly during the caesarean itself if they have a massive bleed or something ... a majority [of psychosocial co-morbidities] are

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picked up at the antenatal clinic but occasionally you'll get someone who's slipped through the cracks and we find it at the time of the caesarean section (Interview 20, Doctor, Non-Senior).

Challenges with EREC procedures and guidelines

Participants relayed some instances of confusion with the procedures, and policies such as discharge criteria, or that relevant paperwork was not filled out.

I just go by the checklist and make sure they still meet them and just tick them and carry on with EREC ... I think the discharge is pretty straight forward ... I've looked at the paperwork and read through them quite clearly, it's very thorough it covers nearly everything (Interview 5, Doctor, Non-Senior)

However, the same participant found paperwork not being completed impacted on the discharge process.

Not everyone's filled out the paperwork like at 28 and 34 weeks so you're not always sure are they still EREC? ... the discharge goes well because yeah ... when people fill out paperwork and fill out all the criteria-led discharge and tick all the boxes and checking what needs to be checked (Interview 5, Doctor, Non-Senior)

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Another aspect of policies and procedures affecting care was a need for better identification of women on the pathway and better guidelines on accessing medical and allied health care after discharge.

A lot of our services seem to suddenly get shut off as soon as somebody's left hospital, I guess that's what GPs are for (Interview 11, Midwife, Senior)

There were also some examples of staff having experiences with women not being aware they were on the pathway, resulting from a breakdown in the education or communication processes regarding the nature of their care.

Some people will say I didn't know I was on the EREC program and that might be from a lack of education antenatally when someone has just not educated them (Interview 19, Midwife, Non-Senior)

This suggests that while the criteria and procedures work well when they are completed properly, there is some room for improvement.

Theme 3: Women-centred practice

The theme of 'women-centred practice' includes women's choice and flexibility within the EREC pathway, and staff experiences of fielding concerns from both women and their families.

Women's choice within EREC

There was much discussion about women's ability to choose or 'opt-out' of the pathway, with staff believing that most women wanted more choice with the early discharge component specifically.

[EREC] is not the patient's choice, it is: are they able to go home, are they fit to go home? ... that's not what EREC is..., it's not about their choice, its whether they're physically fit (Interview 12, Midwife, Senior)

Some were concerned that limiting choice was incongruent with women-centred and individualised care, and felt women should have more autonomy with EREC.

I think patients should have more of an option if they want it, for some people for whatever reason might not want it ... so they should be given an option (Interview 16, Doctor, Non-Senior)

Many felt that the EREC pathway had been set up as an 'opt-out' process to normalise and streamline the early discharge experience.

If you've had a baby [vaginally] you'd go home in 24 hours ... it's just getting people used to ... the idea of it [early discharge] that it's safe to go home early, that it's normal, like we're trying to normalise it a bit more (Interview 6, Midwife, Seniority Unknown)

Consideration of women's cultural background

There was also discussion that specific parts of EREC may have cultural implications for culturally and linguistically diverse (CALD) women. One consideration referenced was that the early mobilisation element of EREC may be contradictory to practices such as the lying-in or confinement period (Withers et al., 2018), a practice emphasising rest and reduced mobility to aid postnatal recovery.

some cultural groups have the lying-in kind of thing and I feel maybe they wouldn't want to take part in that [EREC] because it's not really in line with the lying-in [practice] (Interview 4, Midwife, Non-Senior)

At the same time, participants expressed that some CALD groups may have greater home support networks in the postpartum period, specifically from the women's mother and mothers-in-law.

I think depending on the nationality, but I feel like some of our multicultural women have a better support network than our non-multicultural women because they have people with them, they have their mum with them if they have them fly in or they have that big group of people at home (Interview 2, Midwife, Senior)

Women's concerns about going home early

Several staff who had experiences introducing women to the pathway reported that women often had an initial 'shocked' reaction, and had a range of concerns specifically related

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to early discharge. These ranged from breastfeeding post-discharge, available supports, pain management, safety of discharge, coping at home, and their ability to recover.

Most of them are a little bit shocked when we tell them that we do have a 24-hour stay (Interview 15, Midwife, Seniority Unknown)

Some reported that they often had to ‘sell’ EREC to women and used evidence, reassurance, and rapport to help women feel at ease with the early discharge component of EREC.

because our role is education, we [midwives], I, like to put a positive spin on it right from the outset so they understand this is a process we can go through together and we help them with any questions they have and reassure them a lot so it is generally quite positively accepted (Interview 8, Midwife, Senior)

While women had initial concerns, staff felt that women’s concerns were largely alleviated with reassurance, education, and further explanation of the pathway as a whole.

Some women are really happy, and some women are apprehensive at first until you explain what [EREC] means, but most people are really happy to get to go home (Interview 14, Midwife, Non-Senior)

While most felt that women eventually accepted the pathway, especially early discharge, some staff gave examples of women not wanting to be on the pathway even after

explanation and education. Some experiences included women not wanting to go home after their caesarean section due to new or re-ignited apprehension.

... you'll say to the patient you're on the EREC program and some of them will say to you 'I don't want to go home' tomorrow (Interview 7, Midwife, Seniority Unknown)

Family influences on going home early

Some staff felt that the women's family reactions to EREC, particularly early discharge, were generally negative. Most examples of concern were reported to come from the women's mother and mother-in-law rather than the woman's partner. These concerns were generally thought to be due to the generational differences in experiences and expectations about length of stay after caesarean section.

... their mums are saying to them, well you can't possibly do that [go home early]. I didn't do that, I stayed in 6 days or 7 days or whatever and you know, I just think it's that change (Interview 3, Midwife, Senior)

The reactions from others were thought by some to negatively influence women's confidence with EREC. Given this, some felt that changing the wider community's mindset but also reassuring family members was necessary for the success of the pathway.

we tell them [the woman's mother] yeah things have changed, you know, they're more advanced ... people recover much faster than before, and the risk of infection is reduced due to antibiotics ... the mothers [woman's

mother] are a huge influence on them. We have to educate the [woman's mother] as well (Interview 12, Midwife, Senior)

Theme 4: Staff engagement with EREC

The fourth theme addresses staff engagement with EREC, their perceptions of the pathway, and how staff can facilitate or obstruct the delivery of the pathway based on their 'buy-in'. It also captures how evidence and information can assist in supporting staff in their opinions and service delivery.

Varied views of EREC

Staff generally had varied views about EREC and different opinions about how their colleagues perceived EREC. While not all agreed, most reported that they personally felt that EREC was a positive pathway.

generally, I think overall the EREC program works well you know I'm a great believer and I'm very accepting of it (Interview 18, Midwife, Senior)

A few expressed personally viewing the pathway as a negative by going against their personal and professional values. Most had concerns about the lack of flexibility with the pathway being provided on an 'opt-out' basis rather than as an 'opt-in' option and concerns around early discharge.

I think [EREC has] definitely got its place but ... people that were having elective sections were automatically enrolled in into that pathway, for me as a nurturer I would think that's not appropriate it's not appropriate for everyone

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... if someone came to me and said I really don't want to be part of this program I really don't have the support ... I would more than ... willingly take them off the program ... (Interview 22, Midwife, Senior)

Much of the discussion focused on staff views and understanding of their colleagues' beliefs regarding EREC, including the 'opt-out' feature and how these views either support or hinder the delivery of the program.

some people really like the EREC pathway and support it and will facilitate it and will really encourage it and ... enhance it more, and other people are obstructive towards it. [Some staff say] ... 'oh no that baby's not feeding so they're not going home', or will find any excuse to keep them off of EREC so they can stay another day (Interview 13, Midwife, Senior)

Coping with change

Providers often discussed the fact that the introduction of EREC was a considerable change in the care of women having elective caesarean section. Two of the major changes to practice were to length of stay, and shifting more of the care to midwifery rather than the obstetric team. Several smaller changes were also made to the pathway when it was first introduced which also represented a challenge for some staff.

It was just a little bit confusing for them [midwives] ... we kept changing it [EREC] ... It was a bit confusing; I must admit there was a lot all of a sudden, we didn't have anything to do with these women [having elective caesarean] and now all of a sudden we're touching base with them 3 times

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during their pregnancy with significant pieces of information that we have to talk about so it was different (Interview 2, Midwife, Senior)

There was also discussion that there was a generational difference in staff with accepting the pathway, particularly regarding early discharge.

I've been a midwife for over 35 years so when I first started my midwifery training, women were in hospital for a minimum of 5 days for a caesarean and that was considered cutting it short ... so you have to sort of change your thinking about that (Interview 8, Midwife, Senior)

Staff also expressed a need for evidence and more information to help support their transition to implementing EREC into practice. Education and knowing the evidence reassured staff of the safety and efficacy of EREC, which increased confidence in delivering the pathway to women. There was also some discussion about aspects of the workforce that had gaps in knowledge including new staff members and casual or rotating staff.

yeah and maybe educate us a bit more about it [EREC] ... I feel like it's just something that happens, and I don't know, is there evidence? Obviously, there's been research done but I've never heard if it's actually beneficial like statistically ... so more education for us (Interview 4, Midwife, Non-Senior)

As EREC is predominantly midwifery-led, this had implications for staff roles and responsibilities and sparked confusion about 'whose job' it was to decide on factors such as eligibility, and how to educate other staff, especially from other disciplines.

... it's not our role... to educate the medical officers [on EREC] but I know midwives do tend to and sometimes ... there's a bit of opposition (Interview 1, Midwife, Senior)

This also had implications in relation to staff seniority with respect to their profession.

They [junior doctors] will not stand-up against a midwife if it's a junior doctor they will not stand-up against a senior midwife, well if it's a consultant they would say 'listen she really doesn't want to go' then they would probably win that, on behalf of the patient (Interview 9, Doctor, Senior)

Theme 5: The impact of enhanced recovery care within the health system

The fifth theme captures the benefits and challenges of enhanced recovery care within the health system.

Reduced health system pressure

While EREC was seen to have benefits to women, many felt there were wider benefits to the health system, specifically financial benefits due to early discharge, and relieving system pressures such as aiding bed turnover.

[EREC's] great from a hospital perspective because it reduces the bed pressure that we've got and the staffing pressures that we've got so I think it definitely helps out from that perspective (Interview 21, Doctor, Non-Senior)

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Some felt that implementing EREC was driven solely by financial considerations rather than benefiting women, and therefore felt this was an inappropriate justification. Some also reported that women had expressed similar concerns.

a lot of the people that are in charge I believe are very focused on money and they have to be because they're managers and that's important, but I think if it's to the detriment of someone's care in a hospital ... (Interview 23, Midwife, Senior)

Increased workload with less clinical time

While EREC was reported to benefit the health system by discharging earlier, staff also expressed system challenges in implementing enhanced recovery care from a time perspective. Specifically, there were challenges with antenatal preparation in the context of a busy clinic.

it's very hard to know how much is sinking in, because the downside is that we have a very short space of time to actually talk about it [EREC] and give them information (Interview 11, Midwife, Senior)

Other challenges included getting women ready for discharge within a 24-hour period.

You've got a lot of pressure ... you might have 5 women who you're looking after on a shift, discharging 4 of them, if one of them is EREC as well, then you've got the additional things ... like having a caesarean and having to

recover them and then also having to discharge them, as well as 3 other people (Interview 10, Midwife, Non-Senior)

Discussion

This qualitative study addresses a gap in the literature by seeking to understand doctors and midwives' experiences with, and perspectives on, an enhanced recovery care program with next-day discharge in the context of elective caesarean section. Participants in this study generally supported and accepted enhanced recovery care for caesarean section and the EREC pathway more generally. However, there were some identified challenges. Understanding the experiences and perspective of healthcare providers in this setting could assist those in other clinical settings looking to implement similar programs of care.

The Benefits of Enhanced Recovery

Enhanced recovery was generally supported and considered to be a positive pathway by staff, with identified benefits to women, their families, and the health-service. This is consistent with previous research with healthcare providers in other clinical settings such as colorectal, gynaecological and orthopaedic surgeries (Cohen & Goberman-Hill, 2019).

Staff in this study identified that one of the main benefits was that women had a quicker recovery due to enhanced recovery care components such as earlier mobilisation. It was reported that EREC participants were better prepared compared to others experiencing caesarean section, especially with pain management and with the preparation of postnatal care. In fact, staff identified that women on the EREC pathway had excellent access to postnatal support with additional one-on-one home midwifery, planned social supports, and Mothercarer support. Moreover, enhanced recovery care facilitated recovery in the home environment which was thought to have benefits for family togetherness, rest, recovery, and reduced infection risk. Staff also identified financial and system pressure benefits. Literature on enhanced recovery care after caesarean section have shown benefits including for pain

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management, breastfeeding, maternal-infant bonding as well as financial benefits due to associated reductions in length of stay (Chiao et al., 2022; Sultan et al., 2020, 2021). Qualitative interviews with women on EREC demonstrated that the benefits of EREC from the woman's perspective were having a quicker recovery, home support and especially home midwifery, and being in the comfort of home with other children (Cusack et al., 2020).

While EREC was considered a beneficial program five main challenges were identified by staff, including acceptance of early discharge; challenges with eligible women automatically being included on EREC; engaging women with the pathway; staff challenges with change; and with processes and organisational constraints.

Challenges with Early Discharge

Staff identified that acceptance and integration of early discharge was challenging for some women, their families, and staff. There were several concerns regarding early discharge: specifically that next-day discharge may negatively impact on breastfeeding; pain management; increase maternal stress; women's ability to cope at home, and the safety of early discharge. Staff also had concerns about women and their families' support for early discharge, and women's satisfaction with this type of care.

However, these outlined concerns from women, their families, and staff are not fully supported by the current literature. Two reviews have shown no increase in re-admission rates associated with enhanced recovery care (Sultan et al., 2021) or with early discharge after childbirth (Jones et al., 2021). A systematic review on early discharge after caesarean section demonstrated no clear negative impact on women's psychosocial outcomes including maternal satisfaction, well-being and breastfeeding; although evidence regarding the impact of breastfeeding was varied (Digenis et al., 2020). Home midwifery and clear discharge guidelines (e.g., pain management and breastfeeding initiation) were critical for supporting

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women's psychosocial outcomes (Digenis et al., 2020), and this was also highlighted by staff as important in this study. Additionally, interviews with women on EREC reported they were satisfied with this model of care and had a positive attitude regarding recovery at home provided there was home midwifery; flexibility with length of stay if needed; reassurance and information for both women and their families (Cusack et al., 2020). This is consistent with staff's observations that women eventually felt comfortable with EREC and next-day discharge after education, reassurance, and support.

Challenges with Automatic Inclusion on the Pathway

Staff reported that one of the main challenges for delivering EREC was that eligible women were automatically included on the pathway with early discharge, and only 'opted-out' based on criteria such as for medical reasons. While staff reported the need for protocol-based care was to normalise EREC-type care, given the limited choice with EREC some reported this was incongruent with their need for flexibility and clinical autonomy critical for delivering patient-centred care. Similar concerns about protocols have been noted in other enhanced recovery care contexts such as, but not limited to, colorectal surgery and orthopaedic surgery (Cohen & Goberman-Hill, 2019; Stone et al., 2018). Previous literature has also reported that protocol-based care can lead to restricted clinical judgment, and restrict individualised care, leading to a 'tick box mentality' (Rycroft-Malone et al., 2008).

Challenges with engaging women with enhanced recovery care

Staff also identified that engaging women in antenatal education and some aspects of postnatal recovery such as earlier mobilisation was challenging. Individual patient factors such as psychosocial considerations including language barriers, patient mindset, expectations and previous experience were reported as barriers to engagement, this is supported by previous

research in other enhanced recovery care contexts (Salenger et al., 2020; Stone et al., 2018). Additionally staff noted that women's families impact on their engagement with EREC, which was also highlighted in a qualitative study with women demonstrating the importance of engaging families (Cusack et al., 2020). Cultural expectations around recovery were also thought to impact engagement, although this has not been previously explored in the literature about enhanced recovery care.

Challenges with Change for Staff

Staff also reported some difficulty dealing with change, clarity in their roles with EREC (e.g., midwifery-led) and some challenges with staff seniority and generational differences. These challenges are consistent with previous research on enhanced recovery care which demonstrates staff-related barriers including resistance to change, and lack of confidence with introducing enhanced recovery care (Cohen & Goberman-Hill, 2019; Herbert et al., 2017; Salenger et al., 2020; Seow-En et al., 2021; Stone et al., 2018). As with participants in this study, communication of evidence to staff was considered as beneficial for assisting with clinical change (Cohen & Goberman-Hill, 2019). Additionally, previous research has suggested that senior staff have more difficulty with acceptance of change due to a reluctance to engage with unfamiliar work practices, and that junior staff have less awareness of enhanced recovery care protocols, and therefore have less adherence (Cohen & Goberman-Hill, 2019; Stone et al., 2018). Furthermore, Rycroft-Malone et al., (2008) also found that protocol-based care extended responsibility to nurses and midwives which was beyond the traditional scope of practice. Previous literature has suggested having clear staff

roles for example an enhanced recovery care ‘champion’ (Salenger et al., 2020) can assist with education, and assist other staff with implementation.

Challenges with Processes and Organisational Constraints

Participants also identified process and organisational challenges with EREC. These challenges included confusion about eligibility criteria; difficulty with paperwork and with identifying women on EREC; communication of the evidence to staff; staffing challenges particularly with rotating and new staff; having enough clinical time for EREC and clarity about ongoing services (e.g., access to allied health). Such challenges have been identified in previous work on staff in other enhanced recovery care contexts (Cohen & Goberman-Hill, 2019; Herbert et al., 2017; Pearsall et al., 2015; Stone et al., 2018).

Clinical Implications

Enhanced recovery care after caesarean section is an acceptable model of care from the staff perspective. Taken together, the evidence suggests that it is a viable care pathway for health service staff to consider implementing. Learning from this health service regarding the benefits and challenges from the staff perspective are useful to consider in other settings looking to implement EREC-type pathways. Additionally, this study identifies key components which support acceptance and integration of EREC-type care which will be useful for other clinical settings including the importance of education, communication and reassurance for women and families; preparation of care and supports especially home midwifery; staff education and communication of the evidence; clear guidelines and protocols; defined staff roles; enough clinical time and clinical flexibility.

Strengths and limitations

This paper reports on the first qualitative study that the authors are aware of to consider healthcare providers’ perspectives, and experiences with enhanced recovery care after elective

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caesarean section. It included a wide range of staff with varying experiences with the EREC pathway suggesting good coverage of views from staff at the health service. While it corroborates evidence from previous research on enhanced recovery care implementation, transferability to other settings might be limited as enhanced recovery care protocols may vary. One strength of the work was the rigorous approach with which the methodology was adopted, using well-established methods. A limitation is that some interviews were constrained by clinical work, which restricted the length and therefore the detail. Furthermore, while staff chose their preferred location, interviews conducted in more public spaces may have impacted responses.

Future research

It is recommended that periodic monitoring is conducted of both clinical and psychosocial outcomes, including breastfeeding, to strengthen the evidence-base of enhanced recovery care including early discharge after caesarean section. Other health services should also consider reporting on staff's experiences and perspectives with enhanced recovery care in the context of caesarean section, and include a range of views. Qualitative research into healthcare providers' experiences and perspectives at different time points of implementation should be considered for example pre- and post-intervention, and after a period of time once the pathway is established. This will produce reflections and learnings about challenges and facilitators over time.

Conclusion

Staff reported enhanced recovery care was an acceptable model of care with benefits to women, their families, and the health service. The implementation challenges identified by staff in this study might be considered in future roll-outs of enhanced recovery care following caesarean section.

Chapter 7: Discussion and Conclusions

Preamble

This program of research was conducted using multiple methods and aimed to better understand enhanced recovery care after caesarean section and the associated reduced length of stay, to inform future similar models of care. This work was completed in the context of the first enhanced recovery care after caesarean section program in Australia called the *Enhanced Recovery after Elective Caesarean Section* pathway, also referred to as the EREC pathway. The knowledge gained from this study is beneficial for the development of similar enhanced recovery care programs in the future, and for the continued development of the EREC pathway. This Discussion Chapter will begin by outlining the overall significance of this work. Next, the contribution of this program of research to the knowledge of enhanced recovery care after caesarean section, and for other enhanced recovery after surgery (ERAS) contexts will be discussed. This will then follow with a discussion of the strengths and limitations as well as considerations for future research. Finally, recommendations for enhanced recovery care after caesarean section will be presented in relation to the research findings.

7.1. Significance of the Work

The four independent studies included in this work are timely given the rising caesarean section rate (AIHW, 2021; WHO, 2015, 2021), which is coupled with a reducing length of hospital stay in Australia and in other high-income countries (AIHW, 2019; Bowers and Cheyne, 2016; Ford et al., 2012). The prevalence of next-day discharge after caesarean section, in the context of enhanced recovery care, is also becoming increasingly common despite the fact that it has not been thoroughly investigated in the literature (Bowden et al., 2019; Corso et al., 2017; Ilyas et al., 2019; Wrench et al., 2015). One notable strength is the comprehensive approach taken to address methodological gaps in the literature, including the

first systematic review on women's experiences and psychosocial outcomes following caesarean section with a reduced length of stay. This review specifically isolated the outcomes of caesarean section from other modes of birth, such as vaginal birth, which was a significant limitation of previous research (Chapter 3). This work also includes the first qualitative work on women's experiences with enhanced recovery care and next-day discharge after caesarean section (Chapter 4), and the first qualitative paper to consider staff experiences with enhanced recovery care after caesarean section (Chapter 6). It also appears to be the first to capture a comprehensive discussion of staff experiences and perspectives about delivering a reduced length of hospital stay after caesarean section. Taken together with the findings of the prospective cohort study (Chapter 5) this significant work has implications for ongoing and future development of EREC-type care.

7.2. Contribution to Knowledge

7.2.1. Consider Implementing Enhanced Recovery Care with a Next-Day Discharge into Practice

Overall, the results of this research program provides additional knowledge on the benefits of enhanced recovery care with next-day discharge, which in combination with previous research, suggests that policy-makers should consider the thoughtful implementation of EREC-type care. Previous research has indicated no consistent findings of negative maternal and neonatal outcomes, and indeed some benefits (Birchall et al., 2022; Chiao et al., 2022; Corso et al., 2017; Cusack et al., 2018; Hedderson et al., 2019; Sultan et al., 2020, 2021). Strengthening this evidence-base, the benefits of this type of care identified in this research program are multifaceted and include either improved or maintained psychosocial outcomes including satisfaction for women (Chapter 3 and Chapter 4). In addition to this, the two qualitative studies (Chapter 4 and 6), and to some extent the

findings regarding women's preferences for recovery from the prospective cohort study (Chapter 5), identified many positives of EREC-type care. These positives include a perceived quicker recovery, being together as a family, recovering at home, perceived reduced risk of infection, having additional support, as well as financial and bed pressure benefits.

The sparse research currently published on women's satisfaction with enhanced recovery care after caesarean section also supports this conclusion given women's satisfaction was either improved or was unchanged by enhanced recovery care (Bowden et al., 2019; Laronche et al., 2017; Teigen et al., 2019). In addition to this, the literature on early discharge after childbirth (including vaginal and caesarean section birth) further supports the findings regarding satisfaction with reduced length of stay (Brooten et al., 1994; Brown et al., 2002; Carty & Bradley, 1990). Home recovery and family togetherness have also been suggested as benefits of earlier discharge after childbirth (Brown & Lumley, 1997; Nilsson et al., 2015), including from a meta-synthesis of ten articles on parents' experiences of early postpartum discharge (Nilsson et al., 2015). Findings from this program of research also add to the literature on ERAS where patients' preference to recover at home have been identified (Bernard & Foss, 2014a; Blazeby et al., 2010). The findings regarding staff acceptance of enhanced recovery models of care in this study are consistent with the views of healthcare professionals in various other studies on ERAS (Beal et al., 2021; Pearsall et al., 2015), including a meta-synthesis of qualitative studies (Cohen & Gooberman-Hill, 2019). In summary, enhanced recovery care after caesarean section should be considered in other maternity settings for elective caesarean section.

7.2.2. Support Staff

It is important to have the endorsement of staff to support the implementation of new enhanced recovery models of care. This research also identified the important role doctors

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and midwives had in delivering and implementing the EREC pathway, and discussed the various challenges staff reported with change and implementation (Chapter 6). This is also consistent with that of the experiences of staff implementing other ERAS programs who have also reported experiencing difficulty with change which in turn can negatively impact on implementation (Cohen & Gooberman-Hill, 2019; Seow-En et al., 2021; Stone et al., 2018). This is particularly important, as noted in Chapter 4; where women's confidence with the EREC pathway was impacted by the perceptions (either positive or negative) of staff who were involved with their care.

This research, particularly from Chapter 6 has explicated beneficial systems from the staff perspective which would support them with delivering EREC-type care. One example was the need for communication of the evidence to staff (Chapter 6), especially as some had concerns about women's outcomes (for example, breastfeeding, and maternal well-being) associated with next-day discharge. Given that these concerns are partially disarmed by the findings of the systematic review (Chapter 3) and the experiences of women (Chapter 4), communicating this and other evidence through education is part of the process of change for staff and is needed to facilitate staff 'buy-in'. Especially, given that evidence-based practice is a key tenant of delivering healthcare, and is part of standards of practice for midwives (Nursing and Midwifery Board, 2023).

Further, this research identified that the workforce reported a need for clear roles for education of other staff, and for clarity about whose role it is to deliver aspects of enhanced recovery care (for example, who decides on eligibility and discharge). This finding is consistent with prior research that has recommended implementing an enhanced recovery care 'champion' or co-ordinator at each site who can provide education and leadership (Beal et al., 2021; Cohen & Gooberman-Hill, 2019; Gramlich et al., 2017; Martin et al., 2018; Pearsall et al., 2015a; Wang et al., 2022).

Furthermore, staff reported needing a review of some of the policies and procedures for example, for better identification of women on the pathway, paperwork being completed, and having enough clinical time. This could be facilitated through a review and feedback process which has been partially conducted as a result of this research (Chapter 2).

In addition to this, staff identified that this model of care is not, and should not be, an early discharge only model of care. To ensure patients' well-being and positive outcomes, a robust and carefully designed package of care should be in place that includes important aspects of care in addition to common elements of enhanced recovery care such as earlier catheter removal and earlier mobilisation (Corso et al., 2017; Ilyas et al., 2019). This package of care, which is mostly included in the EREC pathway, will now be discussed, and should be considered for future models of care.

7.2.3. Creating a Package of Care that Meets Women's Needs

Findings from the two qualitative studies (Chapter 4 and 6) both aligned with and strengthened the findings of the systematic review (Chapter 3), which found that enhanced recovery care after caesarean section with next-day discharge requires a number of key elements to support patient care. These elements include carefully selecting women who meet eligibility criteria, preparation and education, well-defined discharge processes including pain management, and most importantly home support with community midwives.

7.2.3.1. *Antenatal Screening for Eligibility and Additional Support*

This line of research has confirmed that having defined eligibility criteria which considers women from the biopsychosocial perspective (Engel, 1977) is an important aspect of enhanced recovery care. The EREC program has several eligibility criteria outlined in more detail in Chapter 2. Exclusion criteria include no major physical and mental health

comorbidities, as well as having someone available at home for support. Yet some staff reported difficulty understanding women's eligibility.

While some reported challenges with the eligibility criteria, based on the results of the prospective cohort study (Chapter 5), it appears that the antenatal screening process for the EREC pathway is, to a large extent, effectively evaluating women's psychosocial context in the antenatal period as intended. This is evident from the high levels of social support reported by most women on the EREC pathway in the antenatal period, as well as the fact that median antenatal scores on depression, anxiety, and stress were within the normal range (Chapter 5). Moreover, there were no clinically meaningful or statistically significant differences between women who subsequently completed the EREC pathway and those who did not, on most variables in the antenatal period.

While requiring further investigation, the one statistically significant difference relating to higher antenatal stress levels in women who did not complete the pathway, does suggest that additional supports or preparation could be considered for these women. Considering this, a psychosocial screening questionnaire similar to the one included in Chapter 5 could be completed in the antenatal period and be used alongside clinical consultation to tailor supports for stress. Indeed, this could be a beneficial tool for screening other 'elevated' results (for example, higher than expected antenatal depression scores). Especially given some staff concerns about challenges with evaluating eligibility criteria such as social support (Chapter 6) and that some women, as noted in the supplementary material of Chapter 5, reported severe to extremely severe scores on the Depression, Anxiety, and Stress Scale (DASS-21). Having the support of validated measures such as the medical outcomes social support scale or DASS-21 could assist in appropriate referral to midwives for additional review and care, as was done in this study. This research has also identified the feasibility of completing an antenatal screening questionnaire in the waiting room. Future

programs could consider the application of similar types of questionnaires to assist with screening and subsequent support in the antenatal period.

Moreover, Chapter 6 identified that eligibility criteria could also extend to assessing the cultural and linguistic appropriateness of this type of care, or consider tailoring supports for culturally and linguistically diverse (CALD) women on the pathway. Language barriers have also been highlighted as impacting on the implementation of enhanced recovery care in other settings (Martin et al., 2018). The challenges for CALD women navigating maternity care have been reported in numerous studies including a comparative systematic review which demonstrated that language and communication difficulties were the most common concerns in almost all included studies (Small et al., 2014). Barriers were still reported even when interpreters were available, and challenges were extended to after birth including difficulty following cultural practices such as food preferences and showering (Small et al., 2014). Indeed, in this study there were some challenges engaging with CALD women given the low uptake of translated material and the few women who declined due to the interpreter being unwilling to translate English material (see Chapter 5, figure 1.).

Additional learnings from the prospective cohort study (Chapter 5) regarding antenatal screening relate to the high non-completion rate found for women with medical and obstetric complications. While it is a positive finding that women are not being discharged home if not clinically indicated, this also suggests that a refinement of antenatal eligibility criteria for pre-existing medical comorbidities may be warranted. Additional work is needed to understand if screening for medical comorbidities (for example, diabetes) in the antenatal period could be improved with the view to narrow the exclusion criteria.

Screening from the biopsychosocial perspective (Engel, 1977, 1980) for eligibility and additional supports should be a component of enhanced recovery care after caesarean

section especially when considering earlier discharge. This also has implications for pre-operative preparation and education.

7.2.3.2. Pre-operative Preparation and Education

Taken as a whole, the findings of this work demonstrate the importance of education and preparation for women and their families receiving enhanced recovery care and next-day discharge. Education and preparation such as the type included in the EREC pathway, not only increases perceived satisfaction and acceptability of care, but also supports positive psychosocial outcomes for women in the few studies which included some form of preparation in the systematic review (Chapter 3, 4, and 6).

Although high-quality evidence is lacking, the inclusion of education and preparation for enhanced recovery care after caesarean section is supported by the ERAS society recommendations (Wilson et al., 2018). However, the current recommendations relate to surgeon-led pre-operative counselling and information related to expectations around birth and the caesarean section procedure itself, and do not currently specify including discussions about preparation for discharge and the home environment (Wilson et al., 2018). This research also highlights the need for education to go beyond the surgical procedure, and should consider women's expectations, past experiences, and post-discharge recovery.

This finding can also be extended to strengthen the evidence-base supporting pre-operative information, education and counselling in other ERAS guidelines (for example, gynaecologic/oncology surgery (Nelson et al., 2016); gastrectomy (Mortensen et al., 2014); colonic surgery (Gustafsson et al., 2013). The benefits and importance of education and preparation have been highlighted in several studies including a systematic scoping study of 11 papers in the context of colorectal surgery which demonstrated that education had benefits for enhanced recovery care outcomes (Chapman et al., 2021). Information and communication were critical to the experience of patients and their feeling of security in

another systematic review of 11 qualitative studies (Sibbern et al., 2017). Another two qualitative studies also reported that patients' feelings of preparedness were facilitated by high-quality information (Bernard & Foss, 2014a; Gillis et al., 2017). This literature plus the evidence from this research strengthens the need for education and pre-operative preparation for ERAS more generally.

Beyond the enhanced recovery care sphere, the benefits of increased antenatal and pre-operative education have been shown to be beneficial in maternity care more generally. A quasi-experimental control trial found more antenatal sessions improved satisfaction and supported women in feeling they had enough information about postpartum recovery, parenting, and reduced fear of birth (Swift et al., 2021). A descriptive study of a program of early discharge with antenatal preparation, education, and home midwifery for vaginal birth found that women reported they had enough information and care from midwives, concluding that antenatal education was essential for safe early discharge (Darj & Stålnacke, 2000). Other research has also shown that perceived quality of education partially explains women's readiness for discharge (Weiss & Lokken, 2009). Findings from this program of research again provide additional evidence regarding the importance of preparation and education for next-day discharge after caesarean section in the context of enhanced recovery care.

The timing of targeted education is also important. The qualitative study (Chapter 4) demonstrated that antenatal education and information was preferred by women in comparison to receiving new information post-caesarean section. This is a unique finding from this study given there is minimal research regarding the optimal presentation and delivery of enhanced recovery care after caesarean section education. In other ERAS settings, some have suggested that early pre-operative engagement assisted enhanced recovery care patients by having enough time to process information, learn, and better prepare both physically and psychologically for surgery (Gillis et al., 2017; Patil et al., 2019; Sibbern

et al., 2017).

The antenatal period was also identified as a critical time to plan and prepare social supports, including planning for assistance with other children at home and co-ordinating friends and family to have time off work or other commitments (Chapter 4 and 6). This conclusion is supported by a recent systematic review on women's experiences following vaginal birth where women's support networks, including friends and family, were an important resource for early discharge (Cusack & Smith, 2021). Additionally, social support has been addressed in the literature as being an important component of supporting women's well-being in the postnatal period. An example in the literature is a recent cohort study which found informal (for example, family, community), instrumental (for example, practical support such as meal preparation), and psychological support was associated with lower postpartum depression (Ando et al., 2021). The antenatal period was also found to be a critical time to educate and provide information to a woman's support networks, particularly their partner and their own mother, to provide them with reassurance and to ensure that they are equipped with knowledge on how and where to seek help in the postnatal period (Chapter 4 and 6). In a review of 11 studies on patient experiences with ERAS, only one study reported on the involvement of support persons and delivery of information (Sibbern et al., 2017). This study found that including families in information sessions was beneficial to the patient's experience (Sibbern et al., 2017).

Taken together, pre-operative education and preparation for both women and their families should be included for enhanced recovery care after caesarean section. This education and preparation should go beyond just the surgical procedure and include women's psychological and social context.

7.2.3.3. *Well-defined Discharge Processes*

This research has also identified the need for well-defined discharge processes that can facilitate individualised care to be included in the delivery of similar future models of care. The current discharge criteria encompass a number of medical and obstetric checks, as well as a prompt to re-check social support and ensure women's 'psychosocial context does not contraindicate discharge' (Chapter 2). A report on the EREC pathway identified no statistically significant increase in re-admission rates with the pathway (Cusack et al., 2018) and this may be partially explained by having clear discharge criteria which ensures women remain in hospital if they are not physically recovering as planned (Chapter 5). Time of discharge is also an important stage to address other aspects of care.

The systematic review (Chapter 3) demonstrated that pain scores were improved or unchanged when discharge criteria included ensuring women's pain was well managed and that women were discharged home with analgesia. In addition to this, staff (Chapter 6) highlighted the benefits of enhanced recovery care including planned analgesia for discharge (for example, pharmacy review prior to discharge). Women (Chapter 4) also reported that information and management of pain relief prior to discharge was an important component for their experience with enhanced recovery care. These findings indicate that pain management should be controlled, and analgesia should be organised prior to discharge; this has also been suggested in other studies on caesarean section discharge (Carvalho et al., 2010).

While discharge is criteria-led (Chapter 2), staff in Chapter 6 reported needing clinical flexibility and autonomy to provide individualised care, and room to incorporate women's choices in discharge planning. Moreover, women in Chapter 4 identified that having the option of an additional night in hospital was important if they changed their mind. Future models of care could include an additional discussion about women's feelings of preparedness for discharge, at the time of discharge. If concerns arise, this could also be a time to re-iterate

information about expectations for recovery, supports provided at home (for example, additional midwifery care) and avenues to seek help if needed to assist with reassurance or re-evaluate discharge.

7.2.3.4 Transitioning Care Home with Community Midwifery and Mothercarer Support

One of the key findings from this program of research was the importance of transitioning women's care home with community midwives and the added benefit of the Mothercarer service. This was important to ensure women and their babies were supported from both a physical perspective, but also to support women's satisfaction, well-being, and breastfeeding outcomes (Chapter 3, Chapter 6, and Chapter 4).

The benefits of home visiting midwifery care have been demonstrated in a number of studies including a systematic review which showed that early discharge compared to standard care does not appear to have an adverse effect on breastfeeding and the risk of depression when home midwifery was provided (Brown et al., 2002). In addition to that, home midwifery increase the likelihood of a positive experience with early discharge after vaginal birth (Cusack & Smith, 2021) and increases breastfeeding satisfaction at home (James et al., 2017). Moreover, a Cochrane review of 16 randomised control trials on home postnatal care concluded that home visiting midwifery improved maternal satisfaction compared to hospital follow-up (Yonemoto et al., 2021). However, there was uncertain evidence about the effectiveness of home visits in terms of maternal or neonatal mortality and depression, although this was not in the context of an early discharge (Yonemoto et al., 2021). Mothercarers were also a valued form of home support by women and staff (Chapter 4 and 6); this is a unique service to the Northern Adelaide Local Health Network (NALHN) in South Australia, and there are no known examples of Mothercarer type support in other maternity settings in Australia. Similar Mothercarer type support such as postpartum Doula

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have been discussed in limited literature and have been shown to assist with practical and emotional support improving outcomes such as infant feeding, facilitating developmentally appropriate care, attachment, and family integration (McComish & Visger, 2009).

The above literature along with the findings from the four studies included in this dissertation further bolster the evidence regarding the benefits of home visiting midwifery care and professional home support. This is one of the first programs of research to consider the benefits of integrating at-home postnatal support in the context of enhanced recovery care, indicating that there is still a large gap in current literature and guidelines (Corso et al., 2017; Ilyas et al., 2019; Macones et al., 2019). Importantly, some countries like the United Kingdom, recommend home follow-up for next-day discharge after caesarean section (NICE, 2021, 1.6.27). Therefore, it can be assumed that women in the United Kingdom being discharged home the next day with, or without enhanced recovery care would receive this additional care at home.

Moreover, literature from other ERAS settings showed that home support was lacking after discharge and follow-up care was difficult to organise post-operatively, for example in contacting general practitioners (Bernard & Foss, 2014b). Community support either in person or via telephone for ERAS is established in a few, but not all, enhanced recovery care pathways, and has been shown to be a beneficial addition, especially considering the majority of recovery is experienced at home (Bernard & Foss, 2014a, 2014b; Burch & Taylor, 2012; Gillis et al., 2017; Sibbern et al., 2017). Now that the contribution of this study has been explored in relation to the thesis aims, the strengths and limitations of the work will be discussed.

7.3. Strengths, Limitations and Reflections

The strengths and limitations of each of the four papers included in this thesis are presented in the relevant Chapters. The following discussion will focus on the strengths and limitations of the work more generally.

7.3.1. Strengths

One main strength of this research was the use of a multiple methods research design as outlined in Chapter 2. This approach was beneficial as it offsets the methodological limitations of any one approach and allows for the application of appropriate research designs necessary to address each question (Brewer & Hunter, 2006; Hesse-Biber, 2015). Each methodology was chosen to answer the research question based on current knowledge and methodological gaps. This work applied rigorous design, including the use of a prospective cohort study, systematic review, and two qualitative studies using thematic analysis. Research methodologies were implemented using best-practice frameworks (that is, STROBE (von Elm et al., 2007), COREQ (Tong et al., 2007) and PRISMA (Moher et al., 2009)).

Furthermore, the inclusion of key stakeholders' (women, staff, EREC Working Group and Midwifery Advisory Group) voices in both research and design is another strength of this work. By including end-users, the value, relevance, and specificity of the work increases (Slattery et al., 2020; Vargas et al., 2022). In addition to this, another strength is the inclusion of end-users in knowledge translation (Curtis et al., 2017). Through the dissertation journey there have been several examples of knowledge translation, including multiple presentations and publications. Another approach taken was liaison with the NALHN health service to provide feedback on key findings and recommendations after preliminary analysis. The topics of discussion included feedback regarding some staff being unsure about the eligibility

of some groups of women (for example, women who are having a caesarean section for the first time), and difficulty identifying women as being on the EREC pathway on the postnatal ward. The outcome of this initial feedback was a planned discussion with multi-disciplinary staff on EREC eligibility criteria, and a reminder to identify women as being on the EREC pathway at the time of hand-over on the postnatal ward. This is particularly important given the discussion regarding supporting staff with integrating enhanced recovery care and the associated challenges; although additional work on this is needed and more feedback to the NALHN health service is planned; including a seminar with midwives at the Lyell McEwin Hospital in March 2023.

7.3.2. Limitations

In addition to the limitations outlined in each of the papers (Chapters 3-6) there are several limitations for this research which have not been discussed at great length. Firstly, this is largely a non-theoretical piece and not driven by one particular theoretical framework or model – largely due to the pragmatic and exploratory nature of the work. Furthermore, a randomised control trial design or a comparative design, such as pre-post design or a matched comparator could not be completed to determine quantitative outcome measures (for example, satisfaction) because the pathway was standard care, and all eligible women were included in this model of care. In addition, this work would be strengthened by including a follow-up postnatal biopsychosocial questionnaire as well as a case note audit of postnatal clinical outcomes comparing those who did and did not complete the pathway. This would strengthen the literature found in the systematic literature review (Chapter 3). This limitation can be addressed in future research.

Another limitation of the work is that antenatal preferences and preparation in Chapter 5 were self-devised and single-item measures, given this, comparative statistics were not originally conducted. Post-hoc analysis indicated that there were statistically significant

differences on two of the questions indicating future work should consider preparation and preferences for recovery as outcome measures.

It is also important to acknowledge that the experiences and perspectives of those interviewed, as well as the outcomes from the prospective cohort study, may be specific to the study site, or that staff who kindly agreed to engage in this work were not representative of those working at the study site. While these findings are important for better understanding this model of care, in line with the aims of this thesis, they may not be transferable to other settings as the cohort of patients, subjective views, and work context may vary. A further limitation to consider is that interviews with women (Chapter 4) were not from the same cohort of women in (Chapter 5). This also has implications for interpreting the views of staff in Chapter 6 as there may have been changes to practice since the very first cohort of EREC (2016) compared to the 2019 cohort (Chapter 5).

Taking a biopsychosocial perspective (Engel, 1977), another limitation is that this work did not capture several broader factors relating to women's social context beyond social support. One factor to consider is the individual economic impact of enhanced recovery and earlier discharge on women, their family, and community. One example to consider is if women's social supports are taking paid or unpaid leave to assist women at home in the post-partum period. The economic cost of caring responsibilities on women's social supports should be considered in future research regarding enhanced recovery care and earlier hospital discharge.

In addition to this, while housing and social support are part of the eligibility criteria for EREC (Chapter 2), other socioeconomic factors were not considered, for example, food security, and general financial situation. While there are many tools, one suggestion is to use parts of an occupational therapy screening tool, such as the Occupational Justice Health Questionnaire (Wilcock & Townsend, 2018) for future research and clinical practice. This

tool addresses basic needs (for example, peace, shelter, education, food, income), social, physical, and mental well-being, living standards for health and well-being and participation in cultural beliefs and customs, and in local events. If a need is unable to be met, the questionnaire accounts for the reasons why (that is, for health, political, social, or economic reasons). It also explores reasons why general well-being for the individual is decreased for example poverty, unemployment, gender discrimination or disaster (Wilcock & Townsend, 2018).

Furthermore, in response to criticism (Chapter 2) that the biopsychosocial model is often applied as three separate entities (biological, social, and psychological), antenatal biopsychosocial screening could be extended to include a more complex and integrative approach. One way to do this would be to use a semi-structured biopsychosocial assessment, for this to be fully integrated into practice, enough clinical time is needed to fully assess women's biopsychosocial context in this manner.

7.3.3. Additional Reflections

Prior to commencing this research, preliminary findings from the first cohort of women eligible for the EREC pathway in 2016 indicated that around half were staying longer in hospital for unknown reasons. Some years later when planning the research work included in this dissertation, consultation with the NALHN health service demonstrated additional concerns relating to the number of women going home the next-day, further motivating the need to investigate. Data collected as part of the prospective cohort study in 2019 (Chapter 5) demonstrated that 62% of women were staying in hospital longer than initially planned, compared to 47% in 2016. Although there are numerous possible explanations for this, the most compelling is that the 2016 finding did not report the exact reason for having an additional length of stay, and only included 'unknown reasons' at the time. As a result, the unknown number did not encompass clearly-documented reasons for a longer stay in

hospital, for example, an emergency caesarean section and was not likely to be sensitive to more specific reasons like elevated blood pressure, which were captured subsequently in the prospective cohort study. Another reason may be changes to practice (for example, refinement of criteria) which may have occurred since the very first cohort of EREC (2016) compared to the 2019 cohort (Chapter 5). This reflection and the above limitations led us to discuss considerations for future research.

7.4. Future Research

This program of research has generated several suggestions for future studies, some of which have been addressed in papers included in this dissertation. Key areas of future research previously discussed, which have not yet been addressed include: additional research on women's psychosocial outcomes with a reduced length of stay (including infant feeding and pain) after caesarean section to strengthen the evidence, given the limited number of heterogeneous studies (Chapter 3); an audit of patient records to determine the exact time women were deemed no longer eligible for EREC to determine if ineligibility is occurring prior to admission (Chapter 5); a need to better understand the role of stress in the antenatal period (Chapter 5); research to better understand if medical and obstetric factors are identifiable in the antenatal period to tailor eligibility (Chapter 5); and finally an investigation of healthcare providers' experiences and perspectives at different time points of enhanced recovery care implementation to understand if perceptions and experiences evolve overtime (for example, pre-, post- and after some time of implementation) (Chapter 6).

More generally, additional research is required on enhanced recovery care after caesarean section in other maternity settings. Additionally, the EREC pathway at NALHN requires ongoing evaluation to ensure continued success. Future research on enhanced recovery care should also consider a psychosocial perspective given the impact patient

factors can have on the implementation of enhanced recovery care (Salenger et al., 2020; Stone et al., 2018).

To strengthen the evidence, there is a need to better understand women's outcomes including re-admission rates, complications, and psychosocial outcomes. Future research programs on this model of care could consider the use of a comparative design comparing EREC-type care to standard practice rather than an observational design. It is feasible that a comparison of outcomes could be conducted in new programs of care (pre-post comparative studies). Additional randomised control trials are also warranted in settings where this model of care is not standard practice, and the inclusion of psychosocial outcomes such as satisfaction and breastfeeding should also be included to further understand the impact on patient care. While some economic analysis has been conducted on the EREC pathway (see Chapter 1, Section 1.7.3.6), future research should also include an economic analysis of enhanced recovery care and early discharge to the health system and should include the economic impact on the woman and their extended support networks (for example, the impact of unpaid carers leave).

7.5. Recommendations and Implications

The recommendations and implications of this work will now be outlined. While there are examples of enhanced recovery care after caesarean section in countries similar to Australia, such as the United Kingdom (Ilyas et al., 2019), to the best of our knowledge there are no examples of enhanced recovery care after caesarean section other than at NALHN in Australia. Therefore, it is recommended that:

- Enhanced recovery care is translated into practice in Australia and in other similar settings such as Aotearoa (New Zealand) and Canada.

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- Guidelines for enhanced recovery after caesarean section should include a package of care as outlined above to support women and their families from the antenatal period to the postnatal period.

While several publications and presentations have been disseminated, more is needed to increase awareness and translate this research into practice (Curtis et al., 2017). To support this:

- It is recommended that staff are provided with regular education that incorporates the women's experiences and the women's psychosocial outcomes to support evidence-based practice.
- The emerging workforce requires education on EREC-type care. It is recommended that EREC-type care is taught as a program of care for both midwifery and obstetrics and gynaecology students undergoing higher education in Australia.
- It is recommended that professional bodies, for example, the Australian College of Midwives and The Royal Australian and Aotearoa (New Zealand) College of Obstetricians and Gynaecologists (RANZCOG) provide continued professional development on enhanced recovery care, for example, in workshops, webinars, and conference presentations. This could be extended to general practitioners to increase community awareness and to support women undergoing this type of care.
- It is recommended that professional bodies such as the ERAS society or Society for Obstetric Anaesthesia and Perinatology committee are made aware of the findings and recommendations of this research through conference presentations and the dissemination of published work.

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- It is also recommended that future roll-out of similar models of care include the woman's voice in both research, and through co-design and co-creation of services (Slattery et al., 2020; Vargas et al., 2022) through the use of women's advocacy groups and qualitative research.

Furthermore, to promote knowledge translation, it is useful to evaluate the effectiveness of dissemination of evidence-based education to the workforce (Curtis et al., 2017).

- It is recommended that implementation of other similar models of care in clinical settings in Australia and abroad are recorded.
- It is also recommended that there be a review of adherence to recommendations and guidelines, for example, the inclusion of community home midwifery in similar models of care. This could be achieved through a rapid or systematic review of protocols similar to those already conducted (Corso et al., 2017; Ilyas et al., 2019).

Given the importance of community midwifery for this model of care, and that women reported that continuity of care from the same known midwife had enhanced their postnatal experience, it is recommended that:

- Health services implementing enhanced recovery care have an adequately staffed and funded home midwifery program.
- The community midwifery workforce is expanded to support early discharge following elective caesarean section.

7.6. Conclusions

This multi-methods and end-user driven research has identified that enhanced recovery care after caesarean section is a beneficial and acceptable model of care, provided it

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is not simply an early discharge model. A combined package of care similar to that included within the EREC pathway is required to ensure there is a transition of care. This includes appropriate screening and eligibility criteria, preparation and antenatal education, well-defined discharge processes, and home support. Furthermore, this work has identified that staff require support in delivering evidence-based and women-centred care, including having ongoing education, an adequately staffed and resourced workforce, clear roles and responsibility and clinical flexibility, and autonomy within the context of protocol-based care. Future research has also been suggested to support the further development of a robust evidence-base for this novel and emerging model of care.

References

- AIHW. (2019). *Australia's mothers and babies 2017—In brief*. (Perinatal Statistics Series, 1–35. Cat no. PER 100). AIHW.
- AIHW. (2021). *Australia's mothers and babies*. Australian Institute of Health and Welfare.
<https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies>
- AIHW. (2022a). *Australia's mothers and babies*. Australian Institute of Health and Welfare.
<https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/antenatal-period/antenatal-care>
- AIHW. (2022b). *Maternity models of care in Australia*. Australian Institute of Health and Welfare.
- Aluri, S., & Wrench, I. (2014). Enhanced recovery from obstetric surgery: A UK survey of practice. *International Journal of Obstetric Anesthesia*, 23(2), 157–160.
<https://doi.org/10.1016/j.ijoa.2013.11.006>
- Australian Bureau of Statistics. (2001). *Australian Standard Classification of Education (ASCED), 2001*. <https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0>
- Australian Bureau of Statistics. (2017). *Adelaide—North (402) 940 sq Kms 2016 Census of Population and Housing: General Community Profile*. Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2018). *Census of population and housing: Socioeconomic indexes for areas (SEIFA), Australia* [Australian Bureau of Statistics].
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012016?OpenDocument
- Australian Bureau of Statistics. (2019). *Births, Australia*. Australian Bureau of Statistics.
<https://www.abs.gov.au/statistics/people/population/births-australia/2019>.
- Australian Nursing & Midwifery Federation. (2004, March). Young women help first time mums. *Australian Nursing Journal*, 11(8), 35. Gale Academic OneFile.

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Bayoumi, Y. A., Bassiouny, Y. A., Hassan, A. A., Gouda, H. M., Zaki, S. S., & Abdelrazek, A. A. (2016). Is there a difference in the maternal and neonatal outcomes between patients discharged after 24 h versus 72 h following cesarean section? A prospective randomized observational study on 2998 patients. *The Journal of Maternal-Fetal & Neonatal Medicine*, *29*(8), 1339–1343.
<https://doi.org/10.3109/14767058.2015.1048678>
- Beal, E. W., Reyes, J.-P. C., Denham, Z., Abdel-Rasoul, M., Rasoul, E., & Humeidan, M. L. (2021). Survey of provider perceptions of enhanced recovery after surgery and perioperative surgical home protocols at a tertiary care hospital. *Medicine*, *100*(24), e26079. <https://doi.org/10.1097/MD.00000000000026079>
- Benahmed, N., San Miguel, L., Devos, C., Fairon, N., & Christiaens, W. (2017). Vaginal delivery: How does early hospital discharge affect mother and child outcomes? A systematic literature review. *BMC Pregnancy and Childbirth*, *17*(1). Scopus.
<https://doi.org/10.1186/s12884-017-1465-7>
- Benton, M., Salter, A., Tape, N., Wilkinson, C., & Turnbull, D. (2019). Women's psychosocial outcomes following an emergency caesarean section: A systematic literature review. *BMC Pregnancy and Childbirth*, *19*(1), 535.
<https://doi.org/10.1186/s12884-019-2687-7>
- Bernard, H., & Foss, M. (2014a). Patient experiences of enhanced recovery after surgery (ERAS). *British Journal of Nursing*, *23*(2), 100–102, 104–106.
<https://doi.org/10.12968/bjon.2014.23.2.100>
- Bernard, H., & Foss, M. (2014b). The impact of the enhanced recovery after surgery (ERAS) programme on community nursing. *British Journal of Community Nursing*, *19*(4), 184–188. <https://doi.org/10.12968/bjcn.2014.19.4.184>

Enhanced Recovery for Caesarean Section with Next-day Discharge

Birchall, C. L., Maines, J. L., Kunselman, A. R., Stetter, C. M., & Pauli, J. M. (2022).

Enhanced recovery for cesarean delivery leads to no difference in length of stay, decreased opioid use and lower infection rates. *The Journal of Maternal-Fetal & Neonatal Medicine*, 1–9. <https://doi.org/10.1080/14767058.2022.2113512>

Blazeby, J. M., Soulsby, M., Winstone, K., King, P. M., Bulley, S., & Kennedy, R. H. (2010).

A qualitative evaluation of patients' experiences of an enhanced recovery programme for colorectal cancer. *Colorectal Disease*, 12(10Online), e236–e242. <https://doi.org/10.1111/j.1463-1318.2009.02104.x>

Boerma, T., Ronsmans, C., Melesse, D. Y., Barros, A. J. D., Barros, F. C., Juan, L., Moller, A.-B., Say, L., Hosseinpoor, A. R., Yi, M., de Lyra Rabello Neto, D., & Temmerman, M. (2018). Global epidemiology of use of and disparities in caesarean sections. *The Lancet*, 392(10155), 1341–1348. [https://doi.org/10.1016/S0140-6736\(18\)31928-7](https://doi.org/10.1016/S0140-6736(18)31928-7)

Bollag, L., Lim, G., Sultan, P., Habib, A. S., Landau, R., Zakowski, M., Tiouririne, M., Bhambhani, S., & Carvalho, B. (2021). Society for Obstetric Anesthesia and Perinatology: Consensus Statement and Recommendations for Enhanced Recovery After Cesarean. *Anesthesia and Analgesia*, 132(5), 1362–1377. <https://doi.org/10.1213/ANE.0000000000005257>

Boulind, C. E., Yeo, M., Burkill, C., Witt, A., James, E., Ewings, P., Kennedy, R. H., & Francis, N. K. (2012). Factors predicting deviation from an enhanced recovery programme and delayed discharge after laparoscopic colorectal surgery. *Colorectal Disease*, 14(3), e103–e110. <https://doi.org/10.1111/j.1463-1318.2011.02799.x>

Boulvain, M., Perneger, T. V., Othenin-Girard, V., Petrou, S., Berner, M., & Irion, O. (2004). Home-based versus hospital-based postnatal care: A randomised trial. *Bjog*, 111(8), 807–813. <https://doi.org/10.1111/j.1471-0528.2004.00227.x>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Bowden, Dooley, W., Hanrahan, J., Kanu, C., Halder, S., Cormack, C., O'Dwyer, S., & Singh, N. (2019). Fast-track pathway for elective caesarean section: A quality improvement initiative to promote day 1 discharge. *BMJ Open Qualitative*, *8*(2), e000465. <https://doi.org/10.1136/bmjjoq-2018-000465>
- Bowden, S. (2020, January 22). *Personal communication*.
- Bowers, J., & Cheyne, H. (2016). Reducing the length of postnatal hospital stay: Implications for cost and quality of care. *BMC Health Services Research*, *16*, 16–16. PubMed. <https://doi.org/10.1186/s12913-015-1214-4>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. a9h. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2013). *Successful Qualitative Analysis: A practice guide for beginners*. SAGE Publications, Inc.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Bravo, P., Uribe, C., & Contreras, A. (2011). Early postnatal hospital discharge: The consequences of reducing length of stay for women and newborns. *Revista Da Escola de Enfermagem Da USP*, *45*, 758–763.
- Brewer, J., & Hunter, A. (2006). *Foundations of Multimethod Research: Synthesizing Styles*. SAGE Publications.
- Brooten, D., Roncoli, M., Finkler, S., Arnold, L., Cohen, A., & Mennuti, M. (1994). A Randomized Trial of Early Hospital Discharge and Home Follow-up of Women Having Cesarean Birth. *Obstetrics and Gynecology*, *84*(5), 832–838. PMC.

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Brown, S., & Lumley, J. (1997). Reasons To Stay, Reasons To Go: Results of an Australian Population-Based Survey. *Birth*, 24(3), 148–158. <https://doi.org/10.1111/j.1523-536X.1997.00148.pp.x>
- Brown, S., Small, R., Faber, B., Krastev, A., & Davis, P. (2002). Early postnatal discharge from hospital for healthy mothers and term infants. *Birth*, 29(4), 291–294. Embase. <https://doi.org/10.1046/j.1523-536x.2002.00204.x>
- Burch, J., & Taylor, C. (2012). Patients' need for nursing telephone follow-up after enhanced recovery. *Gastrointestinal Nursing*, 10(4), 51–58. <https://doi.org/10.12968/gasn.2012.10.4.51>
- Card, A. J. (2022). The biopsychosociotechnical model: A systems-based framework for human-centered health improvement. *Health Systems*, 1–21. <https://doi.org/10.1080/20476965.2022.2029584>
- Carter, F. A., Frampton, C. M. A., & Mulder, R. T. (2006). Cesarean Section and Postpartum Depression: A Review of the Evidence Examining the Link. *Psychosomatic Medicine*, 68(2). https://journals.lww.com/psychosomaticmedicine/Fulltext/2006/03000/Cesarean_Section_and_Postpartum_Depression__A.21.aspx
- Carty, E. M., & Bradley, C. F. (1990). A randomized, controlled evaluation of early postpartum hospital discharge. *Birth: Issues in Perinatal Care*, 17. <https://doi.org/10.1111/j.1523-536X.1990.tb00021.x>
- Carvalho, B., Coleman, L., Saxena, A., Fuller, A. J., & Riley, E. T. (2010). Analgesic requirements and postoperative recovery after scheduled compared to unplanned cesarean delivery: A retrospective chart review. *International Journal Obstetric Anesthesia*, 19(1), 10–15. <https://doi.org/10.1016/j.ijoa.2009.02.012>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Caughey, A. B., Wood, S. L., Macones, G. A., Wrench, I. J., Huang, J., Norman, M., Pettersson, K., Fawcett, W. J., Shalabi, M. M., Metcalfe, A., Gramlich, L., Nelson, G., & Wilson, R. D. (2018). Guidelines for intraoperative care in cesarean delivery: Enhanced Recovery After Surgery Society Recommendations (Part 2). *American Journal of Obstetrics & Gynecology*, *219*(6), 533–544. <https://doi.org/10.1016/j.ajog.2018.08.006>
- Cegolon, L., Mastrangelo, G., Maso, G., Pozzo, G. D., Heymann, W. C., Ronfani, L., & Barbone, F. (2020). Determinants of length of stay after cesarean sections in the Friuli Venezia Giulia Region (North-Eastern Italy), 2005–2015. *Scientific Reports*, *10*(1), 19238. <https://doi.org/10.1038/s41598-020-74161-2>
- Chapman, S. J., Czoski Murray, C., Lonsdale, M. D. S., Boyes, S., Tiernan, J. P., & Jayne, D. G. (2021). Information needs for recovery after colorectal surgery: A patient focus group study. *Colorectal Disease*, *23*(4), 975–981. <https://doi.org/10.1111/codi.15459>
- Chen, I., Choudhry, A. J., & Wen, S. W. (2018). Minimizing length of hospital stay for women-s reproductive care. *CMAJ: Canadian Medical Association Journal*, *190*(28), E846–E847. Embase. <https://doi.org/10.1503/cmaj.180836>
- Chiao, S. S., Razzaq, K. K., Sheeran, J. S., Forkin, K. T., Spangler, S. N., Knio, Z. O., Kellams, A. L., & Tiouririne, M. (2022). Effect of enhanced recovery after surgery for elective cesarean deliveries on neonatal outcomes. *Journal of Perinatology : Official Journal of the California Perinatal Association*. <https://doi.org/10.1038/s41372-021-01309-x>
- Christmas, T., Bamber, J., & Patient, C. (2015). Maternal satisfaction with analgesia following hospital discharge after caesarean section. *International Journal of Obstetric Anesthesia*, *24*(1), 85–86. <https://doi.org/10.1016/j.ijoa.2014.07.008>

Enhanced Recovery for Caesarean Section with Next-day Discharge

COAG Health Council (Department of Health). (2019). *Woman-centred care: Strategic directions for Australian maternity services*.

<https://www.health.gov.au/sites/default/files/documents/2019/11/woman-centred-care-strategic-directions-for-australian-maternity-services.pdf>

Coates, D., Thirukumar, P., & Henry, A. (2020). Women's experiences and satisfaction with having a cesarean birth: An integrative review. *Birth*, 47(2), 169–182.

<https://doi.org/10.1111/birt.12478>

Coffey, A., & Fitzpatrick, C. (2011). Postnatal care in Australia. *O&G Magazine*, 13(2), 36–38.

Cohen, R., & Goberman-Hill, R. (2019). Staff experiences of enhanced recovery after surgery: Systematic review of qualitative studies. *BMJ Open*, 9(2), e022259.

<https://doi.org/10.1136/bmjopen-2018-022259>

Coons, M. J. (2013). Pain, Psychosocial Aspects. In M. D. Gellman & J. R. Turner (Eds.), *Encyclopedia of Behavioral Medicine* (pp. 1428–1431). Springer New York.

https://doi.org/10.1007/978-1-4419-1005-9_1158

Cornett, B. B. (1989). *Postpartal mothers' perceptions of in-hospital breastfeeding information and affective support as related to breastfeeding status: Vol. PH.D.*

[OHIO STATE UNIVERSITY]. c8h.

<http://proxy.library.adelaide.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=109869050&site=ehost-live&scope=site>

Corso, E., Hind, D., Beever, D., Fuller, G., Wilson, M. J., Wrench, I. J., & Chambers, D. (2017). Enhanced recovery after elective caesarean: A rapid review of clinical protocols, and an umbrella review of systematic reviews. *BMC Pregnancy Childbirth*, 17(1), 91. <https://doi.org/10.1186/s12884-017-1265-0>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Crawford, J., Cayley, C., Lovibond, P. F., Wilson, P. H., & Hartley, C. (2011). Percentile Norms and Accompanying Interval Estimates from an Australian General Adult Population Sample for Self-Report Mood Scales (BAI, BDI, CRS-D, CES-D, DASS, DASS-21, STAI-X, STAI-Y, SRDS, and SRAS). *Australian Psychologist*, *46*(1), 3–14. Education Research Complete.
- Curtis, K., Fry, M., Shaban, R. Z., & Considine, J. (2017). Translating research findings to clinical nursing practice. *Journal of Clinical Nursing*, *26*(5–6), 862–872.
<https://doi.org/10.1111/jocn.13586>
- Cusack, L., Digenis, C., Schultz, T., Klaer, B., & Hobbs, M. (2020). Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study. *Midwifery*, *83*, 102632. <https://doi.org/10.1016/j.midw.2020.102632>
- Cusack, L. ;, Schultz, T. ;, Karnon, J. ;, Hobbs, M. ;, Klaer, B. ;, Bruening, L. ;, & Kane, S. ; (2018). *Evidence for reduced length of stay for elective caesarean sections*. The University of Adelaide.
- Cusack, L., & Smith, M. (2021). *Experiences of women discharged early following vaginal birth: A qualitative systematic review*. *19*(3), 556–577.
<https://doi.org/10.11124/JBISRIR-D-19-00421>.
- Darj, E., & Stålnacke, B. (2000). Very Early Discharge from Hospital after Normal Deliveries. *Uppsala Journal of Medical Sciences*, *105*(1), 57–66.
<https://doi.org/10.1517/03009734000000047>
- Deniau, B., Bouhadjari, N., Faitot, V., Mortazavi, A., Kayem, G., Mandelbrot, L., & Keita, H. (2016). Evaluation of a continuous improvement programme of enhanced recovery after caesarean delivery under neuraxial anaesthesia. *Anaesthesia Critical Care & Pain Medicine*, *35*(6), 395–399. <https://doi.org/10.1016/j.accpm.2015.11.009>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Devlin, N. J., Shah, K. K., Feng, Y., Mulhern, B., & van Hout, B. (2018). Valuing health-related quality of life: An EQ-5D-5L value set for England. *Health Economics*, 27(1), 7–22. <https://doi.org/10.1002/hec.3564>
- Digenis, C., Salter, A., Cusack, L., Koch, A., & Turnbull, D. (2020). Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes. *Midwifery*, 91, 102855. <https://doi.org/10.1016/j.midw.2020.102855>
- Duff, J. (2020). Enhanced recovery after surgery in Australia: A classic example of an evidence–practice gap. *Journal of Perioperative Nursing*, 33(4). <https://doi.org/10.26550/2209-1092.1109>
- Edozien, L. (2015). Beyond biology: The biopsychosocial model and its application in obstetrics and gynaecology. *BJOG: An International Journal of Obstetrics & Gynaecology*, 122(7), 900–903. <https://doi.org/10.1111/1471-0528.13328>
- Elattar, A., Selamat, E. M., Robson, A. A., & Loughney, A. D. (2008). Factors influencing maternal length of stay after giving birth in a UK hospital and the impact of those factors on bed occupancy. *Journal of Obstetrics and Gynaecology*, 28(1), 73–76. <https://doi.org/10.1080/01443610701814187>
- Engel, G. (1977). The Need for a New Medical Model: A Challenge for Biomedicine. *Science*, 196(4286), 129–136.
- Engel, G. (1980). The clinical application of the biopsychosocial model. *American Journal of Psychiatry*, 137(5), 535–544. <https://doi.org/10.1176/ajp.137.5.535>
- EuroQol Research Foundation. (2019). *EQ-5D-5L User Guide*. EuroQol Research Foundation. <https://euroqol.org/publications/user-guides>.
- Evans, K., Fraser, H., Uthman, O., Osokogu, O., Johnson, S., & Al-Khudairy, L. (2022). The effect of mode of delivery on health-related quality-of-life in mothers: A systematic

Enhanced Recovery for Caesarean Section with Next-day Discharge

review and meta-analysis. *BMC Pregnancy and Childbirth*, 22(1), 149.

<https://doi.org/10.1186/s12884-022-04473-w>

Fay, E. E., Hitti, J. E., Delgado, C. M., Savitsky, L. M., Mills, E. B., Slater, J. L., & Bollag, L. A. (2019). An enhanced recovery after surgery pathway for cesarean delivery decreases hospital stay and cost. *American Journal of Obstetrics and Gynecology*, 221(4), 349.e1-349.e9. <https://doi.org/10.1016/j.ajog.2019.06.041>

Fink, A. M. (2011). Early Hospital Discharge in Maternal and Newborn Care. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 40(2), 149–156.

<https://doi.org/10.1111/j.1552-6909.2011.01225.x>

Ford, J. B., Algert, C. S., Morris, J. M., & Roberts, C. L. (2012). Decreasing length of maternal hospital stay is not associated with increased readmission rates. *Aust N Z J Public Health*, 36(5), 430–434. <https://doi.org/10.1111/j.1753-6405.2012.00882.x>

Frost, N. A., & Shaw, R. L. (2015). Evolving Mixed and Multimethods Approaches in Psychology. In S. Hesse-Biber & R. B. Johnson (Eds.), *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford University Press.

ProQuest Ebook Central,

<https://ebookcentral.proquest.com/lib/adelaide/detail.action?docID=2044599>.

Ghaffari, P., Vanda, R., Aramesh, S., Jamali, L., Bazarganipour, F., & Ghatee, M. A. (2021). Hospital discharge on the first compared with the second day after a planned cesarean delivery had equivalent maternal postpartum outcomes: A randomized single-blind controlled clinical trial. *BMC Pregnancy and Childbirth*, 21(1), 466.

<https://doi.org/10.1186/s12884-021-03873-8>

Gillis, C., Gill, M., Marlett, N., MacKean, G., GermAnn, K., Gilmour, L., Nelson, G., Wasylak, T., Nguyen, S., Araujo, E., Zelinsky, S., & Gramlich, L. (2017). Patients as

Enhanced Recovery for Caesarean Section with Next-day Discharge

- partners in Enhanced Recovery After Surgery: A qualitative patient-led study. *BMJ Open*, 7(6), e017002. <https://doi.org/10.1136/bmjopen-2017-017002>
- Goodwin, L., Taylor, B., Kokab, F., & Kenyon, S. (2018). Postnatal care in the context of decreasing length of stay in hospital after birth: The perspectives of community midwives. *Midwifery*, 60, 36–40. <https://doi.org/10.1016/j.midw.2018.02.006>
- Gramlich, L. M., Sheppard, C. E., Wasylak, T., Gilmour, L. E., Ljungqvist, O., Basualdo-Hammond, C., & Nelson, G. (2017). Implementation of Enhanced Recovery After Surgery: A strategy to transform surgical care across a health system. *Implementation Science*, 12(1), 67. <https://doi.org/10.1186/s13012-017-0597-5>
- Gramlich, L., Nelson, G., Nelson, A., Lagendyk, L., Gilmour, L. E., & Wasylak, T. (2020). Moving enhanced recovery after surgery from implementation to sustainability across a health system: A qualitative assessment of leadership perspectives. *BMC Health Services Research*, 20(1), 361. <https://doi.org/10.1186/s12913-020-05227-0>
- Greco, M., Capretti, G., Beretta, L., Gemma, M., Pecorelli, N., & Braga, M. (2014). Enhanced Recovery Program in Colorectal Surgery: A Meta-analysis of Randomized Controlled Trials. *World Journal of Surgery*, 38(6), 1531–1541. <https://doi.org/10.1007/s00268-013-2416-8>
- Grullon, K. E. ;, & Grimes, D. A. ; (1997). The safety of early postpartum discharge: A review and critique. *Obstetrics and Gynecology*, 90(5), 860–865. [https://doi.org/10.1016/s0029-7844\(97\)00405-5](https://doi.org/10.1016/s0029-7844(97)00405-5)
- Gustafsson, U. O., Scott, M. J., Schwenk, W., Demartines, N., Roulin, D., Francis, N., McNaught, C. E., MacFie, J., Liberman, A. S., Soop, M., Hill, A., Kennedy, R. H., Lobo, D. N., Fearon, K., & Ljungqvist, O. (2013). Guidelines for Perioperative Care in Elective Colonic Surgery: Enhanced Recovery After Surgery (ERAS®) Society

Enhanced Recovery for Caesarean Section with Next-day Discharge

Recommendations. *World Journal of Surgery*, 37(2), 259–284.

<https://doi.org/10.1007/s00268-012-1772-0>

Hackshaw, A. (2015). *A Concise Guide to Observational Studies in Healthcare*. John Wiley & Sons, Incorporated.

<http://ebookcentral.proquest.com/lib/adelaide/detail.action?docID=1908951>

Handelzalts, J. E., Waldman Peyser, A., Krissi, H., Levy, S., Wiznitzer, A., & Peled, Y. (2017). Indications for Emergency Intervention, Mode of Delivery, and the Childbirth Experience. *PloS One*, 12(1), e0169132–e0169132. PubMed.

<https://doi.org/10.1371/journal.pone.0169132>

Hedderson, M., Lee, D., Hunt, E., Lee, K., Xu, F., Mustille, A., Galin, J., Campbell, C., Quesenberry, C., Reyes, V., Huang, M., Nicol, B., Paulson, S., & Liu, V. (2019). Enhanced Recovery After Surgery to Change Process Measures and Reduce Opioid Use After Cesarean Delivery: A Quality Improvement Initiative. *Obstetrics and Gynecology*. <https://doi.org/10.1097/aog.0000000000003406>

Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough? *Qualitative Health Research*, 27(4), 591–608. <https://doi.org/10.1177/1049732316665344>

Herbert, G., Sutton, E., Burden, S., Lewis, S., Thomas, S., Ness, A., & Atkinson, C. (2017). Healthcare professionals' views of the enhanced recovery after surgery programme: A qualitative investigation. *BMC Health Services Research*, 17(1), 617.

<https://doi.org/10.1186/s12913-017-2547-y>

Herdman, M., Gudex, C., Lloyd, A., Janssen, M., Kind, P., Parkin, D., Bonnel, G., & Badia, X. (2011). Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Quality of Life Research : An International Journal of Quality of*

Life Aspects of Treatment, Care and Rehabilitation, 20(10), 1727–1736.

<https://doi.org/10.1007/s11136-011-9903-x>

Hesse-Biber, S. (2015). Introduction: Navigating a Turbulent Research Landscape: Working the Boundaries, Tensions, Diversity, and Contradictions of Multimethod and Mixed Methods Inquiry. In S. Hesse-Biber & R. B. Johnson (Eds.), *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford University Press.

ProQuest Ebook Central,

<https://ebookcentral.proquest.com/lib/adelaide/detail.action?docID=2044599>.

Higgins, J., & Green, S. (2011). *Cochrane Handbook for Systematic Reviews of Interventions*. The Cochrane Collaboration.

Homer, C. S. (2016). Models of maternity care: Evidence for midwifery continuity of care.

Medical Journal of Australia, 205(8), 370–374. <https://doi.org/10.5694/mja16.00844>

Hong, Q., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O’Cathain, A., Rousseau, M.-C., & Vedel, I. (2018). *Mixed Methods Appraisal Tool (MMAT) Version 2018*.

Ilyas, S., Simmons, S., & Bampoe, S. (2019). Systematic review of enhanced recovery protocols for elective caesarean section versus conventional care. *The Australian & New Zealand Journal of Obstetrics & Gynaecology*. <https://doi.org/10.1111/ajo.13062>

James, L., Sweet, L., & Donnellan-Fernandez, R. (2017). Breastfeeding initiation and support: A literature review of what women value and the impact of early discharge. *Women and Birth*, 30(2), 87–99. <https://doi.org/10.1016/j.wombi.2016.09.013>

Joanna Briggs Institute. (2014). *Joanna Briggs Institute Reviewers’ Manual 2014: Methodology for JBI Mixed Methods Systematic Reviews*. Joanna Briggs Institute.

Jones, E., Stewart, F., Taylor, B., Davis, P. G., & Brown, S. J. (2021). Early postnatal discharge from hospital for healthy mothers and term infants. *The Cochrane Database*

Enhanced Recovery for Caesarean Section with Next-day Discharge

of Systematic Reviews, 6(6), CD002958.

<https://doi.org/10.1002/14651858.CD002958.pub2>

Jones, E., Taylor, B., MacArthur, C., Bradshaw, S., Hope, L., & Cummins, C. (2020). Early Postnatal Discharge for Infants: A Meta-analysis. *Pediatrics*, 146(3).

<https://doi.org/10.1542/peds.2019-3365>

Keag, O. E., Norman, J. E., & Stock, S. J. (2018). Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis. *PLoS Medicine*, 15(1). Publicly Available Content Database. <https://doi.org/10.1371/journal.pmed.1002494>

Keller, D. S., Bankwitz, B., Woconish, D., Champagne, B. J., Reynolds, H. L., Jr., Stein, S. L., & Delaney, C. P. (2014). Predicting who will fail early discharge after laparoscopic colorectal surgery with an established enhanced recovery pathway. *Surg Endosc*, 28(1), 74–79. <https://doi.org/10.1007/s00464-013-3158-2>

Keller, D. S., Tanchou, I., Flores-Gonzalez, J. R., & Geisler, D. P. (2017). Predicting delayed discharge in a multimodal Enhanced Recovery Pathway. *American Journal of Surgery*, 214(4), 604–609. <https://doi.org/10.1016/j.amjsurg.2017.06.008>

Klaer, B., Cusack, L., Schultz, T., & Karnon, J. (2018). Enhanced Recovery Elective Caesarean Evidence for earlier discharge with home support...Australian College of Midwives 21st National Conference 16 October–18 October 2018 Perth, Western Australia, Australia. *Women & Birth*, 31, S44–S45. c8h. <https://doi.org/10.1016/j.wombi.2018.08.175>

Kurth, E., Krähenbühl, K., Eicher, M., Rodmann, S., Fölmli, L., Conzelmann, C., & Zemp, E. (2016). Safe start at home: What parents of newborns need after early discharge from hospital – a focus group study. *BMC Health Services Research*, 16(1), 82. <https://doi.org/10.1186/s12913-016-1300-2>

Enhanced Recovery for Caesarean Section with Next-day Discharge

Lancaster, P., Huang, J., & Pedisich, E. (1994). *Australian Mothers and Babies 1991*.

National Perinatal Statistics Unit, Australian Institute of Health and Welfare.

<https://www.aihw.gov.au/getmedia/94521fbf-d61e-4d4a-bfe9-870e74d20ad2/aihw240.pdf.aspx?inline=true>

Laronche, A., Popescu, L., & Benhamou, D. (2017). An enhanced recovery programme after caesarean delivery increases maternal satisfaction and improves maternal-neonatal bonding: A case control study. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 210, 212–216. <https://doi.org/10.1016/j.ejogrb.2016.12.034>

Lavand'homme, P. (2018). Postoperative cesarean pain: Real but is it preventable? *Current Opinion in Anaesthesiology*, 31(3), 262–267.

<https://doi.org/10.1097/aco.0000000000000585>

Liamputtong, P. (2019). Qualitative Inquiry. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences* (pp. 9–25). Springer Singapore.

https://doi.org/10.1007/978-981-10-5251-4_53

Ljungqvist, O., Scott, M., & Fearon, K. C. H. (2017). Enhanced Recovery After Surgery: A Review. *JAMA Surgery*, 152(3), 292–298.

<https://doi.org/10.1001/jamasurg.2016.4952>

Ljungqvist, O., Young-Fadok, T., & Demartines, N. (2017). The History of Enhanced Recovery After Surgery and the ERAS Society. *Journal of Laparoendoscopic & Advanced Surgical Techniques. Part A*, 27(9), 860–862.

<https://doi.org/10.1089/lap.2017.0350>

Lobel, M., & DeLuca, R. S. (2007). Psychosocial sequelae of cesarean delivery: Review and analysis of their causes and implications. *Social Science & Medicine*, 64(11), 2272–2284. <https://doi.org/10.1016/j.socscimed.2007.02.028>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Löf, M., Svalenius, E. C., & Persson, E. K. (2006). Factors that influence first-time mothers' choice and experience of early discharge. *Scandinavian Journal of Caring Sciences*, 20(3), 323–330. <https://doi.org/10.1111/j.1471-6712.2006.00411.x>
- Long, J., & Cumming, J. (2013a). Psychosocial Predictors. In M. D. Gellman & J. R. Turner (Eds.), *Encyclopedia of Behavioral Medicine* (pp. 1584–1585). Springer New York. https://doi.org/10.1007/978-1-4419-1005-9_485
- Long, J., & Cumming, J. (2013b). Psychosocial Variables. In M. D. Gellman & J. R. Turner (Eds.), *Encyclopedia of Behavioral Medicine* (pp. 1585–1587). Springer New York. https://doi.org/10.1007/978-1-4419-1005-9_486
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. Ed.). Psychology Foundation.
- Lucas, D. N., & Gough, K. L. (2013). Enhanced recovery in obstetrics ; a new frontier? *International Journal of Obstetric Anesthesia*, 22(2), 92–95. <https://doi.org/10.1016/j.ijoa.2013.02.001>
- Lyon, A., Solomon, M. J., & Harrison, J. D. (2014). A Qualitative Study Assessing the Barriers to Implementation of Enhanced Recovery After Surgery. *World Journal of Surgery*, 38(6), 1374–1380. <https://doi.org/10.1007/s00268-013-2441-7>
- MacGregor, C. A., Neerhof, M., Sperling, M. J., Alspach, D., Plunkett, B. A., Choi, A., & Blumenthal, R. (2021). Post-Cesarean Opioid Use after Implementation of Enhanced Recovery after Surgery Protocol. *American Journal Perinatology*, 38, 637–642. <https://doi.org/10.1055/s-0040-1721075>.
- Macones, G. A., Caughey, A. B., Wood, S. L., Wrench, I. J., Huang, J., Norman, M., Pettersson, K., Fawcett, W. J., Shalabi, M. M., Metcalfe, A., Gramlich, L., Nelson, G., & Wilson, R. D. (2019). Guidelines for postoperative care in cesarean delivery: Enhanced Recovery After Surgery (ERAS) Society recommendations (part 3).

Enhanced Recovery for Caesarean Section with Next-day Discharge

American Journal of Obstetrics & Gynecology, 221(3), 247.e1-247.e9.

<https://doi.org/10.1016/j.ajog.2019.04.012>

Mangala, J. K., Remadevi, C., Loganathan, P., R, S., Gopukrishnan, & Vasudevan, A. (2021). Enhanced Recovery Pathway as a Tool in Reducing Post-operative Hospital Stay After Caesarean Section, Compared to Conventional Care in COVID Era-A Pilot Study. *Journal of Obstetrics and Gynaecology of India*, 71(Suppl 1), 12–17.

<https://doi.org/10.1007/s13224-021-01461-6>

Marshall, N. E., Fu, R., & Guise, J.-M. (2011). Impact of multiple cesarean deliveries on maternal morbidity: A systematic review. *American Journal of Obstetrics and Gynecology*, 205(3), 262.e1-262.e8. <https://doi.org/10.1016/j.ajog.2011.06.035>

Martin, D., Roulin, D., Grass, F., Addor, V., Ljungqvist, O., Demartines, N., & Hübner, M. (2018). A multicentre qualitative study assessing implementation of an Enhanced Recovery After Surgery program. *Clinical Nutrition*, 37(6, Part A), 2172–2177.

<https://doi.org/10.1016/j.clnu.2017.10.017>

McCaffrey, N., Kaambwa, B., Currow, D. C., & Ratcliffe, J. (2016). Health-related quality of life measured using the EQ-5D–5L: South Australian population norms. *Health and Quality of Life Outcomes*, 14(1), 133. <https://doi.org/10.1186/s12955-016-0537-0>

McComish, J. F., & Visger, J. M. (2009). Domains of Postpartum Doula Care and Maternal Responsiveness and Competence. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 38(2), 148–156. <https://doi.org/10.1111/j.1552-6909.2009.01002.x>

McCoy, J. A., Gutman, S., Hamm, R. F., & Srinivas, S. K. (2021). The Association between Implementation of an Enhanced Recovery after Cesarean Pathway with Standardized Discharge Prescriptions and Opioid Use and Pain Experience after Cesarean Delivery. *American Journal of Perinatology*, 38(13), 1341–1347.

<https://doi.org/10.1055/s-0041-1732378>

Enhanced Recovery for Caesarean Section with Next-day Discharge

McLachlan, H. L., Gold, L., Forster, D. A., Yelland, J., Rayner, J., & Rayner, S. (2009).

Women's views of postnatal care in the context of the increasing pressure on postnatal beds in Australia. *Women and Birth*, 22(4), 128–133.

<https://doi.org/10.1016/j.wombi.2009.04.003>

McLaren, N. (1998). A critical review of the biopsychosocial model. *Australian and New*

Zealand Journal of Psychiatry, 32(1), 86–92. <https://doi.org/10.1046/j.1440->

1614.1998.00343.x

McNaney, N. (2011). *Enhanced recovery Partnership Project Report*. Department of Health, National Health Service (NHS) Improvement, National Cancer Action Team (NCAT), NHS Institute.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215511/dh_128707.pdf

Moameri, H., Ostadghaderi, M., Khatooni, E., & Doosti-Irani, A. (2019). Association of postpartum depression and cesarean section: A systematic review and meta-analysis.

Clinical Epidemiology and Global Health, 7(3), 471–480.

<https://doi.org/10.1016/j.cegh.2019.02.009>

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for

systematic reviews and meta-analyses: The PRISMA statement. *PLoS Med*, 6(7),

e1000097. <https://doi.org/10.1371/journal.pmed.1000097>

Mortensen, K., Nilsson, M., Slim, K., Schäfer, M., Mariette, C., Braga, M., Carli, F.,

Demartines, N., Griffin, S. M., Lassen, K., & Enhanced Recovery After Surgery

(ERAS®) Group. (2014). Consensus guidelines for enhanced recovery after

gastrectomy. *British Journal of Surgery*, 101(10), 1209–1229.

<https://doi.org/10.1002/bjs.9582>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Moser, A., Stuck, A. E., Silliman, R. A., Ganz, P. A., & Clough-Gorr, K. M. (2012). The eight-item modified Medical Outcomes Study Social Support Survey: Psychometric evaluation showed excellent performance. *Journal of Clinical Epidemiology*, *65*(10), 1107–1116. <https://doi.org/10.1016/j.jclinepi.2012.04.007>
- Mullman, L., Hilden, P., Goral, J., Gwacham, N., Tauro, C., Spinola, K., Rosales, K., Collier, S., Holmes, L., Maccione, J., Pitera, R., Miller, R., & Yodice, P. (2020). Improved Outcomes With an Enhanced Recovery Approach to Cesarean Delivery. *Obstetrics and Gynecology*, *136*(4), 685–691. <https://doi.org/10.1097/AOG.0000000000004023>
- Nelson, G., Altman, A. D., Nick, A., Meyer, L. A., Ramirez, P. T., Achtari, C., Antrobus, J., Huang, J., Scott, M., Wijk, L., Acheson, N., Ljungqvist, O., & Dowdy, S. C. (2016). Guidelines for postoperative care in gynecologic/oncology surgery: Enhanced Recovery After Surgery (ERAS®) Society recommendations—Part II. *Gynecologic Oncology*, *140*(2), 323–332. <https://doi.org/10.1016/j.ygyno.2015.12.019>
- NHMRC. (2007). *National Statement on Ethical Conduct in Human Research 2007 (Updated 2018)*. National Health and Medical Research Council.
www.nhmrc.gov.au/guidelines/publications/e72
- NICE. (2011). *Caesarean section* (National Institute for Health and Clinical Excellence Guidelines). National Institute for Health and Clinical Excellence.
- NICE. (2021). *Caesarean Birth*. National Institute for Health and Clinical Excellence.
<https://www.nice.org.uk/guidance/ng192/resources/caesarean-birth-pdf-11757051614149>
- Nielsen Dana, Susan., & Wambach, Karen. (2003). Patient Satisfaction With an Early Discharge Home Visit Program. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *32*(2), 190–198. <https://doi.org/10.1177/0884217503251733>

Enhanced Recovery for Caesarean Section with Next-day Discharge

Nilsson, I., Danbjørg, D. B., Aagaard, H., Strandberg-Larsen, K., Clemensen, J., & Kronborg,

H. (2015). Parental experiences of early postnatal discharge: A meta-synthesis.

Midwifery, 31(10), 926–934. <https://doi.org/10.1016/j.midw.2015.07.004>

Nursing and Midwifery Board. (2023). *Midwife standards for practice*. AHPRA.

[https://www.nursingmidwiferyboard.gov.au/codes-guidelines-](https://www.nursingmidwiferyboard.gov.au/codes-guidelines-statements/professional-standards/midwife-standards-for-practice.aspx)

[statements/professional-standards/midwife-standards-for-practice.aspx](https://www.nursingmidwiferyboard.gov.au/codes-guidelines-statements/professional-standards/midwife-standards-for-practice.aspx)

Oyeyemi, N., Oyeneyin, L., Ayodeji, O., Oyeyemi, A., & Bosede, A. (2019). Post-operative

management in uncomplicated caesarean delivery: A randomised trial of short-stay

versus traditional protocol at the Lagos University Teaching Hospital, Nigeria. *The*

Nigerian Postgraduate Medical Journal, 26(1), 31–37. ProQuest Central.

https://doi.org/10.4103/npmj.npmj_166_18

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K.

(2015). *Purposeful sampling for qualitative data collection and analysis in mixed*

method implementation research. 42(5), 533–544. [https://doi.org/10.1007/s10488-](https://doi.org/10.1007/s10488-013-0528-y)

[013-0528-y](https://doi.org/10.1007/s10488-013-0528-y)

Pan, J., Hei, Z., Li, L., Zhu, D., Hou, H., Wu, H., Gong, C., & Zhou, S. (2020). The

Advantage of Implementation of Enhanced Recovery After Surgery (ERAS) in Acute

Pain Management During Elective Cesarean Delivery: A Prospective Randomized

Controlled Trial. *Therapeutics and Clinical Risk Management*, 16, 369–378.

<https://doi.org/10.2147/TCRM.S244039>

Patil, S., Cornett, E. M., Jesunathadas, J., Belani, K., Fox, C. J., Kaye, A. D., Lambert, L. A.,

& Urman, R. D. (2019). Implementing enhanced recovery pathways to improve

surgical outcomes. *Journal of Anaesthesiology, Clinical Pharmacology*, 35(Suppl 1),

S24–S28. https://doi.org/10.4103/joacp.JOACP_36_18

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Peahl, A. F., Smith, R., Johnson, T. R. B., Morgan, D. M., & Pearlman, M. D. (2019). Better late than never: Why obstetricians must implement enhanced recovery after cesarean. *American Journal of Obstetrics and Gynecology*, *221*(2), 117.e1-117.e7. <https://doi.org/10.1016/j.ajog.2019.04.030>
- Pearsall, E. A., Meghji, Z., Pitzul, K. B., Aarts, M. A., McKenzie, M., McLeod, R. S., & Okrainec, A. (2015). A qualitative study to understand the barriers and enablers in implementing an enhanced recovery after surgery program. *Annals Surgery*, *261*(1), 92–96. <https://doi.org/10.1097/sla.0000000000000604>
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., & Britten, N. (2006). *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews*. Economic and Social Research Council Methods Programme.
- Pope, C., & Campbell, R. (2001). Qualitative research in obstetrics and gynaecology. *BJOG: An International Journal of Obstetrics & Gynaecology*, *108*(3), 233–237. <https://doi.org/10.1111/j.1471-0528.2001.00077.x>
- Pregnancy Outcome Unit. (2022). *Pregnancy Outcome in South Australia 2019*. Prevention and Population Health Directorate, Wellbeing SA. <https://www.wellbeingsa.sa.gov.au/assets/downloads/Pregnancy-outcomes/A4128259-Attachment-1-Pregnancy-Outcome-in-South-Australia-2019.pdf>
- Prosser, S. J., Miller, Y. D., Thompson, R., & Redshaw, M. (2014). Why ‘down under’ is a cut above: A comparison of rates of and reasons for caesarean section in England and Australia. *BMC Pregnancy and Childbirth*, *14*(1), 1–13. <https://doi.org/10.1186/1471-2393-14-149>
- Rees, C. (2016). *Rapid Research Methods for Nurses, Midwives and Health Professionals*. <https://doi.org/10.1002/9781119548577.ch3>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Rosyidah, R., Dewanto, A., Hapsari, E. D., & Widyastuti, Y. (2022). Health Professionals Perception of Enhanced Recovery After Surgery: A Scoping Review. *Journal of Perianesthesia Nursing*, 37(6), 956–960. <https://doi.org/10.1016/j.jopan.2022.02.004>
- Rosyidah, R., Widyastuti, Y., Dewanto, A., Hapsari, E. D., & Wicaksana, A. L. (2021). The Attitude of Health Care Workers on Enhanced Recovery After Surgery for Cesarean Delivery: A Scoping Review. *Journal of Obstetrics and Gynaecology Canada : JOGC = Journal d'obstetrique et Gynecologie Du Canada : JOGC*, 43(7), 856–863. <https://doi.org/10.1016/j.jogc.2021.03.011>
- Rowe, H. (2016). Biopsychosocial obstetrics and gynaecology – a perspective from Australia. *Journal of Psychosomatic Obstetrics & Gynecology*, 37(1), 1–5. <https://doi.org/10.3109/0167482X.2015.1124853>
- Rycroft-Malone, J., Fontenla, M., Bick, D., & Seers, K. (2008). Protocol-based care: Impact on roles and service delivery*. *Journal of Evaluation in Clinical Practice*, 14(5), 867–873. <https://doi.org/10.1111/j.1365-2753.2008.01015.x>
- Rydmark Kersley, Å., & Berterö, C. (2021). Women's experiences of an enhanced recovery after surgery program: A qualitative study. *Nursing & Health Sciences*, 23(1), 263–272. <https://doi.org/10.1111/nhs.12810>
- SA Health. (2023a). *Lyell McEwin Hospital Fast Facts*. <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/services/hospitals/lyell+mcewin+hospital/about+us+lmh/lyell+mcewin+hospital+fast+facts>
- SA Health. (2023b). *Modbury Hospital*. Northern Adelaide Local Health Network (NALHN). <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/services/hospitals/modbury+hospital/modbury+hospital>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- SA Health. (2023c). *Northern Adelaide Local health Network (NALHN)*. Northern Adelaide Local Health Network (NALHN).
<https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/about+us/our+local+health+networks/northern+adelaide+local+health+network/northern+adelaide+local+health+network>
- Sahebi, A., Asghari, M. J., & Salari, R. S. (2005). Validation of Depression Anxiety and Stress Scale (DASS-21) for an Iranian Population. *JIP*, *1*(4), 36–54.
- Salenger, R., Morton-Bailey, V., Grant, M., Gregory, A., Williams, J. B., & Engelman, D. T. (2020). Cardiac Enhanced Recovery After Surgery: A Guide to Team Building and Successful Implementation. *Seminars in Thoracic and Cardiovascular Surgery*, *32*(2), 187–196. <https://doi.org/10.1053/j.semtcvs.2020.02.029>
- Sandall, J., Soltani, H., Gates, S., Shennan, A., & Devane, D. (2016). Midwife-led continuity models versus other models of care for childbearing women. *Cochrane Database of Systematic Reviews*, *4*. <https://doi.org/10.1002/14651858.CD004667.pub5>
- Sandall, J., Tribe, R. M., Avery, L., Mola, G., Visser, G. H., Homer, C. S., Gibbons, D., Kelly, N. M., Kennedy, H. P., Kidanto, H., Taylor, P., & Temmerman, M. (2018). Short-term and long-term effects of caesarean section on the health of women and children. *The Lancet*, *392*(10155), 1349–1357. [https://doi.org/10.1016/S0140-6736\(18\)31930-5](https://doi.org/10.1016/S0140-6736(18)31930-5)
- Schwandt, T., Lichty, L., Hesse-Biber, S., & Johnson, R. B. (2015). What Problem Are We Trying to Solve?: Practical and Innovative Uses of Multimethod and Mixed Methods Research. In *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford University Press.
- Seow-En, I., Wu, J., Yang, L. W. Y., Tan, J. S. Q., Seah, A. W. H., Foo, F. J., Chang, M., Tang, C. L., & Tan, E. K. W. (2021). Results of a colorectal enhanced recovery after

Enhanced Recovery for Caesarean Section with Next-day Discharge

surgery (ERAS) programme and a qualitative analysis of healthcare workers' perspectives. *Asian Journal of Surgery*, 44(1), 307–312.

<https://doi.org/10.1016/j.asjsur.2020.07.020>

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine (1982)*, 32(6), 705–714. [https://doi.org/10.1016/0277-9536\(91\)90150-b](https://doi.org/10.1016/0277-9536(91)90150-b)

Shiell, A., Cameron, S., Kenny, P., & King, M. (1994). A mother's choice: The reasons women choose hospital stay over early discharge. *Health & Social Care in the Community*, 2(2), 69–76. <https://doi.org/10.1111/j.1365-2524.1994.tb00151.x>

Sibbern, T., Bull Sellevold, V., Steindal, S. A., Dale, C., Watt-Watson, J., & Dihle, A. (2017). Patients' experiences of enhanced recovery after surgery: A systematic review of qualitative studies. *Journal of Clinical Nursing*, 26(9–10), 1172–1188.

<https://doi.org/10.1111/jocn.13456>

Slattery, P., Saeri, A. K., & Bragge, P. (2020). Research co-design in health: A rapid overview of reviews. *Health Research Policy and Systems*, 18(1), 17–17. PubMed.

<https://doi.org/10.1186/s12961-020-0528-9>

Small, R., Roth, C., Raval, M., Shafiei, T., Korfker, D., Heaman, M., McCourt, C., & Gagnon, A. (2014). Immigrant and non-immigrant women's experiences of maternity care: A systematic and comparative review of studies in five countries. *BMC Pregnancy and Childbirth*, 14(1). Scopus. <https://doi.org/10.1186/1471-2393-14-152>

Sodeno, M., Tappis, H., Burnham, G., & Ververs, M. (2021). Associations between caesarean births and breastfeeding in the middle east: A scoping review. *Eastern Mediterranean Health Journal*, 27(9). <https://doi.org/10.26719/emhj.21.027>

Sorabella, L. L., & Bauchat, J. R. (2021). Enhanced Recovery after Surgery: Cesarean Delivery. *Anesthesiology Clinics*, 39(4), 743–760.

<https://doi.org/10.1016/j.anclin.2021.08.012>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Stone, A. B., Yuan, C. T., Rosen, M. A., & et al. (2018). Barriers to and facilitators of implementing enhanced recovery pathways using an implementation framework: A systematic review. *JAMA Surgery, 153*(3), 270–279.
<https://doi.org/10.1001/jamasurg.2017.5565>
- Suharwardy, S., & Carvalho, B. (2020). Enhanced recovery after surgery for cesarean delivery. *Current Opinion in Obstetrics & Gynecology, 32*(2), 113–120.
<https://doi.org/10.1097/GCO.0000000000000616>
- Suls, J., & Rothman, A. (2004). Evolution of the Biopsychosocial Model: Prospects and Challenges for Health Psychology. *Health Psychology, 23*(2), 119–125.
<https://doi.org/10.1037/0278-6133.23.2.119>
- Sultan, P., Sharawi, N., Blake, L., & Carvalho, B. (2020). Enhanced recovery after caesarean delivery versus standard care studies: A systematic review of interventions and outcomes. *International Journal of Obstetric Anesthesia, 43*, 72–86.
<https://doi.org/10.1016/j.ijoa.2020.03.003>
- Sultan, P., Sharawi, N., Blake, L., Habib, A. S., Brookfield, K. F., & Carvalho, B. (2021). Impact of enhanced recovery after cesarean delivery on maternal outcomes: A systematic review and meta-analysis. *Anaesthesia, Critical Care & Pain Medicine, 40*(5), 100935. <https://doi.org/10.1016/j.accpm.2021.100935>
- Swift, E. M., Zoega, H., Stoll, K., Avery, M., & Gottfreðsdóttir, H. (2021). Enhanced Antenatal Care: Combining one-to-one and group Antenatal Care models to increase childbirth education and address childbirth fear. *Women and Birth, 34*(4), 381–388.
<https://doi.org/10.1016/j.wombi.2020.06.008>
- Tan, P. C., Norazilah, M. J., & Omar, S. Z. (2012). Hospital discharge on the first compared with the second day after a planned cesarean delivery: A randomized controlled trial.

Enhanced Recovery for Caesarean Section with Next-day Discharge

Obstet Gynecol, 120(6), 1273–1282.

<https://doi.org/10.1097/AOG.0b013e3182723a95>

Teigen, N. C., Sahasrabudhe, N., Doulaveris, G., Xie, X., Negassa, A., Bernstein, J., & Bernstein, P. S. (2019). Enhanced Recovery after Surgery (ERAS) at Cesarean to Reduce Postoperative Length of Stay: A Randomized Controlled Trial. *American Journal of Obstetrics & Gynecology*. <https://doi.org/10.1016/j.ajog.2019.10.009>

Tomsis, Y., Perez, E., sharabi, L., Shaked, M., Haze, S., & Hadid, S. (2021). Postpartum Post-Traumatic Stress Symptoms Following Cesarean Section—The Mediating Effect of Sense of Control. *Psychiatric Quarterly*, 92(4), 1839–1853. Scopus.

<https://doi.org/10.1007/s11126-021-09949-0>

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups.

International Journal for Quality in Health Care, 19(6), 349–357.

<https://doi.org/10.1093/intqhc/mzm042>

Tonsing, K. N. (2014). Psychometric properties and validation of Nepali version of the Depression Anxiety Stress Scales (DASS-21). *Asian Journal of Psychiatry*, 8, 63–66.

<https://doi.org/10.1016/j.ajp.2013.11.001>

Tracy, S. J. (2010). Qualitative Quality: Eight “Big-Tent” Criteria for Excellent Qualitative Research. *Qualitative Inquiry*, 16(10), 837–851.

<https://doi.org/10.1177/1077800410383121>

Varadhan, K. K., Neal, K. R., Dejong, C. H. C., Fearon, K. C. H., Ljungqvist, O., & Lobo, D. N. (2010). The enhanced recovery after surgery (ERAS) pathway for patients undergoing major elective open colorectal surgery: A meta-analysis of randomized controlled trials. *Clinical Nutrition*, 29(4), 434–440.

<https://doi.org/10.1016/j.clnu.2010.01.004>

Enhanced Recovery for Caesarean Section with Next-day Discharge

- Vargas, C., Whelan, J., Brimblecombe, J., & Allender, S. (2022). Co-creation, co-design, co-production for public health – a perspective on definitions and distinctions. *Public Health Research & Practice, 32*(2). <https://doi.org/10.17061/phrp3222211>
- von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *The Lancet, 370*(9596), 1453–1457. [https://doi.org/10.1016/S0140-6736\(07\)61602-X](https://doi.org/10.1016/S0140-6736(07)61602-X)
- Wang, D., Liu, Z., Zhou, J., Yang, J., Chen, X., Chang, C., Liu, C., Li, K., & Hu, J. (2022). Barriers to implementation of enhanced recovery after surgery (ERAS) by a multidisciplinary team in China: A multicentre qualitative study. *BMJ Open, 12*(3), e053687. <https://doi.org/10.1136/bmjopen-2021-053687>
- Weiss, M. E. ;, & Lokken, Lisa. ; (2009). Predictors and Outcomes of Postpartum Mothers' Perceptions of Readiness for Discharge after Birth. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 38*(4), 406–417. <https://doi.org/10.1111/j.1552-6909.2009.01040.x>
- WHO. (2015). *WHO Statement on Caesarean Section Rates* (pp. 1–8). World Health Organization.
- WHO. (2021). *Caesarean section rates continue to rise, amid growing inequalities in access*. <https://www.who.int/news/item/16-06-2021-caesarean-section-rates-continue-to-rise-amid-growing-inequalities-in-access>
- Wilcock, A. A., & Townsend, E. A. (2018). Chapter 45: Occupational Justice. In B. A. Boyt Schell & G. Gillen (Eds.), *Willard and Spackman's: Occupational Therapy* (13th ed.). Wolters Kluwer Health.
- Wilson, R. D., Caughey, A. B., Wood, S. L., Macones, G. A., Wrench, I. J., Huang, J., Norman, M., Petterson, K., Fawcett, W. J., Shalabi, M. M., Metcalfe, A., Gramlich,

Enhanced Recovery for Caesarean Section with Next-day Discharge

- L., & Nelson, G. (2018). Guidelines for Antenatal and Preoperative care in Cesarean Delivery: Enhanced Recovery After Surgery Society Recommendations (Part 1). *American Journal of Obstetrics & Gynecology*, *219*(6), 523.e1-523.e15. <https://doi.org/10.1016/j.ajog.2018.09.015>
- Withers, M., Kharazmi, N., & Lim, E. (2018). Traditional beliefs and practices in pregnancy, childbirth and postpartum: A review of the evidence from Asian countries. *Midwifery*, *56*, 158–170. <https://doi.org/10.1016/j.midw.2017.10.019>
- Wrench, Allison, A., Galimberti, A., Radley, S., & Wilson, M. J. (2015). Introduction of enhanced recovery for elective caesarean section enabling next day discharge: A tertiary centre experience. *International Journal of Obstetric Anesthesia*, *24*(2), 124–130. <https://doi.org/10.1016/j.ijoa.2015.01.003>
- Wrench, I. (2019, June 24). *Personal communication*.
- Yang, X.-J., & Sun, S.-S. (2017). Comparison of maternal and fetal complications in elective and emergency cesarean section: A systematic review and meta-analysis. *Archives of Gynecology and Obstetrics*, *296*(3), 503–512. <https://doi.org/10.1007/s00404-017-4445-2>
- Yonemoto, N., Nagai, S., & Mori, R. (2021). Schedules for home visits in the early postpartum period. *The Cochrane Database of Systematic Reviews*, *7*(7), CD009326. <https://doi.org/10.1002/14651858.CD009326.pub4>
- Zadoroznyj, M. (2007). Postnatal care in the community: Report of an evaluation of birthing women's assessments of a postnatal home-care programme. *Health & Social Care in the Community*, *15*(1), 35–44. <https://doi.org/10.1111/j.1365-2524.2006.00664.x>
- Zanardo, V., Giliberti, L., Volpe, F., Simbi, A., Guerrini, P., Parotto, M., & Straface, G. (2018). Short hospitalization after caesarean delivery: Effects on maternal pain and

Enhanced Recovery for Caesarean Section with Next-day Discharge

stress at discharge. *The Journal of Maternal-Fetal & Neonatal Medicine*, 31(17), 2332–2337. <https://doi.org/10.1080/14767058.2017.1342802>

Zanardo, V., Soldera, G., Volpe, F., Giliberti, L., Parotto, M., Giustardi, A., & Straface, G. (2016). Influence of elective and emergency cesarean delivery on mother emotions and bonding. *Early Human Development*, 99, 17–20.

<https://doi.org/10.1016/j.earlhumdev.2016.05.006>

Zhuang, C.-L., Ye, X.-Z., Zhang, X.-D., Chen, B.-C., & Yu, Z. (2013). Enhanced Recovery After Surgery Programs Versus Traditional Care for Colorectal Surgery: A Meta-analysis of Randomized Controlled Trials. *Diseases of the Colon & Rectum*, 56(5). https://journals.lww.com/dcrjournal/Fulltext/2013/05000/Enhanced_Recovery_After_Surgery_Programs_Versus.18.aspx

Appendices

- Appendix A** Systematic literature review protocol
- Appendix B** Biopsychosocial questionnaire
- Appendix C** Prospective cohort study participant material: flyer, invitation letter, an information sheet and consent form
- Appendix D** Nepali study material
- Appendix E** Persian study material
- Appendix F** Qualitative study with healthcare providers study material: initiation letter, information sheet and consent form
- Appendix G** Published copy of the systematic literature review
- Appendix H** Published copy of the qualitative study with women

PROSPERO
International prospective register of systematic reviewsWomen's experiences with a reduced length of hospital stay after caesarean section:
systematic review*Christianna Digenis, Deborah Turnbull, Lynette Cusack, Amy Salter***Citation**

Christianna Digenis, Deborah Turnbull, Lynette Cusack, Amy Salter. Women's experiences with a reduced length of hospital stay after caesarean section: systematic review. PROSPERO 2018 CRD42018110990 Available from:

http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018110990

Review question

Broadly, this systematic review will seek to understand women's experiences with a reduced length of hospital stay (early discharge) after caesarean section. More specifically the following questions are proposed:

1. What are women's experiences with a reduced length of hospital stay after caesarean section?
2. What are women's attitudes of, and satisfaction with a reduced length of hospital stay after caesarean section?
3. What psychosocial factors or outcomes (including infant feeding) appear to be associated with a reduced length of hospital stay?

Searches

We will search the following databases:

- PsycINFO
- CINAHL
- PubMed
- Embase
- ProQuest Dissertations and Theses

Additional references will also be sought through a citation search in Scopus which will be conducted using relevant articles identified from the above strategy.

Furthermore, grey literature will be searched using key term searchers and citation searching. The citation lists of studies that meet the inclusion criteria will be hand searched for relevant publications.

Date restrictions from 1980-present will be implemented, as length of hospital stays after childbirth began to reduce post 1980. No language restrictions will be applied.

Example PubMed strategy:

"Caesarean Section"[mh] OR Cesarean*[tw] OR Caesarean*[tw] OR cesarian*[tw] OR Abdominal deliver*[tw] OR postcaesarean*[tw] OR postcesarean*[tw] OR postcesarian*[tw] OR C-Section*[tw] OR surgical birth*[tw] OR surgical deliver*[tw] OR obstetric surger*[tw]

AND

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“patient discharge”[mh] OR discharg*[tw] OR “convalescence”[mh] OR convalesce*[tw] OR Fast track recovery[tw] OR fast tracked recovery[tw] OR transition of care[tw] OR dismiss*[tw] OR Enhanced recovery[tw] OR ERAS[tw] OR “Length of Stay”[mh] OR length of stay[tw] OR stay length[tw] OR Home based care[tw] OR homebased care[tw] OR homecare[tw] OR home care[tw] OR Community care[tw] OR postnatal transfer[tw] OR patient sign out*[tw] OR patient signout*[tw]

Types of study to be included

This review takes a mixed-methods approach and will consider both qualitative and quantitative (experimental and observational) and mixed methods study designs.

Condition or domain being studied

A reduced length of hospital stay specifically after caesarean section. A reduced length of stay is defined in comparison to other implemented procedures of discharge, standard care or a comparison group with a longer discharge time. This includes women’s experiences in the antenatal period, time of discharge and postnatal period of women who subsequently delivered via caesarean section and are categorised as having a reduced length of stay.

Participants/population

Inclusion criteria: Women who have given birth via caesarean section including both elective (without labour) and emergency (with labour).

Exclusion criteria: Vaginal delivery; no breakdown of mode of delivery. Experiences of parents, caregivers or others who are not the birthing mother.

In cases where other modes of delivery or others who are not the birthing mother are included in the analysis, the study will only be eligible for review if the results pertaining to women delivering via caesarean are extractable.

Intervention(s), exposure(s)

Inclusion: A reduced length of stay (irrespective of actual length) or a program of early hospital discharge in comparison to other implemented procedures of discharge, standard care or a comparison group with a longer discharge time.

Exclusion: No reduced length of hospital stay or program of early hospital discharge.

Comparator(s)/control

No comparison group is required. However, if other models of discharge or participants who are not the birthing mother are included, results from the reduced length of stay participants must be extractable to be eligible for review.

Context

Main outcome(s)

At least one of the following must be included in a study to qualify for eligibility into the review. This review takes a broad definition of experiences, which can relate to the antenatal period, postnatal period and time of discharge. Primary outcomes are:

- Experiences of a reduced length of hospital stay
- Attitudes of a reduced length of hospital stay
- Satisfaction with a reduced length of hospital stay
- Psychosocial factors or outcomes associated with a reduced length of hospital stay

Additional outcome(s)

Secondary outcomes may include demographic factors that appear to be associated with a reduced length of stay and barriers to implementing reduced length of stay pathways.

Data extraction (selection and coding)

The search strategy was developed with the assistance of a University research librarian in order to develop a quality search strategy from the beginning of the review process. All returned titles and abstracts will be searched by one author to assess initial eligibility. A second reviewer will assess a random subset of 10% of the returned titles and abstracts to ensure consistency in included studies. Discrepancies will initially be discussed between the two reviewers, and if not resolved, input from a third reviewer will be included. Articles will then undergo a full-text review to further establish if they meet the eligibility criteria of the review. Data to be extracted include: participant demographics, methodology, analysis used, method of delivery, description or definition of reduced length of stay, outcomes. Reasons for exclusion will be noted. A PRISMA flow diagram will be used.

Risk of bias (quality) assessment

One author will review the quality of included studies using an established tool specific to the design of the studies included in the review. A second reviewer will independently assess a subset of a minimum 10% of articles to reduce risk of bias. Discrepancies will initially be discussed between the two reviewers, and if not resolved, input from a third reviewer will be included.

Strategy for data synthesis

A mixed-method synthesis is planned, provided that studies meeting the criteria for inclusion include both qualitative and quantitative study designs.

Analysis of subgroups or subsets

Sub-group analysis is proposed on time of discharge, comparing discharge within 24-hours after delivery and 24-hours or more after delivery. If possible, caesarean will be distinguished between emergency caesarean (with labour) compared to elective caesarean (without labour).

Contact details for further information

Christianna Digenis
christianna.digenis@adelaide.edu.au

Organisational affiliation of the review

The University of Adelaide and Northern Adelaide Local Health Network

Review team members and their organisational affiliations

Ms Christianna Digenis. The University of Adelaide
Professor Deborah Turnbull. The University of Adelaide
Assistant/Associate Professor Lynette Cusack. The University of Adelaide & Northern Adelaide Local Health Network
Dr Amy Salter. The University of Adelaide

Type and method of review

Systematic review

Anticipated or actual start date

01 October 2018

Anticipated completion date

28 February 2019

Funding sources/sponsors

Ms Digenis is funded by the Research Training Program Scholarship.

Conflicts of interest

Language

English

PROSPERO
International prospective register of systematic reviews

Country

Australia

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Cesarean Section; Female; Humans; Length of Stay; Pregnancy

Date of registration in PROSPERO

23 October 2018

Date of publication of this version

23 October 2018

Details of any existing review of the same topic by the same authors

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Versions

23 October 2018

PROSPERO

This information has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. The registrant confirms that the information supplied for this submission is accurate and complete. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.



Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

A collaboration between

Northern Adelaide Local Health Network

&

The University of Adelaide

Participant ID (for the researcher):

Thank you for taking part in the questionnaire

Please read the questions carefully and answer them as best you can.

Contact information

Name:

Mobile phone number:

Please read each statement and circle a number for each line.

	strongly disagree 1	disagree 2	not sure 3	agree 4	strongly agree 5
I feel I will be prepared for an early discharge	1	2	3	4	5
I prefer to recover at hospital	1	2	3	4	5
I dislike hospital	1	2	3	4	5
I think being together as a family close after birth is important	1	2	3	4	5
I feel I need more information about early discharge	1	2	3	4	5
Hospital staff are supportive of me being on the enhanced recovery pathway (EREC)	1	2	3	4	5
My family are supportive of me being on the enhanced recovery pathway (EREC)	1	2	3	4	5

2 of 5

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

1.	I found it hard to wind down	0	1	2	3
2.	I was aware of dryness of my mouth	0	1	2	3
3.	I couldn't seem to experience any positive feeling at all	0	1	2	3
4.	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5.	I found it difficult to work up the initiative to do things	0	1	2	3
6.	I tended to over-react to situations	0	1	2	3
7.	I experienced trembling (eg, in the hands)	0	1	2	3
8.	I felt that I was using a lot of nervous energy	0	1	2	3
9.	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10.	I felt that I had nothing to look forward to	0	1	2	3
11.	I found myself getting agitated	0	1	2	3
12.	I found it difficult to relax	0	1	2	3
13.	I felt down-hearted and blue	0	1	2	3

14. I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15. I felt I was close to panic	0	1	2	3
16. I was unable to become enthusiastic about anything	0	1	2	3
17. I felt I wasn't worth much as a person	0	1	2	3
18. I felt that I was rather touchy	0	1	2	3
19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20. I felt scared without any good reason	0	1	2	3
21. I felt that life was meaningless	0	1	2	3

Next are some questions about the support that is available to you.

About how many close friends and close relatives do you have (people you feel at ease with and can talk to about what is on your mind?)

Write in number of close friends and close relatives

(Circle One Number In each Line)

	None of the Time	A Little of the Time	Some of the Time	Most of the Time	All of the Time
1. To help you if you were confined to bed?	1	2	3	4	5
2. To take you to the doctor if you need it?	1	2	3	4	5
3. To prepare your meals if you are unable to do it yourself?	1	2	3	4	5
4. To help with daily chores if you were sick?	1	2	3	4	5
5. To have a good time with?	1	2	3	4	5
6. To turn to for suggestions about how to deal with a personal problem?	1	2	3	4	5
7. Who understands your problems?	1	2	3	4	5
8. To love and make you feel wanted?	1	2	3	4	5

3a) Home support in the few days after hospital discharge

Adult after work hours

No Adult

Adult all day

Adult most of the day

More than one adult all day

3b) Who will help (tick all that apply)?

<input type="checkbox"/>	Partner
<input type="checkbox"/>	Parent
<input type="checkbox"/>	Friend
<input type="checkbox"/>	Relative
<input type="checkbox"/>	Other (specify) _____

4a) Support looking after other children in the few days after hospital discharge

N/A

All of the time

Most of the time

Some of the time

A little of the time

None of the time

3b) Who will help (tick all that apply)?

<input type="checkbox"/>	N/A
<input type="checkbox"/>	Partner
<input type="checkbox"/>	Parent
<input type="checkbox"/>	Friend
<input type="checkbox"/>	Relative
<input type="checkbox"/>	Other (specify) _____

Under each heading, please tick the ONE box that best describes your health TODAY.

MOBILITY

- I have no problems with walking around
- I have slight problems with walking around
- I have moderate problems with walking around
- I have severe problems with walking around
- I am unable to walk around

PERSONAL CARE

- I have no problems with washing or dressing myself
- I have slight problems with washing or dressing myself
- I have moderate problems with washing or dressing myself
- I have severe problems with washing or dressing myself
- I am unable to wash or dress myself

USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

PAIN / DISCOMFORT

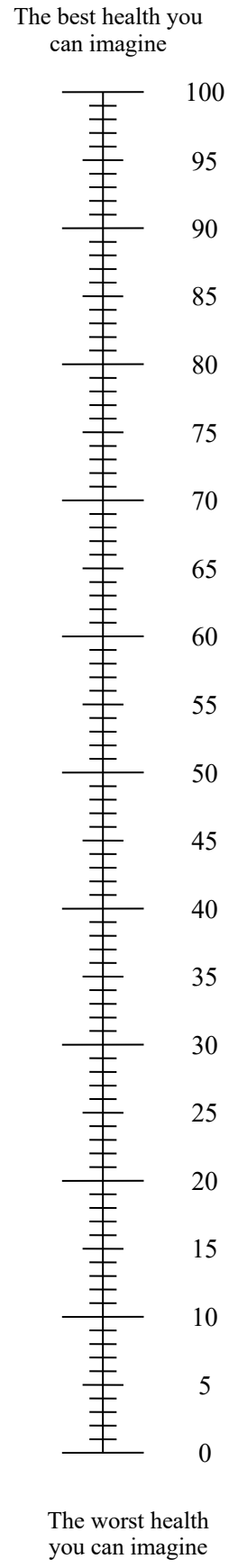
- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort

ANXIETY / DEPRESSION

- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed

- We would like to know how good or bad your health is TODAY.
- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine.
0 means the worst health you can imagine.
- Mark an X on the scale to indicate how your health is TODAY.
- Now, please write the number you marked on the scale in the box below.

YOUR HEALTH TODAY =



1) Date of birth: *DD/MM/YY*

2) Post code:

3) In which country where you born?

4) If not Australia, what year did you arrive

5) What language do you speak at home?

6) Please indicate your highest level of education.

- Post graduate degree
- Graduate diploma or certificate
- Bachelor's degree
- Diploma
- Certificate
- Secondary education
- Primary education
- Pre-primary
- Other

7) Are you of Aboriginal or Torres Strait Islander origin?

- No
- Yes, Aboriginal
- Yes, Torres Strait Islander
- Yes, Aboriginal and Torres Strait Islander

8) At what stage of your pregnancy are you today (how many weeks)? _____

9) If you know, what date will you have your elective caesarean section? *DD/MM/YY*

10 How many babies have you given birth to? (include only live births)

- 1
- 2
- 3
- 4 or more

1) How were the other children delivered (tick all that apply)?

- Vaginal delivery
- Forceps
- Vacuum extraction
- Caesarean with labour (emergency)
- Caesarean, no labour (elective)

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

We invite you to participate in a research study on the Enhanced Recovery after Elective Caesarean Section (EREC)

The study has ethics approval from the Central Adelaide Local Health Network (CALHN) Human Research Ethics Committee and the Adelaide University Human Research Ethics Committee (Project Number HREC/15/TQEH/286). It is being conducted by the University of Adelaide's Schools of Nursing and Psychology with the Women's and Children's Division of the Lyell McEwin Hospital and Modbury Hospital.

Am I Eligible?

To be in this study you need to:

- Be on the enhanced recovery pathway for elective caesarean section (EREC)
- Be over the age of 18
- Speak English or have a translator/translated copy.

What will I need to do?

- Fill in a questionnaire about how you are feeling during your pregnancy, your social situation, as well as basic information about yourself
- Agree for limited access to your health records so we can understand your outcomes with EREC
- Agree to potentially being contacted for an interview over the telephone approximately 8 weeks after you have been discharged home (which you may decline).

A voucher for \$30.00 will be offered in recognition of your time for the interview.

What next?

A researcher from the University of Adelaide may approach you while you wait for your appointment to discuss the study and give you more information.

If you are interested please find more information at the front desk of the clinic.

Your participation in this study is completely voluntary. If you do consent to participate, you may withdraw at any time.

For any concerns about the study, please contact the principal researcher Professor Deborah Turnbull (The University of Adelaide) on 8313 1229. For more information regarding ethical approval of the project or any ethical concerns you can contact Mr Ian Tindall, Executive Officer Human Research Ethics Committee CALHN on (08) 71172229 or The Research Branch of The University of Adelaide on 8313 5137, or by email rb@adelaide.edu.au

The School of Psychology
Hughes Building, The University of Adelaide
North terrace, 5005

Dear

We invite you to participate in a research study on the Enhanced Recovery after Elective Caesarean Section (EREC) pathway titled 'Evaluating the effectiveness of a reduced length of stay for elected caesarean sections'. The study has ethics approval from the Central Adelaide Local Health Network (CALHN) Human Research Ethics Committee and the Adelaide University Human Research Ethics Committee (Project Number HREC/15/TQEH/286). It is being conducted by the University of Adelaide's Schools of Nursing and Psychology with the Women's and Children's Division of the Lyell McEwin Hospital and Modbury Hospital.

We would appreciate it if you would read and consider the information sheet and consent to:

- Filling in a questionnaire about how you are feeling during your pregnancy, your social situation, as well as basic information about yourself;
- Providing access to your health records so we can understand your outcomes with EREC;
- Potentially being contacted for an interview over the telephone approximately 8 weeks after you have been discharged home. A voucher for \$30.00 will be offered in recognition of your time for the interview.

The core research team comprises of researchers from the University of Adelaide and the Northern Adelaide Local Health Network:

- Professor Deborah Turnbull, Chair in Psychology, School of Psychology, University of Adelaide
- Dr Lynette Cusack, Senior Lecturer, School of Nursing, University of Adelaide;
- Ms Christianna Digenis, PhD/Master of Psychology (Health) student, School of Psychology, University of Adelaide;
- Ms Meredith Hobbs, Divisional Director, Lyell McEwin Hospital, Women's and Children's Division;
- Dr Amy Salter, Biostatistician, School of Public Health, University of Adelaide;
- Ms Bronwen Klaer, CSC Maternity Home Visiting Services, Lyell McEwin Hospital, Women's and Children's Division.

For any concerns about the study, please contact the principle researcher Professor Deborah Turnbull (The University of Adelaide) on 8313 1229. For more information regarding ethical approval of the project or any ethical concerns you can contact Mr Ian Tindall, Executive Officer Human Research Ethics Committee CALHN on (08) 71172229 or The Research Branch of The University of Adelaide on 8313 5137, or by email rb@adelaide.edu.au

Kind Regards,
Professor Deborah Turnbull

Participant Information Sheet/Consent Form
Lyell McEwin Hospital & Modbury Hospital

Evaluating the effectiveness of a reduced length of stay for elected caesarean
sections

Short Title	Enhanced Recovery Elective Caesarean Section
Principal Investigator	Professor Deborah Turnbull
Associate Investigator(s)	Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location:	Lyell McEwin Hospital & Modbury Hospital Northern Adelaide Local Health Network (NAHLN)

This study is interested in better understanding the Enhanced Recovery Pathway for elective caesarean section (EREC). This research will also be used by the researcher Ms Christianna Digenis to obtain the degree PhD/Master of Psychology (Health) at the University of Adelaide.

Please read this information carefully and ask questions if you need. Participation in this research is voluntary.

All research in Australia involving humans is reviewed by an independent group of people called a Human Research Ethics Committee (HREC). The ethical aspects of this research project have been approved by the HREC of Central Adelaide Health Network (CAHLN) HREC/15/TQEH/286 and the University of Adelaide HREC.

1 What does my participation involve?

To be in this study you need to be on the enhanced recovery pathway for elective caesarean section, be over the age of 18 and speak English or have a translator/translated copy.

If you want to take part, you will be asked to sign the consent section. By signing it you are telling us that you:

- Understand what you have read
- Consent to take part in the research project described
- Consent to the use of your personal and health information as described

This study has two parts:

- 1) You will be asked to fill in a questionnaire that should take no more than 20 minutes to complete. This questionnaire will ask you about how you are feeling during your pregnancy, your social situation, as well as basic information about yourself. We will connect your questionnaire results with your EREC pathway outcomes; such as your length of hospital stay. To do this, we will access your health records.
- 2) You may be contacted for a follow-up interview 8 weeks after delivery. The interview will take no longer than 60 minutes and will be conducted over the telephone at a time that is convenient for you. We will text you first before calling to organise an interview time. You can text back to decline further contact and can opt-out at any time. Interviews will be audio-recorded, and the researcher will transcribe the interview. If you are contacted for an interview, we will ask questions about your experience of being on the pathway; you do not need to have had an early discharge to be contacted.

There are no costs associated with participating in this research project. If you are interviewed, you will be offered a \$30 gift voucher for your time.

2 Do I have to take part in this research project? & What if I withdraw from this research project?

Your participation in this study is completely voluntary. If you do consent to participate, you may withdraw at any time. If you agree to participate in the questionnaire and then later decide you do not want to be involved with an interview reply 'no' to the interview invitation text message or tell the researcher when they call.

If you decide to withdraw entirely from the project, please tell a member of the research team. If you decide to leave the research project, the researchers will not collect more personal information from you. Information already collected will be kept with your permission.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not impact on your relationship with the health service.

3 What are the possible benefits or risks of taking part?

There will be no clear benefit to you from your participation in this research; however, possible benefits may include better planning and care for other women who have an elective caesarean.

There are no known risks associated with this study. However, you may feel that some of the questions we ask are stressful or upsetting. If you don't want to answer a question, you may skip it or go to the next question, or you can stop immediately.

If you become upset or distressed as a result of your participation in the research project, please tell the researcher. The researcher will inform an appropriate manager at the Women and Children's Division at the health site or the Home Visiting Midwifery Service manager who will follow-up with you.

5 What if my questionnaire shows I might need follow up for mental health care?

Please know that because we are asking some questions about your mental health, a NALHN staff member may contact you and offer you support services such as counselling. You will only be contacted if it is found that you have high levels of psychological distress.

6 Could this research project be stopped unexpectedly?

This research project may be stopped for a variety of reasons such as the researcher being unable to complete the research project.

Part 2 How is the research project being conducted?

7 What will happen to information about me?

By signing the consent form you consent to the research team collecting and using personal information about you for the research project.

Any information used for this research project that can identify you will be confidential and will be stored securely. Hard copy data will be stored in locked filing cabinets at the University of Adelaide, School of Psychology; electronic data will be password protected on University of Adelaide secure servers. Once your details are linked we will remove your identifiable information and assign a code to assist in tracking the data and following-up with you. Transcripts will be de-identified after transcription. Data will be stored for 5 years after the end of the project.

In any thesis, publications and/or presentations, information will be provided in a way that you cannot be identified. Your information will only be used for the purpose of this research project and it will only be disclosed with your permission, except as required by law.

Information about you will be obtained from your health records held at this and other health organisations for the purpose of this research. By signing the consent form you agree to the research team accessing health records if they're relevant to your participation in this research.

8 Can I access and edit my responses?

In accordance with relevant Australian and/or South Australian privacy and other relevant laws, you have the right to request access to the information about you that is collected and stored by the researcher. If you would like a copy of your questionnaire or transcript of the interview, please tell the researcher. After this, questionnaire and/or interviews will be de-identified. You also have the right to request that any information with which you disagree be corrected.

9 Complaints

If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principle Investigator Professor Deborah Turnbull on 08 8313 1229 or Deborah.turnbull@adelaide.edu.au.

If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant you can contact: **CAHLN HREC:** Health.CALHNResearchEthics@sa.gov.au 08 7117 2229 OR **The University of Adelaide HREC:** 08 8313 6028 hrec@adelaide.edu.au.

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

You will be given a copy of this Participant Information and Consent Form to keep.

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

Short Title Enhanced Recovery Elective Caesarean Section
Principal Investigator Professor Deborah Turnbull
Associate Investigator(s) Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location: Lyell McEwin Hospital & Modbury Hospital
Northern Adelaide Local Health Network (NAHLN)

Declaration by Participant

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care.

I understand that I will be given a signed copy of this document to keep.

Name of Participant (please print) _____
Signature _____ Date _____

Declaration by Researcher[†]

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher [†] (please print) _____
Signature _____ Date _____

[†] An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature.

Form for Withdrawal of Participation - Adult providing own consent

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

Short Title Enhanced Recovery Elective Caesarean Section
Principal Investigator Professor Deborah Turnbull
Associate Investigator(s) Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location: Lyell McEwin Hospital & Modbury Hospital
Northern Adelaide Local Health Network

Declaration by Participant

I wish to withdraw from participation in the above research project and understand that such withdrawal will not affect my routine care, or my relationships with the researchers.

Name of Participant (please print) _____
Signature _____ Date _____

In the event that the participant’s decision to withdraw is communicated verbally, the Senior Researcher must provide a description of the circumstances below.

--

Declaration by Researcher[†]

I have given a verbal explanation of the implications of withdrawal from the research project and I believe that the participant has understood that explanation.

Name of Researcher (please print) _____
Signature _____ Date _____

[†] An appropriately qualified member of the research team must provide information concerning withdrawal from the research project.

Note: All parties signing the consent section must date their own signature.

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

Short Title	Enhanced Recovery Elective Caesarean Section
Principal Investigator	Professor Deborah Turnbull
Associate Investigator(s)	Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location:	Lyell McEwin Hospital & Modbury Hospital Northern Adelaide Local Health Network (NAHLN)

Declaration by Participant

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care.

I understand that I will be given a signed copy of this document to keep.

Name of Participant (please print) _____
Signature _____ Date _____

Declaration by Researcher[†]

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher [†] (please print) _____
Signature _____ Date _____

[†] An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature.

Appendix D



चुनिएको प्रसव शल्यक्रिया गर्दा घटाइएको बसाई अवधिको प्रभावकारीताको मूल्याङ्कन

बीचको सहकार्य

उत्तरी एडिलेड स्थानिय स्वास्थ्य संजाल

र

एडिलेड विश्वविद्यालय

सहभागिको पहिचान (अनुसन्धानकर्ताको लागि):

प्रश्नावलीमा सहभागी हुनु भएकोमा धन्यवाद

कृपया प्रश्नहरु ध्यान दिएर पढ्नुहोस् र तिनीहरुको राम्रोसँग जवाफ दिनुहोस् ।

सम्पर्कको लागि जानकारी

नाम:

मोबाइल फोन नम्बर:

५ मध्ये १

कृपया प्रत्येक विवरण पढ्नुहोस् र प्रत्येक लाइनमा भएको अङ्कमा गोलो लगाउनुहोस्

	कडा असहमत १	असहमत २	पक्का नभएको ३	सहमत ४	कडा सहमत ५
मलाई लाग्छ कि म चाँडो डिस्चार्ज हुनको लागि तयार रहनेछु	१	२	३	४	५
म अस्पतालमा निको हुन मन पराउँछु	१	२	३	४	५
मलाई अस्पताल मन पर्दैन	१	२	३	४	५
मेरो विचारमा बच्चा जन्मे पछि परिवारसंग सगै बस्नु महत्वपूर्ण हुन्छ	१	२	३	४	५
मलाई लाग्छ कि मलाई चाँडो डिस्चार्जको बारेमा थप जानकारीको जरुरत पर्दछ	१	२	३	४	५
म परिस्कृत स्वास्थ्यलाभ मार्ग (EREC) मा लागेकोले मलाई अस्पतालको कर्मचारीहरुले समर्थन गर्दछ	१	२	३	४	५
मेरो परिवारले मलाई परिस्कृत स्वास्थ्यलाभ मार्ग (EREC) को लागि समर्थन गर्दछ	१	२	३	४	५

५ मध्ये ३

तपाईंको लागि उपलब्ध सहयोगको बारेमा अर्को थप प्रश्नहरू ।

तपाईंको घनिष्ठ साथीहरू र नजिकको आफन्तहरू कति जना तपाईंसँग छन् (मान्छेहरू जोसँग तपाईं आफ्नो दिमागमा चलेको कुराहरू भन्न सजिलो महसुस गर्नुहुन्छ)

घनिष्ठ साथी र नजिकको आफन्तहरूको संख्या लेख्नुहोस्

(प्रत्येक लाइनमा भएको अङ्कमा गोलो लगाउनुहोस्)

	कुनै पनि समय	थोरै समय	केहि समय	अधिकांश समय	पूरे समय
१. यदि तपाईं ओछ्यानमै सिमित हुनुहुन्छ भने तपाईंलाई मद्दत गर्न सकिने?	१	२	३	४	५
२. यदि तपाईंलाई आवश्यक परेमा चिकित्सककोमा लैजान सकिने?	१	२	३	४	५
३. यदि तपाईं स्वयं पकाउन सक्नुहुन्न भने खाना पकाउन सकिने?	१	२	३	४	५
४. यदि तपाईं बिरामी हुनु भयो भने तपाईंको दैनिक कार्यमा सहयोग गर्न सकिने?	१	२	३	४	५
५. राम्रो समय बिताउन सकिने?	१	२	३	४	५
६. व्यक्तिगत समस्याको कसरी सामना गर्ने भन्ने कुराको सुझावहरू दिन सकिने?	१	२	३	४	५
७. तपाईंको समस्याहरू कसले बुझ्दछ?	१	२	३	४	५
८. तपाईंलाई माया र तपाईंको आवश्यक महसुस गर्न सकिने?	१	२	३	४	५

३क) अस्पतालबाट डिस्चार्ज भएको केहि दिन पछि घरमा सहायता

वयस्क कामको समय पछि

वयस्क छैन

वयस्क पूरे दिन

दिनको अधिकांश समय वयस्क

पूरे दिन एक भन्दा बढी वयस्क

३ख) कसले मद्दत गर्नेछ (जसमा लागू हुन्छ त्यसमा चिन्ह लगाउनुहोस्)?

<input type="checkbox"/>	साभेदार
<input type="checkbox"/>	अभिभावक
<input type="checkbox"/>	साथी
<input type="checkbox"/>	आफन्त
<input type="checkbox"/>	अन्य (खुलाउनुहोस्)

४क) अस्पतालबाट डिस्चार्ज भएको केहि दिन पछि अन्य बच्चाहरुलाई हेर्नेको लागि सहायता

लागू हुदैन

पुरै समय

अधिकांश समय

केहि समय

थोरै समय

कुनै पनि समयमा चाहिदैन

४ख) कसले मद्दत गर्नेछ (जसमा लागू हुन्छ त्यसमा चिन्ह लगाउनुहोस्)?

<input type="checkbox"/>	लागू हुदैन
<input type="checkbox"/>	साभेदार
<input type="checkbox"/>	अभिभावक
<input type="checkbox"/>	साथी
<input type="checkbox"/>	आफन्त
<input type="checkbox"/>	अन्य (खुलाउनुहोस्)

प्रत्येक शीर्षक अन्तर्गत, कृपया आजको दिन तपाईंको स्वास्थ्यलाई सबभन्दा राम्ररी वर्णन गर्ने एउटा कोठामा ठीक चिन्ह लगाउनुहोस् ।

हिँडुल

- मलाई यता उता हिँड्न कुनै समस्याहरू छैन
- मलाई यता उता हिँड्न हल्का समस्याहरू छन्
- मलाई यता उता हिँड्न मध्यम समस्याहरू छन्
- मलाई यता उता हिँड्न कडा समस्याहरू छन्
- म यता उता हिँड्न असमर्थ छु

आफ्नो-हेरचाह

- मलाई आफैँ नुहाउन वा लुगा लगाउन कुनै समस्याहरू छैन
- मलाई आफैँ नुहाउन वा लुगा लगाउन हल्का समस्याहरू छन्
- मलाई आफैँ नुहाउन वा लुगा लगाउन मध्यम समस्याहरू छन्
- मलाई आफैँ नुहाउन वा लुगा लगाउन कडा समस्याहरू छन्
- म आफैँ नुहाउन वा लुगा लगाउन असमर्थ छु

सामान्य वा नियमित क्रियाकलापहरू (जस्तै: रोजगार सम्बन्धी, अध्ययन, घरको काम, परिवार वा फुर्सदको क्रियाकलापहरू)

- मलाई आफ्नो सामान्य वा नियमित क्रियाकलापहरू गर्न कुनै समस्याहरू छैन
- मलाई आफ्नो सामान्य वा नियमित क्रियाकलापहरू गर्न हल्का समस्याहरू छन्
- मलाई आफ्नो सामान्य वा नियमित क्रियाकलापहरू गर्न मध्यम समस्याहरू छन्
- मलाई आफ्नो सामान्य वा नियमित क्रियाकलापहरू गर्न कडा समस्याहरू छन्
- म आफ्नो सामान्य वा नियमित क्रियाकलापहरू गर्न असमर्थ छु

दुखाइ / असुविधा

- मलाई कुनै दुखाइ वा असुविधा छैन
- मलाई हल्का दुखाइ वा असुविधा छ
- मलाई मध्यम दुखाइ वा असुविधा छ
- मलाई कडा दुखाइ वा असुविधा छ
- मलाई अति कडा दुखाइ वा असुविधा छ

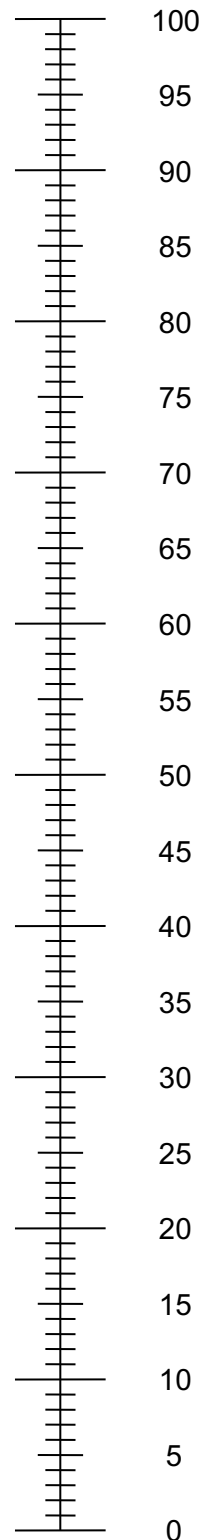
चिन्ता / उदासीपन

- म चिन्तित वा उदास छैन
- म हल्का चिन्तित वा उदास छु
- म मध्यम रूपमा चिन्तित वा उदास छु
- म कडा रूपमा चिन्तित वा उदास छु
- म अति कडा रूपमा चिन्तित वा उदास छु

- हामी आजको दिन तपाईंको स्वास्थ्य कतिको राम्रो वा नराम्रो छ भनेर जान्न चाहन्छौं ।
- यो स्केलमा 0 देखि 100 सम्म सङ्ख्या दिइएको छ ।
- 100 भनेको तपाईंले कल्पना गर्न सक्ने सबभन्दा राम्रो स्वास्थ्य हो ।
0 भनेको तपाईंले कल्पना गर्न सक्ने सबभन्दा नराम्रो स्वास्थ्य हो ।
- तपाईंको आजको स्वास्थ्य कस्तो छ भनेर देखाउन स्केलमा एउटा X चिन्ह लगाउनुहोस् ।
- अब, कृपया तपाईंले स्केलमा चिन्ह लगाएको सङ्ख्यालाई तलको कोठामा लेख्नुहोस् ।

तपाईंको आजको स्वास्थ्य =

तपाईंले कल्पना गर्न सक्ने
सबभन्दा राम्रो स्वास्थ्य



तपाईंले कल्पना गर्न सक्ने
सबभन्दा नराम्रो स्वास्थ्य

१) जन्म मिति: DD/MM/YY

२) पोष्ट कोड

३) तपाई कुन देशमा जन्मनु भएको?

४) यदि अष्ट्रेलियाली होइन भने तपाई कुन सालमा आईपुगनु भएको

५) घरमा कुन भाषा बोल्नु हुन्छ?

६) कृपया तपाईको उच्च पढाईलाई संकेत गर्नुहोस्

- स्नोतकोत्तर डिग्री
- स्नातक डिप्लोमा वा प्रमाणपत्र
- स्नातक डिग्री
- डिप्लोमा
- प्रविणता प्रमाणपत्र
- माध्यमिक शिक्षा
- प्राथमिक शिक्षा
- पूर्व प्राथमिक
- अन्य

७) के तपाई आदिवासी वा मूल टोरेस स्ट्रेट आइलैंडर हो?

- होइन
- हो आदिवासी
- हो टोरेस स्ट्रेट आइलैंडर
- हो आदिवासी र टोरेस स्ट्रेट आइलैंडर

८) आज तपाई गर्भावास्थाको कुन चरणमा हुनुहुन्छ (कति हप्ता) ? _____

९) यदि तपाईलाई थाहा छ भने आफ्नो बैकल्पिक प्रसव शल्यक्रिया कुन मितिमा गर्नुहुन्छ? DD/MM/YY

१०. तपाईले कति जना बच्चाहरुलाई जन्म दिनुभो? (खाली जिउँदो बच्चालाई समावेश गर्नुहोस्)

- १
 २
 ३
 ४ वा अरु

११. अरु छोराछोरीहरुलाई कसरी जन्म दिनु भएको थियो (लागू हुने सबैलाई चिन्ह लगाउनुहोस्)?

- योनीबाट प्रसव
 चिस्टा
 वैक्यूमबाट निकासी
 प्रसव साथ शल्यक्रिया (आपातकालीन)
 प्रसव बिना शल्यक्रिया (वैकल्पिक)

मिति

मनोविज्ञान स्कूल
ट्यूजस बिल्डिंग, एडिलेड विश्वविद्यालय
नर्थ टेरेश, ५००५

प्रिय

हामी तपाईंलाई बैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभ (EREC) मार्ग शिर्षक “चुनिएको प्रसव शल्यक्रिया गर्दा घटाइएको बसाई अवधिको प्रभावकारीताको मूल्याङ्कन” अध्ययनमा भाग लिन निम्तो दिन्छौं । अध्ययनले केन्द्रीय एडिलेड स्थानीय स्वास्थ्य सञ्जाल (CALHN) मानव अनुसन्धान नैतिकता समिति र एडिलेड विश्वविद्यालय मानव अनुसन्धान आचार समिति (परियोजना संख्या HREC/१५/TQEH/२८६) बाट नैतिकता स्वीकृत गरिएको छ । एडिलेड नर्सिङ्ग स्कूल र मनोविज्ञान विश्वविद्यालय र लियेल मैकविन अस्पताल र मोडबरी अस्पतालको महिलाहरु र बच्चाहरुको विभागद्वारा यो सञ्चालन गरिन्छ ।

यदि तपाईं जानकारी पत्र पढ्नु र विचार गर्नुहुन्छ, र सहमति दिनुहुन्छ भने हामी यसप्रति आभारी हुन्छौं:

- तपाईंको गर्भावस्थाको समयमा तपाईंले कस्तो महसुस गर्नुहुन्छ र तपाईंको सामाजिक अवस्था साथै आफैंको बारेमा आधारभूत जानकारी प्रश्नावलीमा भर्नुहोस्;
- तपाईंको स्वास्थ्य अभिलेखरूमा पहुँच प्रदान गरियोस् जसले गर्दा हामी EREC को साथ तपाईंको नतिजा बुझ्न सक्छौं;
- डिस्चाज भएको लगभग ८ हप्तापछि तपाईंलाई टेलिफोन मार्फत अन्तर्वाताको लागि सम्भावित रूपमा सम्पर्क गरिनेछ । तपाईंले दिएको अन्तर्वाताको समय लागे वापत सम्मान स्वरूप \$४० को उपहार भौचर दिइनेछ ।

मुख्य अनुसन्धान टोलीमा एडिलेड विश्वविद्यालय र उत्तरी एडिलेड स्थानीय स्वास्थ्य सञ्जालमा अनुसन्धानकर्ताहरु समावेश गरिएको छ:

- प्रोफेसर डेबोराह टर्नबुल, मनोविज्ञान प्रमुख, मनोविज्ञान स्कूल, एडिलेड विश्वविद्यालय;
- डा लिन्नेट क्युसैक, वरिष्ठ प्राध्यापक, नर्सिङ्ग स्कूल, एडिलेड विश्वविद्यालय;
- सुश्री क्रिस्टियाना डाइजेनेस, पीएचडी/मनोविज्ञानमा स्नोतकोत्तर (स्वास्थ्य) विद्यार्थी, मनोविज्ञान स्कूल, एडिलेड विश्वविद्यालय;
- सुश्री मेरेडिथ हॉब्स, विभागीय निर्देशक, लियेल मैकविन अस्पताल, महिला र बालबालिका विभाग
- डा एमी साल्टर, जैवोस्टोस्टिस्टियन, पब्लिक हेल्थ स्कूल, एडिलेड विश्वविद्यालय
- सुश्री ब्रोनवेन कलेर, सीएससी मातृत्व गृह भ्रमण सेवाहरु, लियेल मैकविन अस्पताल, महिला र बालबालिका विभाग

अध्ययनको बारेमा कुनै पनि चासोको लागि कृपया प्रमुख अनुसन्धानकर्ता प्रोफेसर डेबोरा टर्नबुल (एडिलेड विश्वविद्यालय) लाई ८३९३ ९२२९ मा सम्पर्क गर्नुहोस् । कुनै नैतिक चासो वा परियोजनाको नैतिक स्वीकृती सम्बन्धि थप जानकारीको लागि तपाईं श्री इयान टिन्डल, कार्यकारी अधिकृत मानव अनुसन्धान आचार समिति CALHN (०८) ७९१७२२२९ मा अथवा एडिलेड विश्वविद्यालयको अनुसन्धान शाखा ८३९३ ५९३७ मा वा ईमेलद्वारा rb@adelaide.edu.au मा सम्पर्क गर्न सक्नुहुन्छ ।

सधन्यवाद,

प्रोफेसर डेबोरा टर्नबुल

सहभागि जानकारी पत्र र मन्जुरी फारम
लियेल मैकविन अस्पताल र मोडबरी अस्पताल

चुनिएको प्रसव शल्यक्रिया गर्दा घटाइएको बसाई अवधिको प्रभावकारीताको मूल्याङ्कन

छोटो शिर्षक

बैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभ

प्रमुख अन्वेषक

प्रोफेसर डेबराह टर्नबुल

सहायक अन्वेषक

(यदि संस्थाबाट आवश्यक भएमा)

सुश्री क्रिस्टियाना डाइजेनेस, डा लिन्नेट क्युसैक, डा एमी साल्टर

स्थान:

लियेल मैकविन अस्पताल र मोडबरी अस्पताल
उत्तरी एडिलेड स्थानीय स्वास्थ्य सञ्जाल

यो अध्ययनले बैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभ (EREC) लाई राम्रो तरिकाबाट बुझ्न रुचि राख्दछ। यस अनुसन्धानलाई एडिलेड विश्वविद्यालयमा पीएचडी/मनोविज्ञानमा स्नोतकोत्तर (स्वास्थ्य) डिग्री प्राप्त गर्नको लागि अनुसन्धानकर्ता सुश्री क्रिस्टियाना डिगेनिसद्वारा पनि प्रयोग गरिनेछ।

कृपया यस जानकारीलाई ध्यानपूर्वक पढ्नुहोस् र यदि तपाईंलाई आवश्यक भएमा प्रश्नहरू सोध्न सक्नुहुनेछ। यस अनुसन्धानमा भाग लिने कुरा स्वैच्छिक रहन्छ।

अस्ट्रेलियामा हुने मानव सहित सबै अनुसन्धानहरूको समीक्षा एउटा स्वतन्त्र समूहद्वारा गरिन्छ, जसलाई मानव अनुसन्धान आचार समिति (HREC) भनिन्छ। यस अनुसन्धान परियोजनाको नैतिक पक्षलाई HREC को केन्द्रिय एडिलेड स्वास्थ्य सञ्जाल (CAHLN) HREC/१५/TQEH/२८६ र HREC एडिलेड विश्वविद्यालयद्वारा स्वीकृति गरिएको हो।

१ मेरो सहभागितामा के समावेश हुन्छ?

यस अध्ययनमा समावेश हुनको लागि तपाईंलाई बैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभमा हुनु आवश्यक छ, र १८ वर्ष भन्दा माथि हुनुपर्नेछ, वा अंग्रेजी बोल्न सक्नुपर्नेछ, वा तपाईंसंग अनुवादक/अनुवादित प्रतिलिपि हुनुपर्नेछ।

यदि तपाईं भाग लिन चाहनुहुन्छ भने तपाईंलाई मन्जुरी खण्डमा हस्ताक्षर गर्न आग्रह गरिनेछ। हस्ताक्षर गरेर तपाईं हामीलाई भनिरहनु भएको छ कि तपाईंले:

- पढ्नु भएको बुझ्नुभयो
- अनुसन्धान परियोजनामा व्याख्या गरे अनुसार भाग लिने सहमति दिनुभयो
- आफ्नो व्याक्तिगत र स्वास्थ्य जानकारीको व्याख्या गरे अनुसारको सहमति दिनुभयो

यो अध्ययनमा दुई भागहरू छन्:

- १) तपाईंलाई एउटा प्रश्नावली भर्नको लागि भनिनेछ, जसलाई पुरा गर्नको लागि २० मिनेट भन्दा धेरै समय लाग्दैन। यो प्रश्नावलीमा तपाईंलाई आफ्नो गर्भावस्थाको समयमा कस्तो महसुस गर्नुहुन्छ, र तपाईंको सामाजिक परिस्थिति साथ साथै आफ्नो बारेमा आधारभूत जानकारीहरू सोधिनेछ। हामी तपाईंको प्रश्नावलीको नतिजालाई तपाईंको EREC मार्ग परिणामहरूसंग जोड्नेछौं जस्तै तपाईंको अस्पताल बसाईको अवधि; यो गर्नको लागि हामी तपाईंको स्वास्थ्य दस्तावेजहरूसंग पहुँच राख्नेछौं।
- २) बच्चा जन्मिएको ८ हप्तापछि तपाईंलाई पुनः अन्तरवार्ताको लागि सम्पर्क गरिनेछ। अन्तरवार्ता ६० मिनेट भन्दा धेरै समय लाग्दैन र तपाईंको उपलब्ध समयमा टेलिफोनबाट पनि सञ्चालन गरिनेछ। हामी तपाईंलाई अन्तरवार्ताको समय मिलाउनको लागि फोन गर्नु पहिले सन्देश पठाउनेछौं। तपाईंलाई थप सम्पर्क गर्नबाट अस्वीकार गर्नको लागि सन्देश पठाउन सक्नुहुनेछ र कुनै पनि समयमा बन्देज गर्न सक्नुहुनेछ। अन्तरवार्तालाई अडियो रेकर्ड गराइनेछ र अनुसन्धानकर्ताले अन्तरवार्तालाई अनुवादित गर्नेछ। यदि तपाईंलाई अन्तरवार्ताको लागि सम्पर्क गरियो भने हामी तपाईंलाई यस मार्गमा भएको अनुभवको बारेमा प्रश्न सोध्न सक्नेछौं; तपाईंलाई सम्पर्कमा आउनको लागि चाँडै डिस्वाज हुनु आवश्यक पर्दैन।

यस अनुसन्धान परियोजनामा सहभागि हुनको लागि कुनै पनि लागत लाग्दैन। यदि तपाईंको अन्तरवार्ता लिइन्छ भने तपाईंको समय लागे वापत सम्मान स्वरुप ४३० को उपहार भौचर दिइनेछ।

२ के मैले अनुसन्धान परियोजनामा भाग लिनु पर्दछ? र म अनुसन्धान परियोजनाबाट बाहिरिँदा के हुन सक्दछ?

यो अध्ययनमा तपाईंको सहभागिता पूर्णरूपमा स्वैच्छिक हुनेछ। यदि तपाईं सहभागिताको लागि सहमति दिनुहुन्छ भने कुनै पनि समयमा बाहिरिन पनि सक्नुहुन्छ। यदि तपाईं प्रश्नावलीमा सहभागि हुन सहमत हुनुभयो र फेरी पछि कुनै पनि अन्तरवार्ता सहभागि नहुने निर्णय लिनुभयो भने अन्तरवार्ताको लागि पठाएको सन्देशमा वा जब अनुसन्धानकर्ताको फोन गर्दछ, तब 'होइन' भनिदिनुहोस्।

यदि परियोजनाबाट तपाईंले पूर्णरूपमा छोड्ने निर्णय लिनुहुन्छ भने कृपया अनुसन्धानकर्ता टोलीको सदस्यलाई बताउनुहोस्। यदि तपाईं अनुसन्धान परियोजना छोड्ने निर्णय लिनु भैसको छ भने अनुसन्धानकर्ताले तपाईंको थप व्यक्तिगत जानकारी सङ्कलन गर्नेछैन। पहिलेनै सङ्कलन गरिसकेको जानकारीहरू तपाईंको अनुमतिमा मात्र राख्न सक्नेछ।

सहभागि हुने या नहुने वा सहभागि भएर फेरि पछि फिर्ता लिने निर्णय तपाईंको हो यसको कुनै पनि असर स्वास्थ्य सेवा संगको सम्बन्धमा पर्नेछैन ।

३. सहभागि हुँदा सम्भावित फाइदाहरु वा जोखिमहरु के हुन सक्दछ?

यस अनुसन्धानमा तपाईंको सहभागिता हुदाँ आफूलाई कुनै पनि देखिने फाइदा हुदैन; तथापि यसबाट सम्भावित फाइदाहरु मध्ये अन्य महिलाहरु जसले चुनिएको प्रसव शल्यक्रिया गर्न खोजेका छन् उनीहरुलाई राम्रो योजना र देखभाल प्राप्त हुन सक्दछ ।

यस अध्ययनसंग कुनै पनि ज्ञात जोखिम जोडिएको छैन । तथापि, हामीबाट सोधिने केही प्रश्नहरुले तपाईं तनावपूर्ण वा अप्ठ्यारो महसुस गर्न सक्नुहुन्छ । यदि तपाईं प्रश्नको जवाफ दिन चाहन्नुहुन्न भने तपाईं यसलाई छोड्न वा अर्को प्रश्नमा जानुहुन्छ वा तुरुन्तै रोक्न सक्नुहुनेछ ।

यदि तपाईं अनुसन्धान परियोजनामा आफ्नो सहभागिताबाट निराश हुनुभयो वा दुःखी हुनुभयो भने कृपया अनुसन्धानकर्तालाई भन्नुहोस् । अनुसन्धानकर्ताले महिला र बालबालिका विभागको स्वास्थ्य केन्द्रको उपयुक्त व्यवस्थापकलाई वा घरमा जाने मिडवाइफ सेवा प्रबन्धकलाई सूचित गर्नेछ जसले तपाईंको अनुगमन गर्नेछ ।

५. यदि मेरो प्रश्नावलीले मलाई मानसिक स्वास्थ्य हेरविचारको लागि जाँच गराउनु पर्ने देखियो भने के गर्ने?

हामी तपाईंको मानसिक स्वास्थ्य सम्बन्धि केहि प्रश्नहरु सोधिरहेका छौं त्यसैले कृपया थाहा पाइराख्नुहोस् कि एक NALHN कर्मचारी सदस्यले तपाईंलाई सम्पर्क गर्न सक्दछ र तपाईंलाई सेवा जस्तै परामर्श प्रदान गर्नको लागि सोध्न सक्दछ । तपाईंको मनोवैज्ञानिक तनावको स्तर उच्चतम रहेको देखियो भने मात्र तपाईंलाई सम्पर्क गरिनेछ ।

६. के यो अनुसन्धान परियोजना अप्रत्याशित रूपमा बन्द हुन सक्दछ?

यो अनुसन्धान परियोजना विभिन्न कारणहरुले रोकिन सक्दछ जस्तै अनुसन्धानकर्ताले अनुसन्धान परियोजना पूरा गर्न असमर्थ भयो भने ।

भाग २ अनुसन्धान परियोजना कसरी सञ्चालन भइरहेको छ?

७. मेरो बारेमा लिएको जानकारीहरुको के हुनेछ?

मन्जुरी फारममा हस्ताक्षर गरेर तपाईंले अनुसन्धान परियोजनाको लागि व्यक्तिगत जानकारी सङ्कलन र प्रयोग गर्न अनुसन्धानकर्ता टोलीलाई सहमति दिनुहुनेछ ।

यस अनुसन्धान परियोजनाको लागि प्रयोग भएको कुनै पनि जानकारी जुन तपाईंको बारेमा पहिचान गर्न सक्दछ त्यसलाई गोपनीय राखिनेछ र सुरक्षित रूपमा भण्डारण गरिनेछ । कागजमा लेखिएको तथाङ्कलाई एडिलेड विश्वविद्यालय, मनोविज्ञान स्कूलको बन्द गरिएको फाइलिंग दराजमा भण्डारण गरिनेछ र विधुत्तिय तथाङ्कलाई एडिलेड विश्वविद्यालयको सुरक्षित सभरमा पासवर्डको साथ सुरक्षित राखिनेछ । एकपटक तपाईंको विवरण जोडिएपछि हामी तपाईंको पहिचानयोग्य जानकारी हटाउनेछौं र तथाङ्क पत्ता लाउन र तपाईंको साथमा पछ्याउन सहयोग गर्नको लागि कोड हाल्नेछौं । प्रतिलेखन पछि प्रतिलिपिहरु पहिचान गरिनेछ । परियोजना सकिएको ५ वर्ष सम्मको लागि तथाङ्क भण्डारण गरिनेछ ।

कुनै पनि शोधग्रन्थ, प्रकाशनहरु र/वा प्रस्तुतीकरणहरुको जानकारी त्यस्तो तवरले प्रदान गरिनेछ जहाँ तपाईंको पहिचान गर्न सकिदैन । तपाईंको सूचना केवल यो अनुसन्धान परियोजनाको उद्देश्यको लागि प्रयोग गरिनेछ र यो केवल कानूनद्वारा आवश्यक बाहेक अरुमा तपाईंको अनुमतिबाट मात्र खुलासा गरिनेछ ।

यस अनुसन्धानको उद्देश्यको लागि तपाईंको स्वास्थ्य तथाङ्क र अन्य स्वास्थ्य संस्थाहरुबाट तपाईंको बारेमा जानकारी प्राप्त गरिनेछ । यस मन्जुरी फारममा हस्ताक्षर गरेर तपाईंले अनुसन्धान टोलीलाई यदि यस अनुसन्धानमा सान्दर्भिक भयो भने तपाईंको स्वास्थ्य तथाङ्कमा पहुँच पुराउन सक्दछ ।

८. के म मेरो प्रतिक्रियाहरूमा पहुँच र सम्पादन गर्न सक्छु?

सान्दर्भिक अस्ट्रेलियाली र/वा दक्षिण अस्ट्रेलियाली गोपनीयता र अन्य सान्दर्भिक कानून अनुसार तपाईंसँग सम्बन्धित जानकारी र अनुसन्धानकर्ताद्वारा भण्डार गरिएको तपाईंको जानकारीमा पहुँच पुऱ्याउन अनुरोध गर्ने अधिकार तपाईंसँग रहन्छ । यदि तपाईं आफ्नो प्रश्नावली वा अन्तरवार्ताको प्रतिलिपि चाहानुहुन्छ भने कृपया अनुसन्धानकर्तालाई भन्नुहोस् । यस पछि प्रश्नावली र/वा अन्तरवार्ताहरू पहिचान गरिनेछ । तपाईंसँग पनि यो अनुरोध गर्ने अधिकार छ कि कुनै पनि जानकारी प्रति तपाईं असहमत हुनुहुन्छ त्यसलाई सच्चाइनेछ ।

९. गुनासो

यदि तपाईंसँग प्रश्नहरू वा परियोजनामा तपाईंको सहभागिको व्यावहारिक पक्षहरूसँग सम्बन्धित समस्याहरू वा परियोजनाको बारेमा चिन्ता वा गुनासो उठाउन चाहानुहुन्छ भने तपाईंलाई प्रमुख अन्वेषक प्रोफेसर देबोराह टर्नबुलाई ०८ ८३९३ ९२२९ मा वा Deborah.turnbull@adelaide.edu.au मा सल्लाह दिनुपर्छ ।

यदि तपाईं चासो वा गुनासोको सम्बन्धमा एक स्वतन्त्र व्यक्तिसँग बोल्न चाहनुहुन्छ भने अनुसन्धानमा विश्वविद्यालयको नीति जसमा मानव सहभागीहरू समावेश वा सहभागितामा तपाईंको अधिकारको लागि तपाईं सम्पर्क गर्न सक्नुहुन्छ:

CAHLN HREC: Health.CALHNResearchEthics@sa.gov.au ०८ ७९९७ २२२९ वा **एडिलेड विश्वविद्यालय HREC:** 08 8313 6028 hrec@adelaide.edu.au

कुनै पनि गुनासो वा चासोलाई गोप्यनियताको साथ राखिनेछ, र पूर्ण रूपमा छानबिन गरिनेछ । तपाईंलाई परिणामको बारेमा सूचित गरिनेछ ।

तपाईंलाई राख्नको लागि यो सहभागी सूचना र मन्जुरी फारमको प्रतिलिपि दिइनेछ ।

चुनिएको प्रसव शल्यक्रिया गर्दा घटाइएको बसाई अवधिको प्रभावकारीताको मूल्याङ्कन

छोटो शिर्षक	वैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभ
प्रमुख अन्वेषक	प्रोफेसर डेबराह टर्नबुल
सहायक अन्वेषक (यदि संस्थाबाट आवश्यक भएमा)	सुश्री क्रिस्टियाना डाइजेनेस, डा लिन्नेट क्यासैक, डा एमी साल्टर
स्थान:	लियेल मैकविन अस्पताल र मोडबरी अस्पताल उत्तरी एडिलेड स्थानीय स्वास्थ्य नेटवर्क

सहभागिको घोषणा

मैले सहभागि सूचना पत्र पढेको छु वा कसैले मैले बुझ्ने भाषामा पढेर सुनाएको छ ।

मैले परियोजनामा उल्लेख गरिएको अनुसन्धानको उद्देश्य, प्रक्रिया र जोखिमहरू बुझेको छु ।

मलाई प्रश्न सोध्ने मौका मिलेको छ र मैले जुन उत्तर पाएको छु त्यसमा म सन्तुष्ट छु ।

जस्तो कि उल्लेख गरे अनुसार म स्वतन्त्र रूपमा यस अनुसन्धान परियोजनामा सहभागि हुनको लागि सहमत छु र बुझ्दछु कि म आफ्नो भविष्यको हेरचारलाई असर नगरिकन परियोजनबाट कुनै पनि समयमा फिर्ता हुन स्वतन्त्र छु ।

म बुझ्दछु कि मलाई हस्ताक्षरित प्रतिलिपि राख्नको लागि दिइनेछ ।

सहभागिको नाम (कृपया प्रिन्ट गर्नुहोस्) _____
हस्ताक्षर _____ मिति _____

अनुसन्धानकर्ताबाट घोषणा*

मैले अनुसन्धान परियोजनाको बारेमा यसको प्रक्रिया र जोखिमहरू मौखिक स्पष्टीकरण दिएको छु र मलाई विश्वास छ कि सहभागिले पनि यो स्पष्टीकरण बुझेको छ ।

अनुसन्धानकर्ताको नाम (कृपया प्रिन्ट गर्नुहोस्) _____
हस्ताक्षर _____ मिति _____

* अनुसन्धान टोलीको एक उचित योग्य सदस्यले अनुसन्धान परियोजना सम्बन्धि प्रदान गरेको स्पष्टीकरण, र जानकारीको सम्बन्धमा ।

नोट: मन्जुरीनामा खण्डमा हस्ताक्षर गर्ने सबै पक्षहरू उनीहरूको आफ्नै हस्ताक्षर मिति हुनुपर्छ ।

सहभागिता फिर्ता लिनको लागि फारम - वास्यक आफनो मन्जुरीनामा प्रदान

चुनिएको प्रसव शल्यक्रिया गर्दा घटाइएको बसाई अवधिको प्रभावकारीताको मूल्याङ्कन

छोटो शिर्षक	वैकल्पिक प्रसव शल्यक्रिया पछिको परिस्कृत स्वास्थ्यलाभ
प्रमुख अन्वेषक	प्रोफेसर डेबराह टर्नबुल
सहायक अन्वेषक (यदि संस्थाबाट आवश्यक भएमा)	सुश्री क्रिस्टियाना डाइजेनेस, डा लिन्नेट क्यासैक, डा एमी साल्टर
स्थान:	लियेल मैकविन अस्पताल र मोडबरी अस्पताल उत्तरी एडिलेड स्थानीय स्वास्थ्य नेटवर्क

सहभागिको घोषणा

म चाहन्छु माथिको अनुसन्धान परियोजनामा सहभागिताबाट फिर्ता हुन चाहन्छु र बुझ्दछु कि यसको फिर्ताले मेरो नियमित हेरविचार, वा अनुसन्धानकर्ताहरूसँग मेरो सम्बन्धलाई असर पार्दैन ।

सहभागिको नाम (कृपया प्रिन्ट गर्नुहोस्) _____
हस्ताक्षर _____ मिति _____

यो अवस्थामा कि सहभागिको फिर्ता लिने निर्णय मौखिक रुपबाट सूचित गरिन्छ वरिष्ठ अनुसन्धानकर्ताले तल दिइएको परिस्थितिहरूको विवरण दिनुपर्दछ ।

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अनुसन्धानकर्ताबाट घोषणा*

मैले अनुसन्धान परियोजनाबाट फिर्ता गर्नेको असर मौखिक रुपमा स्पष्टीकरण दिएको छु र म विश्वास गर्दछु कि सहभागिले यो स्पष्टीकरण बुझेको छ ।

अनुसन्धानकर्ताको नाम (कृपया प्रिन्ट गर्नुहोस्) _____
हस्ताक्षर _____ मिति _____

* अनुसन्धान टोलीको एक उचित योग्य सदस्यले अनुसन्धान परियोजना सम्बन्धि प्रदान गरेको स्पष्टीकरण, र फिर्तासँग सम्बन्धि

नोट: मन्जुरीनामा खण्डमा हस्ताक्षर गर्ने सबै पक्षहरू उनीहरूको आफ्नै हस्ताक्षर मिति हुनुपर्छ ।



فرم ارزیابی اثربخشی دوره استراحت بعد از سزارین برای برخی
متقاضیان

همکاری فیما بین

گروه بهداشت محلی شمال ادلاید

(Northern Adelaide Local Health Network)

و

دانشگاه ادلاید

Participant ID (for the researcher):

از شما بخاطر شرکت در این نظرخواهی سپاسگزاریم.

لطفا سوالات را با دقت بخوانید و بهترین جواب را انتخاب نمایید.

جزئیات تماس شما

نام کامل :

شماره موبایل :

لطفا موارد زیر را مطالعه نموده و دور عدد مورد نظر دایره بکشید.

کاملا مخالف	مخالف	مطمئن نیستم	موافق	کاملا موافق	
۱	۲	۳	۴	۵	
۱	۲	۳	۴	۵	من فکر میکنم برای ترخیص به موقع آماده هستم
۱	۲	۳	۴	۵	من ترجیح میدهم در بیمارستان استراحت کنم
۱	۲	۳	۴	۵	من بیمارستان را دوست ندارم
۱	۲	۳	۴	۵	من فکر میکنم بعد از زایمان درکنار خانواده باشم مهمتر است
۱	۲	۳	۴	۵	من فکر میکنم احتیاج به اطلاعات بیشتر راجب به ترخیص به موقع دارم
۱	۲	۳	۴	۵	کارکنان بیمارستان در بخش ارتقا بهبود سریع (EREC) خیلی به ریکاوری من کمک کردند
۱	۲	۳	۴	۵	وقتی در بخش ارتقا بهبود سریع (EREC) بودم خانواده ام به ریکاوری من کمک کردند

سوالات زیر در مورد شرایط و نیروهای کمکی موجود برای شما میباشد.

چه تعداد دوست و یا اقوام نزدیک در اطراف خود دارید (منظور افرادی هستند که شما بتوانید با آنها با خیال راحت راجب به افکار در ذهن خود صحبت کنید) ؟

لطفا جمع کل دوستان و اقوام نزدیک خود را در کادر زیر بنویسید

(دور عدد مورد نظر را دایره بکشید)

هیچ وقت	خیلی کم	بعضی اوقات	اغلب اوقات	تمام اوقات	
۱	۲	۳	۴	۵	۱- وقتی شما بستری هستید بتوانند به شما کمک کنند.
۱	۲	۳	۴	۵	۲- اگر لازم باشد شما را به دکتر ببرند.
۱	۲	۳	۴	۵	۳- در مواقع لزوم بتوانند برای شما غذا تهیه کنند.
۱	۲	۳	۴	۵	۴- در زمان ناخوشی بتوانند کارهای منزل را انجام دهند.
۱	۲	۳	۴	۵	۵- بتوانید اوقات خوشی را در کنارشان داشته باشید.
۱	۲	۳	۴	۵	۶- بتوانند شما را در حل مشکلات شخصی یاری نمایند.
۱	۲	۳	۴	۵	۷- بتوانند مشکلات شما را درک کنند.
۱	۲	۳	۴	۵	۸- شما را دوست داشته و دوست داشتنی ببینند.

۳ - الف) کمک در منزل بلافاصله بعد از ترخیص از بیمارستان

چندین بزرگسال
روزانه

بزرگسال
اغلب روزها

بزرگسال
روزانه

بدون کمک
بزرگسال

بزرگسال
بعد از ساعت کاری

۳- ب) چه کسی به شما کمک خواهد کرد (همه موارد را که شامل میشود علامت بگذارید)؟

	<input type="checkbox"/>
والدین	<input type="checkbox"/>
دوست	<input type="checkbox"/>
فامیل	<input type="checkbox"/>
دیگران (شرح دهید)	<input type="checkbox"/>

۴- الف) بعد از ترخیص از بیمارستان چه کسانی به سایر بچه های شما کمک خواهند کرد (همه موارد را که شامل میشود علامت بگذارید)؟

شامل من نمیشود اغلب اوقات بعضی اوقات بندرت هیچوقت

۴- ب) چه کسی به شما کمک خواهد کرد (همه موارد را که شامل میشود علامت بگذارید)؟

همسر	<input type="checkbox"/>
والدین	<input type="checkbox"/>
دوست	<input type="checkbox"/>
فامیل	<input type="checkbox"/>
دیگران (شرح دهید)	<input type="checkbox"/>

زیر هر عنوان لطفاً مربعی را علامت بزنید که به بهترین نحو وضعیت سلامت امروز شما را نشان می‌دهد.

تحرک

- هیچ مشکلی در راه رفتن ندارم
- در راه رفتن کمی مشکل دارم
- در راه رفتن نسبتاً مشکل دارم
- در راه رفتن مشکل جدی دارم
- قادر به راه رفتن نیستم

مراقبت شخصی

- در شستشوی خودم و یا پوشیدن لباس مشکلی ندارم
- در شستشوی خودم و یا پوشیدن لباس کمی مشکل دارم
- در شستشوی خودم و یا پوشیدن لباس نسبتاً مشکل دارم
- در شستشوی خودم و یا پوشیدن لباس مشکل جدی دارم
- قادر به شستشوی خودم و یا پوشیدن لباس نیستم

فعالیت‌های عادی (مانند کار، تحصیل، کارهای خانه، فعالیت‌های خانوادگی یا تفریحی)

- در انجام فعالیت‌های عادی‌ام هیچ مشکلی ندارم
- در انجام فعالیت‌های عادی‌ام کمی مشکل دارم
- در انجام فعالیت‌های عادی‌ام نسبتاً مشکل دارم
- در انجام فعالیت‌های عادی‌ام مشکل جدی دارم
- قادر به انجام فعالیت‌های عادی‌ام نیستم

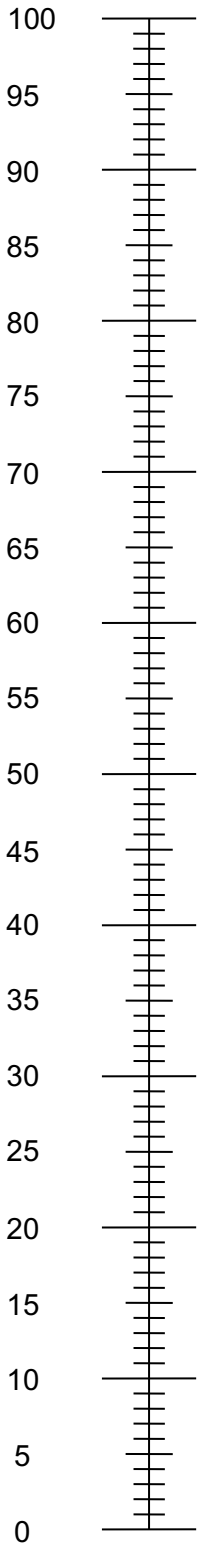
درد/ناراحتی جسمی

- هیچ درد یا ناراحتی جسمی ندارم
- کمی درد یا ناراحتی جسمی دارم
- نسبتاً درد یا ناراحتی جسمی دارم
- درد یا ناراحتی جسمی شدیدی دارم
- بی‌نهایت درد یا ناراحتی جسمی دارم

اضطراب/افسردگی

- مضطرب یا افسرده نیستم
- کمی مضطرب یا افسرده هستم
- نسبتاً مضطرب یا افسرده هستم
- به شدت مضطرب یا افسرده هستم
- بی‌نهایت مضطرب یا افسرده هستم

بهترین وضعیت سلامتی
که می توانید تصور کنید



• می خواهیم بدانیم وضعیت سلامت امروز شما چقدر خوب یا بد است.

• این مقیاس از 0 تا 100 درجه بندی شده است.

• 100 نشان دهنده بهترین وضعیت سلامتی است که می توانید تصور کنید.

• 0 نشان دهنده بدترین وضعیت سلامتی است که می توانید تصور کنید.

• روی این مقیاس با یک X نشان دهید که امروز سلامت شما در چه وضعیتی است.

• اکنون، لطفاً عددی را که روی مقیاس علامت زده اید، داخل مربع زیر بنویسید.

وضعیت امروز سلامت شما =

بدترین وضعیت سلامتی
که می توانید تصور کنید

۱- تاریخ تولد : روز/ ماه / سال

۲- کد پستی

۳- کشور محل تولد:

۴- اگر کشور محل تولد استرالیا نیست ، چه سالی به استرالیا وارد شدید؟

۵- زبان مورد استفاده در منزل ؟

۶- بالاترین مدرک تحصیلی؟

- | | |
|---|--------------------------|
| فوق لیسانس و بالاتر | <input type="checkbox"/> |
| دیپلم دانشگاه و یا گواهی تحصیل بالاتر از لیسانس | <input type="checkbox"/> |
| لیسانس | <input type="checkbox"/> |
| دیپلم دبیرستان | <input type="checkbox"/> |
| گواهینامه غیر از دبیرستان | <input type="checkbox"/> |
| مقطع دبیرستان | <input type="checkbox"/> |
| مقطع ابتدایی | <input type="checkbox"/> |
| مقطع پایین تر از ابتدایی | <input type="checkbox"/> |
| غیره | <input type="checkbox"/> |

۷- آیا شما جزو بومیان استرالیا ویا توریست استریت آیلندر هستید ؟

- | | |
|--|--------------------------|
| خیر | <input type="checkbox"/> |
| بله Aboriginal | <input type="checkbox"/> |
| بله Torres Strait Islander | <input type="checkbox"/> |
| بله هر دو، Aboriginal and Torres Strait Islander | <input type="checkbox"/> |

۸- امروز در چه مرحله از حاملگی قرار دارید (چندمین هفته) ؟

۹- آیا میدانید چه تاریخی برای سزارین انتخابی شما تعیین شده است؟ روز ماه سال

۱۰ - چند فرزند بدنیا آورده اید (فقط بچه هایی که زنده بدنیا آمدند) ؟

- ۱
- ۲
- ۳
- ۴ یا بیشتر

۱۱ - روشهای زایمان قبلی (موارد انجام شده را انتخاب کنید) ؟

- زایمان طبیعی
- فورسپس
- خروج با مکش
- سزارین بعد از درد زایمان (بصورت اورژانس)
- سزارین بدون اورژانس (انتخابی)

تاریخ:

دانشکده روانشناسی

ساختمان هوگز ، دانشگاه ادلید

ضلع شمالی ادلید کد پستی ۵۰۰۵

سرکار خانم

بدینوسیله از شما دعوت میگردد تا در یک فرصت تحقیقاتی دانشگاه در مورد راهبردهای ارتقا بهبودی بعد از عمل سزارین انتخابی (EREC) که اصطلاحاً آنرا بررسی اثر کاهش دوره استراحت برای برخی متقاضیان مینامیم ، شرکت نمایید. این تحقیق دارای مجوز کدهای اخلاقی از گروه بهداشت محلی ادلید مرکزی (CALHN) ، کمیته کدهای اخلاقی تحقیقات انسانی و کمیته کدهای اخلاق تحقیقات انسانی دانشگاه ادلید را دارد و کد این پروژه : HREC/15/TQEH/286 میباشد. این پروژه توسط دانشکده روانشناسی و پرستاری دانشگاه ادلید و بخش زنان و کودکان بیمارستان لیل مک اوین (Lyell McEwin) و بیمارستان مادبری (Modbury) میباشد.

از شما درخواست میشود که اطلاعات موجود در برگه را مطالعه نموده و تایید نمایید که :

- پرسشنامه مربوط به وضعیت سلامتی در دوران بارداری ، وضعیت اجتماعی و اطلاعات اولیه خود را تکمیل نمایید.
- اطلاعات لازم در مورد سوابق پزشکی خودتان را در اختیار ما گذاشته تا بتوانیم نتیجه پیشرفت بهبودی بعد از عمل سزارین انتخابی را بدست بیاوریم.
- احتمالاً ۸ هفته بعد از زمان ترخیص برای مصاحبه تلفنی با شما تماس گرفته خواهد شد. برای قدردانی از وقت شما کارت هدیه به مبلغ ۳۰ دلار در اختیارتان قرار خواهد گرفت.

گروه اصلی تحقیق از محققین دانشگاه ادلید و گروه سلامت محلی شمال ادلید میباشد و شامل محققین زیر است:

- پروفیسور دبرا ترنیل ، رییس بخش روانشناسی ، دانشکده روانشناسی دانشگاه ادلید
- دکتر لینت کوسک ، استاد ارشد ، دانشکده پرستاری ، دانشگاه ادلید
- خانم کریستینا دیگنیز دانشجوی دکترا / فوق لیسانس روانشناسی (بهداشت) ، دانشکده روانشناسی دانشگاه ادلید
- خانم مردیت هابز مدیر بخش بیمارستان ایل مک اوین بخش زنان و کودکان
- دکتر امی سلتر ، متخصص آمار دانشکده بهداشت عمومی ، دانشگاه ادلید
- دکتر برانون کالر ، خدمات ویزیت در منازل برای بارداران CSC بیمارستان میل مک اوین بخش زنان و کودکان

در صورت هرگونه تامل در مورد این تحقیق شما میتوانید با مدیر تحقیقات (دانشگاه ادلید) پروفیسور دبرا ترنبل و با شماره 8313 1229 تماس بگیرید.

برای اطلاعات بیشتر در مورد کد اخلاقی این تحقیق میتوانید با آقای ایان تیندال مدیر اجرایی کمیته اخلاق تحقیقات انسانی CALHN و به شماره 71172229 (08) تماس گرفته و یا مستقیماً با شعبه تحقیقات دانشگاه ادلید به شماره 8313 5137 و ایمیل rb@adelaide.edu.au تماس حاصل نمایید.

با احترام

پروفیسور دبرا ترنبل

فرم اطلاعات متقاضی / رضایت نامه

بیمارستان لیل مک اوین و بیمارستان مادبری
(Lyell McEwin Hospital & Modbury Hospital)

ارزیابی اثر کاهش دوره استراحت بعد از سزارین برای برخی از متقاضیان

بخش ارتقا بهبود متقاضیان سزارین انتخابی

عنوان کوتاه :

پروفسور دبرا ترنبل (Professor Deborah Turnbull)

مدیر تحقیق:

خانم کریستینا دیگنیز، دکتر لینت کوسک ، دکتر امی سلتر

محققین مرتبط:

Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter

بیمارستان لیل مک اوین (Lyell McEwin) و بیمارستان مادبری
(Modbury) گروه بهداشت محلی شمال ادلید

محل تحقیق:

این تحقیق راجب به درک بهتر راهکارهای ارتقا بهبود سزارین انتخابی (EREC) میباشد. ضمناً این تحقیق برای پایان نامه محقق، خانم کریستینا دیگنیز برای دریافت دکترا / یا فوق لیسانس روانپزشکی دانشگاه ادلید استفاده خواهد شد.

لطفاً اطلاعات را با دقت مطالعه نمایید و در صورت هر گونه ابهام، سوالات خود را مطرح نمایید. شرکت در این تحقیق داوطلبانه میباشد.

تمام تحقیقاتی که در استرالیا انجام شود و با انسان در ارتباط باشد توسط یک گروه مستقل به نام کمیته اخلاق تحقیقات انسانی (HREC) بررسی میشود. کدهای اخلاقی این تحقیق از طرف HREC گروه بهداشت ادلید مرکزی (CAHLN) تحت شماره HREC/15/TQEH/286 بوده و توسط بخش HREC دانشگاه ادلید تایید شده است.

۱- مشارکت من چه تعهداتی دارد؟

برای شرکت در این تحقیقات، اسم شما باید در لیست بخش راهکارهای ارتقا بهبود متقاضیان سزارین انتخابی باشد، سن شما ۱۸ سال به بالا بوده و قادر به مکالمه زبان انگلیسی بصورت مستقیم یا از طریق استفاده از مترجم همزمان یا مطالعه اطلاعات ترجمه شده باشید.

اگر تمایل به شرکت در این تحقیق را دارید از شما درخواست میشود که فرم رضایت را پر نمایید. با امضا این فرم شما تایید میکنید که:

- تمام مفاد این اطلاعات را متوجه شده اید.
- رضایت به شرکت در پروژه تحقیقاتی را که توضیح داده شده را تایید میکنید
- رضایت به استفاده از اطلاعات شخصی و پزشکی شما را که توضیح داده شده را تایید میکنید

این تحقیق شامل دو بخش میباشد:

۱- از شما در خواست میشود که فرم پرسشنامه را که بیشتر از ۲۰ دقیقه طول نمیکشد پر بفرمایید. این پرسشنامه در مورد نظر شما راجب به وضعیت سلامت در دوره بارداری، فعالیتهای اجتماعی و اطلاعات اولیه در مورد شخص خودتان میباشد. ما بعداً این پرسشنامه و نتیجه راهکارهای ارتقا بهبود سزارین انتخابی (EREC) و مدت اقامت شما را در بیمارستان به هم مرتبط خواهیم کرد. برای انجام اینکار از پرونده پزشکی شما استفاده میکنیم.

۲- ممکن است ۸ هفته بعد از ترخیص از بیمارستان، با شما برای یک مصاحبه تلفنی تماس گرفته شود. این مصاحبه بیشتر از ۶۰ دقیقه طول نخواهد کشید و زمان این مصاحبه تلفنی حتماً با قرار قبلی تعیین میشود. قبل از تماس شما یک پیام دریافت میکنید و زمان مصاحبه را تایید مینمایید. شما حتی میتوانید در پاسخ به پیامک، مصاحبه را کنسل نموده و آنرا به وقت دیگری موکول نمایید. مکالمات مصاحبه ضبط شده و سپس توسط محقق مکتوب خواهد شد. وقتی با شما برای مصاحبه تماس گرفته شد، در مورد تجربه شما از قرار گرفتن در این راهکار پرسیده خواهد شد. برای مصاحبه تلفنی الزاماً نباید ترخیص زود هنگام داشته باشید.

شرکت در این پروژه تحقیقاتی برای شما هزینه ایی ندارد بلکه اگر با شما مصاحبه انجام بگیرد یک کارت هدیه به مبلغ ۳۰ دلار دریافت خواهید کرد.

۲- آیا من باید حتماً در این پروژه تحقیقاتی شرکت کنم؟ اگر از ادامه انجام تحقیق منصرف بشوم چه اتفاقی خواهد افتاد؟

شرکت شما در این پروژه تحقیقاتی کاملاً اختیاری می‌باشد. اگر رضایت به ادامه تحقیق نداشته باشید در هر زمان می‌تواند انصراف دهید. اگر شما توافق کنید که پرسشنامه را پر کنید و بعداً تصمیم بگیرید که انصراف دهید به پیامک پاسخ (خیر) داده و یا وقتی تماس گرفته شد محقق را مطلع نمایید.

اگر تصمیم گرفتید که کاملاً از شرکت در پروژه صرف نظر کنید لطفاً حتماً به یکی از اعضای گروه تحقیق اعلام نمایید. اگر شما تصمیم بگیرید که از پروژه تحقیق خارج شوید، محقق از شما اطلاعات پزشکی بیشتر دریافت نخواهد کرد و با اجازه خودتان اطلاعات قبلی را نگهداری خواهد نمود.

تصمیم شما در شرکت کردن و یا شرکت نکردن و حتی شرکت کردن و در حین پروسه انصراف دادن، هیچ تاثیری در خدمات پزشکی که دریافت می‌کنید نخواهد گذاشت.

۳- شرکت در این تحقیقات چه مزایا و خطراتی دارد؟

مشارکت در این تحقیق در واقع هیچ مزایای مشخصی برای شرکت کننده ندارد، هرچند که این تحقیق به سلامت و برنامه ریزی بهتر سایر زنان که عمل سزارین را انتخاب می‌کنند کمک خواهد نمود.

هیچ خطر قابل پیش بینی شده‌ای در این تحقیق وجود ندارد، هر چند که ممکن است بعضی از سوالات باعث نگرانی و ناراحتی شما بشود. اگر تمایل به پاسخ به این سوالات را ندارید، شما می‌توانید از جواب دادن خودداری نموده و به سوال بعد پاسخ دهید و یا کلاً مصاحبه را متوقف نمایید.

اگر شما بخاطر این سوالات دچار نگرانی و ناراحتی گردید حتماً مراتب را به محقق اعلام نمایید. محقق مدیر مسئول در بخش زنان و کودکان گروه بهداشت و یا مدیر خدمات مامایی در منزل را مطلع نموده و آنها از شما مراقبت خواهند نمود.

۵- اگر بعد از پر کردن پرسشنامه مشخص شد که احتیاج به ادامه مشاوره روانپزشک دارم چه خواهد شد؟

لطفاً توجه بفرمایید، ما در حین مصاحبه از شما سوالات روانپزشکی هم خواهیم پرسید و در صورت نیاز پرسنل NALHN با شما در رابطه با اریه خدمات حمایتی مثل مشاوره تماس خواهند گرفت. فقط در صورت مشاهده استرس شدید این اداره با شما تماس خواهد گرفت.

۶- آیا امکان توقف بی دلیل این پروژه وجود دارد؟

این پروژه ممکن است به دلایل مختلف از قبیل عدم تکمیل تحقیقات از طرف محقق متوقف شود.

بخش دوم: مراحل انجام این تحقیق چیست؟

۷- اطلاعات پزشکی من چه خواهند شد؟

با امضا فرم رضایت شما به تیم تحقیقات مجوز جمع آوری و استفاده از اطلاعات پزشکی شخصی خود را می‌دهید.

تمام اطلاعات مربوط به شما که در این تحقیقات استفاده می‌شود کاملاً محرمانه و در جای امن نگهداری خواهد شد. اطلاعات مکتوب چاپ شده در کابینت قفل دار دانشگاه ادلید، دانشکده روانشناسی نگه داری خواهد شد و اطلاعات الکترونیکی که با کد رمز دار محافظت شده در سرور دانشگاه ادلید نگهداری خواهد شد.

وقتی اطلاعات شما به سیستم وصل شد ما مشخصات فردی شما را حذف می‌کنیم و بجای آن کد مخصوص پیگیری و ردیابی خواهیم گذاشت. نسخه های چاپی هم به همین صورت بدون نام و مشخصات شما و با کد شناسایی بایگانی خواهد شد. اطلاعات فقط تا مدت ۵ سال بعد از پایان پروژه نگهداری خواهند شد.

در تمام مراحل تحقیق، چاپ و ارایه تحقیق اطلاعات فردی شما محفوظ مانده و اعلام نخواهد شد. اطلاعات شخصی شما فقط برای این پروژه تحقیقاتی استفاده خواهد شد و بدون مجوز شما با هیچ کس در مورد آن صحبت نخواهد شد مگر اینکه قانوناً درخواست شود.

اطلاعات فردی شما برای انجام این تحقیقات از پرونده پزشکی و یا سازمانهای مربوطه برداشته خواهد شد. با امضا رضایت نامه شما موافقت خود را برای استخراج اطلاعات پزشکی به تیم تحقیقات خواهید داد.

۸- آیا من میتوانم به پرسشنامه دسترسی داشته باشم و آنرا تصحیح کنم؟

طبق قوانین حفظ حریم خصوصی و مربوطه استرالیا و یا استرالیا جنوبی، اجازه درخواست اطلاعات خودتان را که جمع آوری و ضبط شده را میتوانید از محقق دریافت نمایید. اگر تمایل به دریافت پرسشنامه و نسخه کتبی مصاحبه دارید میتوانید با محقق خود صحبت کنید. بعد از این درخواست پرسشنامه و نسخه کتبی مصاحبه با مشخصات شما شناسایی میشود. شما حتی میتوانید بعد از مطالعه اطلاعات آنرا تغییر داده و یا اصلاح نمایید.

۹- شکایات

اگر شما سوال یا مشکلی در رابطه با مراحل عملی شرکت در این پروژه را دارید یا در مورد موضوعی نگران هستید و یا اعتراض دارید میتوانید با پروفیسور دبرا ترنبل به شماره 08 8313 1229 و یا با ادرس ایمیل Deborah.turnbull@adelaide.edu.au تماس حاصل نمایید.

اگر میخواهید با شخص مستقل از گروه تحقیق در مورد نگرانی و اعتراض خود صحبت کنید طبق سیاست قوانین حقوق انسانی دانشگاه ادلاید میتوانید با بخش CAHLN HREC به ایمیل Health.CALHNResearchEthics@sa.gov.au یا شماره تلفن 08 7117 2229 و یا بخش HREC دانشگاه ادلاید به شماره 08 8313 6028 و آدرس ایمیل hrec@adelaide.edu.au تماس بگیرید.

تمام تماسهای شکایات و یا ابراز نگرانی شما محفوظ باقی مانده و تماماً بررسی میشود و نتیجه آن به شما اعلام خواهد شد.

یک نسخه اطلاعات شرکت در تحقیق و رضایت نامه خودتان به شما داده خواهد شد.

رضایت نامه - شخص بالغ رضایت خود را در دو نسخه اعلام میدارد که یک نسخه آن برای شرکت کننده میباشد

ارزیابی اثر کاهش دوره استراحت بعد از سزارین برای برخی متقاضیان

بخش ارتقا، بهبود متقاضیان سزارین انتخابی **عنوان کوتاه :**

پروفسور دبرا ترنبل (Professor Deborah Turnbull) **مدیر تحقیق:**

خانم کریستینا دیگنیز، دکتر لینت کوسک، دکتر امی سلتر
Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter **محققین مرتبط:**

بیمارستان لیل مک اوین (Lyell McEwin) و بیمارستان مادبری
(Modbury) گروه بهداشت محلی شمال ادلید (NAHLN) **محل تحقیق:**

اظهار نامه شرکت کننده:

اینجانب برگه اطلاعات شرکت در این تحقیق را مطالعه کرده / یا به زبان خودم توضیح داده اند و من کاملا متوجه شده ام.

اینجانب از اهداف، مراحل و خطرات موجود و توضیح داده شده در این تحقیق آگاه هستم.

اینجانب امکان پرسیدن سوال را داشته و از پاسخ به سوالاتم راضی هستم.

اینجانب به اختیار خودم در این پروژه تحقیقاتی که توضیح داده شده است شرکت کرده ام و تاکید میکنم که اختیار انصراف دادن در هر مقطعی از شرکت در این پروژه را دارم بدون آنکه در شرایط مراقبت از من تاثیری داشته باشد.

همچنین تایید میکنم که یک نسخه امضا شده این فرم در اختیار من قرار میگیرد.

نام کامل شرکت کننده (لطفا پرینت شود) ----- امضا، ----- تاریخ -----

اظهار نامه محقق *

بدینوسیله تایید میکنم که اطلاعات شفاهی، مراحل و خطرات مربوط به این پروژه تحقیقاتی را در اختیار شرکت کننده قرار داده ام و تاکید میکنم که شرکت کننده متوجه توضیحات من شده اند.

نام کامل محقق (لطفا پرینت شود) ----- امضا، ----- تاریخ -----

*یک عضو واجد شرایط تیم تحقیق باید توضیحات لازم و اطلاعات مورد نیاز در مورد این پروژه را در اختیار شرکت کننده قرار دهد.

توجه: افرادی که این فرم را امضا میکنند حتما باید تاریخ امضا را قید نمایند.

فرم انصراف از شرکت در تحقیق – شخص بالغ رضایت خود را اعلام میدارد

ارزیابی اثر کاهش دوره استراحت بعد از سزارین برای برخی از متقاضیان

بخش ارتقا بهبود متقاضیان سزارین انتخابی **عنوان کوتاه :**

پروفسور دبرا ترنبل (Professor Deborah Turnbull) **مدیر تحقیق:**

خانم کریستینا دیگنیز، دکتر لینت کوسک ، دکتر امی سلتر
Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter **محققین مرتبط:**

بیمارستان لیل مک اوین (Lyell McEwin) و بیمارستان مادبری
(Modbury) گروه بهداشت محلی شمال ادلید **محل تحقیق:**

اظهار نامه شرکت کننده:

اینجانب تقاضا عدم شرکت در این پروژه تحقیقاتی را دارم و تایید میکنم که عدم شرکت من در این پروژه در شرایط مراقبتی از من و یا ارتباط من با محقق تاثیری نخواهد داشت.

نام کامل شرکت کننده (لطفا پرینت شود) ----- امضا،----- تاریخ -----
--

اگر اظهار شرکت کننده مبنی بر عدم شرکت در تحقیق شفاهی باشد ، محقق ارشد باید وضعیت را کتبا توضیح دهد.

--

اظهار نامه محقق *

اینجانب توضیحات شفاهی در مورد پیامدهای انصراف از پروژه را توضیح داده و تایید میکنم که شرکت کننده تمام توضیحات را متوجه شده اند.

نام کامل محقق (لطفا پرینت شود) ----- امضا،----- تاریخ -----
--

*یک عضو واجد شرایط تیم تحقیق باید توضیحات لازم و اطلاعات مورد نیاز انصراف از این پروژه را در اختیار شرکت کننده قرار دهد.

توجه: افرادی که این فرم را امضا میکنند حتما باید تاریخ امضا را قید نمایند.

Date

The School of Psychology
Hughes Building, The University of Adelaide
North terrace, 5005

Dear

We invite you to participate in a study on 'Evaluating the effectiveness of a reduced length of stay for elected caesarean sections'. The study has been approved by the Central Adelaide Local Health Network Human Research Ethics Committee and the Adelaide University Human Research Ethics Committee (Project Number Q20151221). It is being conducted by the University of Adelaide's Schools of Psychology and Nursing with the Women's and Children's Division of the Lyell McEwin Hospital and Modbury Hospital.

We are interested in interviewing healthcare providers involved with providing care for the Enhanced Recovery after Elective Caesarean section (EREC) pathway. The interview will help us to understand this option from the perspective of providers, with the aim of improving future care.

We are seeking participants to take part in an interview. It will take no more than 45 minutes (unless you explicitly request it to be longer) and will be at a time and place of your convenience. We acknowledge that interview length will be subject to your clinical and work demands and will therefore be flexible.

The core research team comprises of researchers from the University of Adelaide and from the Women's and Children's Division of the Lyell McEwin hospital;

- Professor Deborah Turnbull, Chair in Psychology, School of Psychology, University of Adelaide
- Dr Lynette Cusack, Senior Lecturer, School of Nursing, University of Adelaide;
- Ms Christianna Digenis, PhD/Master of Psychology (Health) student, School of Psychology, University of Adelaide;
- Ms Meredith Hobbs, Divisional Director, Lyell McEwin Hospital, Women's and Children's Division.
- Dr Amy Salter, Biostatistician, School of Public Health, University of Adelaide;
- Ms Bronwen Klaer, CSC Maternity Home Visiting Services, Lyell McEwin Hospital, Women's and Children's Division.

**If you are interested in participating, please advise Ms Christianna Digenis
christianna.digenis@adelaide.edu.au**

For any concerns in relation to the research please contact the Principle Researcher Professor Deborah Turnbull (The University of Adelaide) on 8313 1229. For more information regarding ethical approval of the project or any ethical concerns you can contact Mr Ian Tindall, Executive Officer Human Research Ethics Committee CALHN on (08) 71172229 or The Research Branch of The University of Adelaide on 8313 5137, or by email rb@adelaide.edu.au.

Yours sincerely,
Professor Deborah Turnbull

Participant Information Sheet/Consent Form
Healthcare providers

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

Short Title	Enhanced Recovery Elective Caesarean Section
Principal Investigator	Professor Deborah Turnbull
Associate Investigator(s)	Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location:	Lyell McEwin Hospital & Modbury Hospital Northern Adelaide Local Health Network (NALHN)

This study examines the Enhanced Recovery Pathway for elective caesarean section (EREC). We would like to understand healthcare providers' attitudes and experiences with the pathway. The results of this research will also be used by the researcher Ms Christianna Digenis to obtain the degree PhD/Master of Psychology (Health) at the University of Adelaide.

Please read this information carefully and ask questions if you need. Participation in this research is voluntary.

The project has been approved by the Central Adelaide local Health Network (CALHN) Human Research Ethics Committee (HREC) HREC/15/TQEH/286 and The University of Adelaide HREC.

1 What does my participation involve?

To be eligible for this study you need to have provided care to women who are on the EREC pathway.

If you decide you want to take part, you will be asked to sign the consent section. By signing it you are telling us that you:

- Understand what you have read
- Consent to take part in the research project described
- Consent to the use of your personal information as described

The interview will take no longer than 45 minutes (unless an extension is explicitly requested by the interviewee) and will be face-to-face at a time that is convenient for you. We acknowledge that interview length will be subject to your clinical and work demands and will therefore be flexible. Interviews will be audio-recorded, and the researcher will transcribe the interview. We will ask questions about your perceptions of EREC and your views about why some women assigned to the pathway do not subsequently have a reduce length of stay.

2 Do I have to take part in this research project? & What if I withdraw from this research project?

Your participation in this study is completely voluntary. If you do consent to participate, you may withdraw at any time. If you decide to withdraw entirely from the project, please notify a member of the research team. If you decide to leave the research project, the researchers will not collect additional personal information from you. Information already collected will be retained with your permission. Your decision whether to take part or not to take part, or to take part and then withdraw, will not impact your relationship with the health service.

3 What are the possible benefits and disadvantages of taking part?

There will be no clear benefit to you from your participation in this research; however, possible benefits may include better planning and care for future women who have an elective caesarean.

There are no known risks associated with this study.

5 Could this research project be stopped unexpectedly?

This research project may be stopped unexpectedly for a variety of reasons. These may include reasons such as the researcher being unable to complete the research project.

Part 2 How is the research project being conducted?

6 What will happen to information about me?

By signing the consent form you consent to the research team collecting and using personal information about you for the research project. Any information obtained in connection with this research project that can identify you will remain confidential. Identifiable data will be stored securely; hard copy data will be stored in locked filing cabinets at the University of Adelaide, School of Psychology; electronic data will be password protected on University of Adelaide secure servers. Data will be stored for 5 years.

Your information will only be used for the purpose of this research project and it will only be disclosed with your permission, except as required by law. In any thesis, publications and/or presentations, information will be provided in a way that you cannot be identified. Transcripts will be de-identified after transcription and presented with a pseudonym or number.

7 Can I access and edit my responses?

In accordance with relevant Australian and/or South Australian privacy and other relevant laws, you have the right to request access to the information about you that is collected and stored by the researcher. If you would like a copy of your transcript of the interview, please inform the researcher. You also have the right to request that any information with which you disagree to be corrected.

8 Complaints

If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principle Investigator Professor Deborah Turnbull on 08 8313 1229 or Deborah.turnbull@adelaide.edu.au.

If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant you can contact: **CAHLN HREC:** Health.CALHNResearchEthics@sa.gov.au 08 7117 2229 OR **The University of Adelaide HREC:** 08 8313 6028 hrec@adelaide.edu.au.

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

You will be given a copy of this Participant Information and Consent Form to keep.

Consent Form - Adult providing own consent

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections

Healthcare providers

Short Title	Enhanced Recovery Elective Caesarean Section
Principal Investigator	Professor Deborah Turnbull
Associate Investigator(s)	Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location:	Lyell McEwin Hospital & Modbury Hospital Northern Adelaide Local Health Network (NAHLN)

Declaration by Participant

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care.

I understand that I will be given a signed copy of this document to keep.

Name of Participant (please print) _____
Signature _____ Date _____

Declaration by Researcher[†]

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher [†] (please print) _____
Signature _____ Date _____

[†] An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature.

Form for Withdrawal of Participation - Adult providing own consent

Evaluating the effectiveness of a reduced length of stay for elected caesarean sections
Healthcare providers

Short Title Enhanced Recovery Elective Caesarean Section
Principal Investigator Professor Deborah Turnbull
Associate Investigator(s) Ms Christianna Digenis; Dr Lynette Cusack; Dr Amy Salter
Location: Lyell McEwin Hospital & Modbury Hospital
Northern Adelaide Local Health Network

Declaration by Participant

I wish to withdraw from participation in the above research project and understand that such withdrawal will not affect my routine care, or my relationships with the researchers.

Name of Participant (please print) _____
Signature _____ Date _____

In the event that the participant’s decision to withdraw is communicated verbally, the Senior Researcher must provide a description of the circumstances below.

--

Declaration by Researcher[†]

I have given a verbal explanation of the implications of withdrawal from the research project and I believe that the participant has understood that explanation.

Name of Researcher (please print) _____
Signature _____ Date _____

[†] An appropriately qualified member of the research team must provide information concerning withdrawal from the research project.

Note: All parties signing the consent section must date their own signature.



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Review Article

Reduced length of hospital stay after caesarean section: A systematic review examining women's experiences and psychosocial outcomes

Christianna Digenis^{a,*}, Amy Salter^b, Lynette Cusack^{c,e}, Ashlee Koch^d, Deborah Turnbull^a^a The School of Psychology, The University of Adelaide, Adelaide, 5005, Australia^b The School of Public Health, The University of Adelaide, Adelaide, 5005, Australia^c Northern Adelaide Local Health Network, Adelaide, Australia^d Flinders Medical Centre, Southern Adelaide Local Health Network, Bedford Park, Adelaide, 5042, Australia^e Adelaide Nursing School, The University of Adelaide, Adelaide, 5005, Australia

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ABSTRACT

Background: Globally, reducing hospital stays after caesarean section is becoming more prevalent. Whilst this reduction in length of stay after caesarean section has not been found to be associated with adverse maternal health outcomes, the psychosocial impact and women's experiences have not been systematically reviewed. This review aims to evaluate the literature on women's experiences and psychosocial outcomes (including infant feeding) associated with a reduced hospital stay after caesarean section.

Methods: A mixed methods systematic review examining records between 1980 and 2019 was undertaken. The review included research which defines a reduced length of stay in comparison with standard care or a comparator with a longer discharge time. It considered data related to the antenatal period, time of discharge and postnatal period. The following databases were searched: PsycINFO, CINAHL, PubMed, Embase and ProQuest Dissertations and Theses. 13,760 records were identified, after duplicates were removed, 10,902 articles were reviewed for suitability by title and abstract. 78 full text articles were assessed, and the final review included 8 articles.

Results: A total of 8 articles were included, and four areas were examined: satisfaction with care, mental wellbeing, infant feeding and pain. Articles were of mixed quality when assessed using the Mixed Methods Appraisal Tool.

Conclusions: This review indicated no evidence of a systematic negative impact on women's psychosocial outcomes and experiences. The review also identifies a number of characteristics of care associated with more positive experiences and psychosocial outcomes. These include the provision of support systems, access to pain management before and after discharge and continued care with home midwifery. The limited number of studies point to the need for more research, and especially those using qualitative methods.

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Background

Caesarean section is an increasingly common mode of delivery. Globally, rates have increased from 12% in 2000 to 21% in 2015, an average increase of 3.7% per annum (Boerma et al., 2018). Coupled with an increase in caesarean section is a trend of reduced length

of hospital stay. As for other modes of delivery, the length of stay post-caesarean section has been declining, predominantly in western countries (Australian Institute of Health and Welfare (AIHW), 2019; Bowers and Cheyne, 2016; Ford et al., 2012). The average length of hospital stay post-caesarean section is expected to decrease further with the acceptance of enhanced recovery procedures which include the encouragement of mobility, early cessation of fasting and early catheter removal (Lucas and Gough, 2013; Peahl et al., 2019). Some hospital settings with enhanced recovery have next day discharge for women and their babies after caesarean section (Aluri and Wrench, 2014; Bowden et al., 2019; Cusack et al., 2018).

* Corresponding author at: The School of Psychology, The University of Adelaide, Adelaide, 5005, Australia.

E-mail addresses: Christianna.digenis@adelaide.edu.au (C. Digenis), Amy.salter@adelaide.edu.au (A. Salter), Lynette.cusack@adelaide.edu.au (L. Cusack), Ashlee.koch@sa.gov.au (A. Koch), Deborah.turnbull@adelaide.edu.au (D. Turnbull).

Converging evidence from a variety of different studies including a review and randomised control trial (RCT) suggests that a reduced length of stay after caesarean section is not associated with an increase in maternal readmission rates (morbidity) or mortality (Bayoumi et al., 2016; Cusack et al., 2018; Grullon and Grimes, 1997; NICE, 2011, 1.6.7.1) and is considered safe in carefully selected and consenting participants (Grullon and Grimes, 1997). At the same time, a reduced length of stay potentially reduces the risk of infection and enhances family bonding by transitioning recovery to the home (Cusack et al., 2018).

Women's psychosocial experiences of a reduced length of stay after childbirth such as wellbeing, satisfaction and infant feeding have been reported in a small number of studies (Brown et al., 2002; Nilsson et al., 2015). A systematic review on early discharge in vaginal and caesarean section births showed no significant increase in maternal depression or decrease in breastfeeding rates between discharge groups. The review also found greater satisfaction in the early discharge groups however, subgroup analysis on mode of delivery was not conducted (Brown et al., 2002). In a meta-analysis of the impacts of early discharge on the parental experience, respondents reported that early discharge gave them a greater sense of responsibility and family togetherness but that they also experienced insecurity when transitioning home early after childbirth (Nilsson et al., 2015).

The conclusions that can be drawn from the systematic review (Brown et al., 2002) and meta-analysis (Nilsson et al., 2015) however, are limited as they combine vaginal and caesarean section deliveries in the analysis. A review of the psychosocial sequelae of caesarean section concludes that physical and psychosocial experiences and recovery after childbirth differ between vaginal and caesarean section birth (Lobel and DeLuca, 2007). Caesarean section compared to vaginal deliveries can produce a number of different psychological responses from women including a negative childbirth experience, low mood, reduced infant bonding and can impair women's ability to breastfeed (Lobel and DeLuca, 2007). It has been proposed that this occurs because caesarean section combines childbirth and surgery which on their own are significant and challenging experiences (Lobel and DeLuca, 2007). There are also unique differences in both physical and maternal morbidity outcomes between caesarean section and vaginal births. Women birthing via caesarean section are at increased risk of surgical-related morbidity such as haemorrhage and damage to abdomina/pelvic structures, whereas, morbidity is lower in general with vaginal birth but also has unique adverse outcomes such as perineal tearing (Lobel and DeLuca, 2007). Post-operative pain is common after caesarean section and generally the recovery is longer and more complicated when compared to a vaginal birth (Lavand'homme, 2018; Zanardo et al., 2018). Given this, it is clearly necessary to differentiate caesarean section and vaginal births when comparing women's experiences with childbirth and the postpartum period.

There has been no systematic review on women's experiences and psychosocial outcomes with a reduced length of stay after caesarean section. Therefore, a detailed review of the literature on women's experience is needed to address this gap. This is timely given the steadily increasing caesarean section rate and a trend towards reduced hospital stay. = The aim of this paper is to report on the extant literature about women's experiences and psychosocial outcomes with a reduced hospital stay after caesarean section.

Methods

A mixed-methods systematic review as defined by the Joanna Briggs Institute (2014) was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) recommendations (Moher et al., 2009). Prior to the

commencement of the review process, the review protocol was registered with PROSPERO, an international database of registered systematic reviews (reference number: CRD42018110990). http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018110990.

Search strategy

The search strategy was developed with the assistance of a senior research librarian who has a speciality in health and medical sciences to capture a wide range of research listed in health and psychology-related databases. The following databases were searched from 1980 to 12/06/19: PsycINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Pubmed, Embase and ProQuest Dissertations and Theses. Search terms consisted of two key concepts: caesarean section and length of stay. The terms 'experiences' and 'psychosocial' were deliberately not included in the search strategy as these concepts can be difficult to define, and there is a tendency for such information to be included in the full-text article but not in the titles or abstracts (see appendix for database search strategy). The review included quantitative, qualitative and mixed methods research; given this, we considered papers that examined experiences as defined in the broadest sense. 'Psychosocial' was considered to encompass the positive and/or negative social and psychological aspects of the woman's life in relation to the caesarean section and length of stay (Long and Cumming, 2013a, b). Importantly, variables such as infant feeding and pain were also considered given their recognised non-biological components (Coons, 2013; Lobel and DeLuca, 2007).

Email alerts for each database were monitored until 01/01/2020. A Scopus citation search was conducted with the articles identified for final review. The reference lists and primary authors' citations of articles included in the review were hand-searched for relevant full text work. No language restrictions were applied to the search strategy. However, full text articles were only reviewed if articles were in English, French or German. Five authors were contacted for additional information with two replying (I. Wrench, personal communication, 14th June 2019; S. Bowden, personal communication, 22nd January 2020). All titles and abstracts were imported into Endnote x8, where duplicates were removed before the initial screening process.

Eligibility criteria

The review included qualitative, quantitative (experimental and observational) and mixed methods studies. This approach was taken to include multiple levels of research evidence. Conference abstracts, case studies and other reviews were excluded as the aim was to focus on primary research that could be assessed for quality.

Eligible studies were required to include an examination of reduced length of stay. This was defined as a program of early hospital discharge (as defined in the paper) or a reduced length of stay in comparison to other discharge procedures, standard care or a comparison group. Studies where reduced length of stay was an unplanned outcome as a consequence of other interventions, rather than a study exposure variable, were excluded. Studies also needed to include extractable data on women who had a reduced length of stay as defined above and had given birth via caesarean section, either elective, emergency or non-specified. Women's experiences and psychosocial outcomes of a reduced length of stay were considered from the antenatal period to the time of discharge and the postnatal period.

Studies were excluded if they only reported on women who had a vaginal birth or, in cases where multiple delivery methods were included, did not have extractable data on women who birthed

via caesarean section. Studies were also excluded if the birthing woman's views were not separated from others' views, such as partners, caregivers, and healthcare professionals.

Literature selection

Eligibility was assessed in two phases, with phase one consisting of an initial screening of titles and abstracts for the eligibility criteria of reduced length of stay and caesarean section. The phase one screening process was conducted by two independent researchers (CD and AK); one (CD) screened all titles and abstracts and the second (AK) independently screened a sample of 10%. Discrepancies were discussed with a third reviewer (DT) where consistency was subsequently achieved. All articles that met the phase one criteria subsequently underwent a full-text review which assessed whether or not each article examined women's experiences or psychosocial outcomes (phase two). Articles that met all eligibility criteria were identified for an in-depth review of the full text for data extraction.

Data extraction

The following data were extracted using a purpose designed spreadsheet: women's demographics, study location, study design, eligibility criteria, mode of delivery, variables reported, sample size, definition of length of stay, relevant outcomes, results relating to experiences or psychosocial variables, and support offered to women after reduced hospital stay.

Data analysis

Data are presented in a narrative synthesis with common concepts grouped together with the assistance of Nvivo12 (Popay et al., 2006).

Subgroup analysis

Subgroup analysis was planned for papers examining discharge at 24-hours after birth and 24-hours or more after birth and between emergency compared to elective caesarean section. However, this was not feasible due to the limited number of articles included in the final review.

Quality appraisal

Included studies were critically appraised for quality using the Mixed Method Appraisal Tool (MMAT; version 2018) which allows for the appraisal of qualitative, quantitative observational, quantitative experimental and mixed methods study designs (Hong et al., 2018). Two researchers (CD and AK) independently reviewed all included studies and a third reviewer (DT) was available for consultation, however, this was not required. A descriptive evaluation of the quality of studies included for review is presented as recommended by the MMAT authors (Table 2) (Hong et al., 2018).

Results

Eight studies were included in the final review (Fig. 1). The aims, methods, and results of eligible articles are summarised in Table 1. Two papers, Aluri and Wrench (2014) and Wrench et al. (2015) reported on the same extractable data, however, one (Aluri and Wrench, 2014) had aims more relevant to this review and more robust methodology and is reported here. Study designs were categorised according to the MMAT guidelines (Hong et al., 2018) and included: randomised control trials (RCT) ($n = 4$), non-randomised designs ($n = 2$), descriptive ($n = 1$),

and mixed methods design ($n = 1$). Included studies were from a range of countries including the United States (Brooten et al., 1994; Cornett, 1989), Malaysia (Tan et al., 2012), Egypt (Bayoumi et al., 2016), Nigeria (Oyeyemi et al., 2019), Italy (Zanardo et al., 2018), and the United Kingdom (Aluri and Wrench, 2014; Bowden et al., 2019).

Quality assessment

All included studies ($n = 8$) met the screening questions of the MMAT, thus allowing them to progress to the second phase of screening (see Table 2). The RCTs were of overall high quality (Bayoumi et al., 2016; Brooten et al., 1994; Tan et al., 2012) with the exception of one, which met only one of the MMAT criteria (Oyeyemi et al., 2019). The two non-randomised studies were of good quality, meeting a majority of the criteria (Cornett, 1989; Zanardo et al., 2018). However, one was an unpublished dissertation which defined length of stay retrospectively and did not account for confounders such as complications which may have lengthened the stay (Cornett, 1989). The other had a problematic comparator (vaginal births) (Zanardo et al., 2018). The mixed-methods study met all the criteria of the MMAT and was of excellent quality (Bowden et al., 2019). The descriptive study (Aluri and Wrench, 2014) was of overall good quality when assessing the paper as a whole. The method of telephone follow-up was not clearly described in the paper, however, the corresponding author provided additional details via email regarding the methods for data collection and follow-up questions; it was noted that demographic information was not collected for the follow-up participants (I. Wrench, personal communication, 24th June 2019). Psychometrically valid measures were reported for anxiety and depression in Tan et al. (2012) and Bayoumi et al. (2016), pain in Oyeyemi et al. (2019) and all measures in Brooten et al. (1994) and Zanardo et al. (2018). However, a number of studies used author-devised and un-validated measures (Aluri and Wrench, 2014; Bowden et al., 2019) or used a mix of validated and author-devised measures (Bayoumi et al., 2016; Tan et al., 2012).

Narrative synthesis of results

The results are described according to the following identified themes: pain, infant feeding, satisfaction, and mental wellbeing which encompasses general wellbeing, anxiety, depression, stress, and functioning.

Pain

Five studies reported on women's pain after caesarean section and reduced length of stay. One RCT reported a significant difference between traditional stay and reduced length of stay treatment groups using a visual analogue scale. The traditional stay group (5 days) experienced more pain on average than women who went home with an early discharge (3 days) (Oyeyemi et al., 2019), although, the overall quality of this paper was low (Table 2) and pain was not measured after discharge (Oyeyemi et al., 2019). Another RCT reported no significant differences in self-reported pain between the 24-hour and 72-hour discharge groups (Bayoumi et al., 2016). Similarly, a descriptive study by Aluri and Wrench (2014) reported that women discharged the next day within an enhanced recovery pathway reported either no or mild pain at follow up. Another study of an enhanced recovery pathway reported that women discharged the next day after caesarean section indicated excellent pain management (Bowden et al., 2019). Zanardo et al. (2018) reported that 58% of women who were discharged home early after caesarean section

Table 1
Summary of included studies.

Author, year	Aim	length of stay definition	Relevant participants	Relevant Design	Relevant findings
(Aluri and Wrench, 2014)	Survey of obstetric anaesthetists to determine current practice of enhanced recovery methods. Additional reporting on an evaluation of women experiencing enhanced recovery	Comparison of day 1 and day 2 discharge within an enhanced recovery pathway ¹	Elective caesarean section women discharged on day 1 ($n = 19$) ¹	- Telephone survey of women collected at 1-week follow-up - Pain and functioning measured using purpose designed questions: Are you able to do normal daily activities? How is your pain? Are you able to attend to the baby?	- Women discharged at day 1 reported no or mild pain and were able to provide functional care to the baby
(Bayoumi et al., 2016)	Differences in maternal and neonatal outcomes comparing women discharged at 24 h to 72 h after caesarean section	Comparison between 24-h and 72-h discharge	($n = 2998$) women who had either elective or emergency caesarean section discharged at either 24-h ($n = 1495$) or 72-h ($n = 1503$)	- RCT - Questionnaire collected at 6-week follow up - Pain, breast feeding, Arabic Edinburgh Postnatal Depression Scale (EPDS-Arabic)	- Statistically significant difference on EPDS-Arabic scores with higher EPDS in 24-h group compared to 72-h group. EPDS remained lower in the 72-h group when accounting for repeat-caesarean section - No statistically significant difference on pain scores - Statistically significant difference on breastfeeding rates with higher breastfeeding rates in 72-h group, no significant difference in initial breastfeeding when accounting for repeat-caesarean section
(Bowden et al., 2019)	To assess the clinical outcomes, length of stay and satisfaction from all women on an enhanced recovery pathway with day 1 discharge	Women discharged at day 1 within an enhanced recovery pathway. Overall length of stay fell from 3.25 to 1.31 days	($n = 131$) low-risk women scheduled for elective caesarean section identified antenatally for enhanced recovery ($n = 77$) discharged on day 1	- Mixed methods - Questionnaire at day 1 (face-to-face) and day 7 (telephone) - Interview at 7 day follow up - Pain, breastfeeding, maternal satisfaction for women discharged on day 1	- All contactable women were breastfeeding at day 7 - Pain at day 7 $m = 4.61$ on a 5-point Likert scale indicating excellent pain management - Satisfaction was high with $m = 4.71$ on a 5-point Likert scale - Interviews identified some women felt pressured by the timing of the pathway and that 24-h discharge with children at home was difficult - However, some women said enhanced recovery with day 1 discharge was a positive experience with better than expected recovery
(Brooten et al., 1994)	To establish the safety, efficacy, and economic impact of early hospital discharge in women delivering via emergency caesarean section	Statistically significant difference between standard hospital practice ($m = 187$ hrs, $SD = 18$ h) and early discharge group ($m = 86$ hrs, $SD=20$)	($n = 122$) women with unplanned caesarean section. ($n = 61$) in control group and ($n = 61$) early discharge group	- RCT - 8-week follow-up collected on maternal satisfaction (patient satisfaction scale), anxiety and depression (multiple affective adjective checklist), functional status (enforced social dependency scale)	- Early discharge group has statistically significant greater satisfaction with care than the control group - There were no statistically significant differences between the groups in measures of maternal anxiety, depression, and functional status
(Cornett, 1989)	Women's perceptions of breastfeeding information and support and the impact on breastfeeding outcomes	Caesarean section deliveries length of stay ranged 40.7–129 h. Median was 94.6 h. Short stay was defined as less than and long stay was more than 94.6 h	($n = 119$) women including vaginal and caesarean section deliveries. Women who delivered via caesarean section ($n = 28$); ($n = 13$) short stay and ($n = 15$) long stay	- Telephone survey at 1-week, 4-week and 8-week follow-up - Need for feeding information captured using a self-devised 10 item survey on various feeding topics e.g. positioning baby - Affective support was measured using a 12 item Postpartum Affective Support Scale, which was self-devised	- Breastfeeding Information needs were not statistically different between long and short stay caesarean section groups - Needing more information on positioning baby with long stay caesarean section women - Need for support was not statistically different for long and short stay caesarean section women - No statistically significant difference on complete and incomplete feeding status on caesarean section women at 1-week or 8-weeks - Statistically significant difference at 4-weeks with short stay less likely to breastfeed

(continued on next page)

Table 1 (continued)

Author, year	Aim	length of stay definition	Relevant participants	Relevant Design	Relevant findings
(Oyeyemi et al., 2019)	To evaluate morbidity rates and cost between traditional discharge and short stay in women delivering via caesarean section	Traditional stay 5 days after birth. Short stay 3 days post birth	$n = 200$ women delivering via elective caesarean section. $n = 100$ randomised to each of the study arms. 3 participants excluded. $n = 98$ women were discharged at day 5 and $n = 99$ women were discharged at day 3	- RCT - Pain (Visual Analogue Charts) at day 3 post-delivery (at discharge for short stay group)	- Statistically significant difference in pain scores with the traditional stay group experienced more pain
(Tan et al., 2012)	To compare women's satisfaction and breastfeeding rates discharged at day 1 and day 2 post-caesarean section	Day 1 (next day) discharge compared to day 2 discharge	$n = 260$ women recruited $n = 179$ allocated to day 1 discharge $n = 181$ to day 2 discharge. Intention to treat analysis day 1 $n = 170$ and day 2 $n = 172$	- RCT - Self-administered questionnaire at 2 and 6-weeks - General wellbeing and infant feeding (measured at 2 and 6-weeks) - Would recommend time of discharge to a friend and Satisfaction (measured at 2-weeks) - Anxiety, depression (Hospital Anxiety and Depression Scale (HADS) (measured at 6-weeks)	- Satisfaction with allocated protocol did not differ between groups. 50.6% of participants allocated to day 1 discharge expressed strong agreement with satisfaction with day 1 discharge compared to 33.1% of participants allocated to day 2 - No statistically significant difference on general wellbeing, recommendation of discharge protocol to friend and infant feeding - The difference in mean depression scores was statistically significant, however, it was not considered clinically meaningful. The mean difference in anxiety scores was not statistically significant.
(Zanardo et al., 2018)	To characterise pre-discharge maternal pain and stress after caesarean section and short hospitalisation compared to vaginal birth	Discharged at 36 h after caesarean section	($n = 60$) women who had a caesarean section ($n = 60$) women who had a vaginal birth	- Italian McGill pain questionnaire, psychological stress and infant feeding measured at 36 h (at discharge)	- At discharge 55% caesarean section women exclusively breastfed and 43% mix-fed - 58% of caesarean section women had high levels of pain at home after discharge. 1 woman reported mild pain. This was different to vaginal deliveries; location of pain was also different - Statistically significant difference in stress scores, with stress lower in women who delivered via caesarean section

* Comparison of day 1 ($n = 19$) to women discharged on day 2 ($n = 27$) is reported in Wrench et al., 2015. Introduction of enhanced recovery for elective caesarean section enabling next day discharge: a tertiary centre experience. International Journal of Obstetric anesthesia 24(2), 124–130. <https://doi.org/10.1016/j.ijoa.2015.01.003>, ibid.

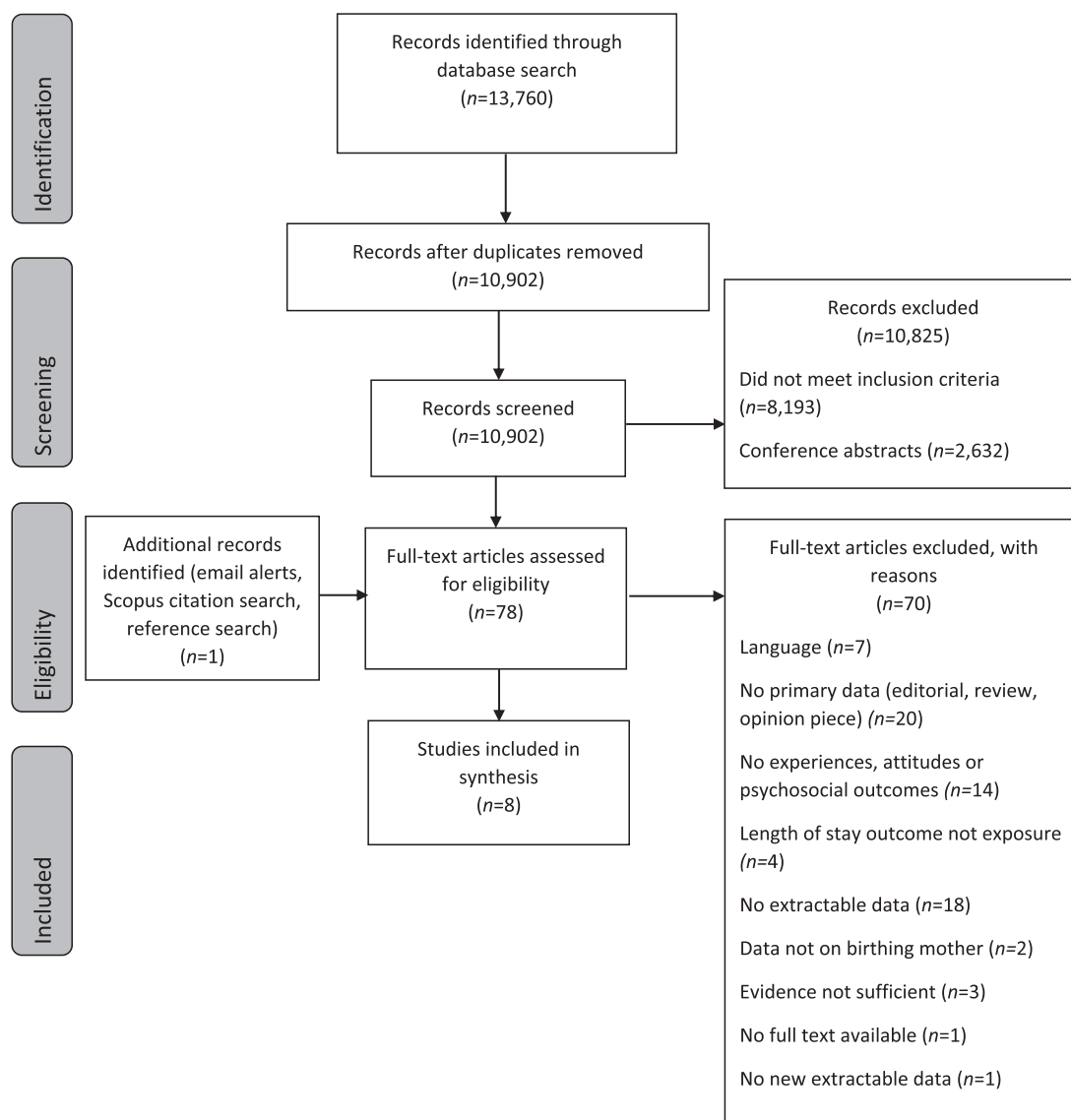


Fig. 1. PRISMA flow diagram of study selection.

ranked high on present pain intensity, although 32% of caesarean section women on postpartum day 2 had no pain relief.

Infant feeding

Information about infant feeding either breastfeeding, bottle feeding or mixed-feeding were reported in five papers. A RCT reported that exclusive breastfeeding was less common at six week follow-up for the reduced length of stay group compared to conventional length of stay (Bayoumi et al., 2016). However, this was not found in the RCT by Tan et al. (2012) which reported no significant difference between reduced length of stay and conventional care on infant feeding at two and six weeks postpartum. Cornett (1989) reported mixed findings at different follow-up times with no significant difference for breastfeeding reported at one or eight weeks postpartum but found it was significantly less prevalent for reduced length of stay women at four weeks. In a mixed methods study only women who were breastfeeding before discharge were eligible to be transitioned home at day 1 ($n = 98/101$) and all women who were contactable at the 7 day follow-up were still breastfeeding (Bowden et al., 2019). Furthermore, a descriptive study reported that at time of discharge 55% of

caesarean section women with a reduced length of stay were exclusively breastfeeding and 43% were mix-feeding (Zanardo et al., 2018), however, no information on post-discharge feeding outcomes were reported.

Satisfaction

Three articles discussed women's satisfaction with a reduced hospital stay. A RCT comparing standard discharge with an early discharge group reported a statistically significant difference, with greater satisfaction reported in the reduced length of stay group (Brooten et al., 1994). In contrast, the other RCT with day 1 and day 2 discharge found no evidence of a difference between discharge groups on satisfaction scores or on the likelihood of recommending their discharge to a friend (Tan et al., 2012). However, the two RCTs had different models of care for the reduced length of stay group with Brooten et al. (1994) including midwifery home visiting and preparation of women for discharge; whereas Tan et al. (2012) did not. In a mixed-methods study of an enhanced recovery pathway, satisfaction was high at day 7 post discharge ($m = 4.75$ on a 5-point Likert scale) (Bowden et al., 2019). Furthermore, qualitative interviews conducted with women allocated to the pathway in-

Table 2
Summary of quality assessment using the mixed methods appraisal Tool.

	(Aluri and Wrench, 2014)*	(Bayoumi et al., 2016)	(Bowden et al., 2019)	(Brooten et al., 1994)	(Cornett, 1989)	(Oyeyemi et al., 2019)	(Tan et al., 2012)	(Zanardo et al., 2018)
RCT								
Randomisation appropriate		✓		✓		✓	✓	
Compared baseline		✓		✓		X	✓	
Complete outcome data		✓		✓		X	✓	
Blinding		?		✓		X	✓	
Participant compliance		✓		✓		X	✓	
Non-randomised								
Participants representative					✓			✓
Appropriate measures					✓			✓
Complete outcome data					✓			✓
Confounders accounted					X			X
Intervention as intended					✓			✓
Quantitative Descriptive								
Appropriate sampling	✓							
Representative sample	✓							
Appropriate measures	✓							
Risk nonresponse bias	X							
Appropriate analysis	✓							
Mixed Methods								
Rational for mixed methods			✓					
Integration of methods			✓					
Appropriate interpretation			✓					
Addresses inconsistencies			✓					
Adherence to quality criteria of traditional method			✓					

✓Met-criterion, X Did not meet criterion, ? unable to assess if criterion were were met.

*note: The telephone follow-up interviews reported in this study were not appraised using the MMAT as they were not the study aims.

indicated that whilst many had a positive experience and reported better recovery,

“Better than expected... a great experience...better than the first”

(Bowden et al., 2019, pg. 6)

others had difficulty with the pace of the pathway, particularly when there were additional stressors in the home environment

“discharge home with a toddler at 24 hours was difficult and not acceptable, even with the support from my husband and mother”

(Bowden et al., 2019, pg. 6).

Mental wellbeing

Mental wellbeing encompassed a variety of variables including general wellbeing, anxiety, depression, stress, and functioning. RCTs found no statistically significant difference in general wellbeing between treatment groups (Tan et al., 2012) and rates of anxiety and depression (Brooten et al., 1994; Tan et al., 2012). However, one RCT reported that postnatal depression in the 24-hour discharge group was more common than in the 72-hour comparator (78% and 61% respectively), with the effect remaining after accounting for the women who had a repeat caesarean section (Bayoumi et al., 2016). In one RCT (Brooten et al., 1994) and a descriptive study (Aluri and Wrench, 2014) functioning was reported on and operationalised as being able to look after the baby and able to attend to normal activities. Both studies reported that women with a reduced length of stay did not have difficulties with functioning after discharge (as compared with standard care in the case of the RCT). At discharge women who had a caesarean section and a reduced hospital stay reported lower stress levels than the comparator (vaginal births), with no other study reporting on stress (Zanardo et al., 2018).

Discussion

This is the first systematic review to consider psychosocial outcomes and women’s experiences with a reduced length of stay after caesarean section. Against a backdrop of limited literature ($n = 8$) four variables were identified: experiences with infant feeding, pain, satisfaction and mental wellbeing. Overall, the research suggests that a reduced length of stay after caesarean section does not negatively impact on women, provided they are adequately prepared for discharge, are recovering well, and have continued pain relief and ongoing midwifery care at home. The findings reported here are corroborated by a qualitative study on women who had a reduced hospital stay with home visiting midwifery that was published outside the date cut-off for this systematic review (Cusack et al., 2020). These findings will be reassuring to clinicians and policy-makers who are in an environment where reduced hospital stays are becoming more prevalent.

Generally, we found that a reduced length of stay is not associated with greater self-reported pain (Aluri and Wrench, 2014; Bayoumi et al., 2016; Bowden et al., 2019; Oyeyemi et al., 2019; Zanardo et al., 2018). Whilst one article reported that there were high levels of pain at home after discharge, 32% of women in this study had no pain relief on postpartum day two which would have contributed to participants’ experience of pain at home (Zanardo et al., 2018). This is contrasted with another included study that involved a model of care where women were not discharged unless their pain was well managed; these participants reported excellent pain management after discharge at day 7 (Bowden et al., 2019). Maternity settings with reduced lengths of stay after caesarean can ensure adequate post-discharge pain management by making controlled pain levels a criterion for discharge. Overall, these findings are corroborated in an observational study, not included in this review, which concluded that pain management is a key aspect of recovery and should be taken into account when discharging women following caesarean section (Carvalho et al., 2010).

Findings regarding infant feeding were varied and interpretation is limited by methodological shortcomings. These include unclear definitions of feeding types (Bayoumi et al., 2016), and limited follow-up (Zanardo et al., 2018). Although one study did demonstrate high breastfeeding rates at postpartum day seven, this paper examined a model of early discharge where women were supported postpartum by a home midwife and had breastfeeding initiation as a prerequisite for discharge (Bowden et al., 2019). Such provisions might be considered by policy-makers designing future early discharge programs. Interestingly, previous relevant research not eligible for this review states that breastfeeding is not negatively impacted by a reduced length of stay and in some cases breastfeeding duration is longer (Bravo et al., 2011; Carty and Bradley, 1990). More broadly, a review of recovery after vaginal births suggests that the home environment is an important component to facilitate breastfeeding, in conjunction with home midwifery support (James et al., 2017).

A reduced hospital stay after caesarean section does not appear to be associated with a negative impact on women's satisfaction with care (Bowden et al., 2019; Brooten et al., 1994; Tan et al., 2012). Furthermore, one of the included RCTs demonstrated greater satisfaction where the model of care included home midwifery support (Brooten et al., 1994). High satisfaction rates with a program of enhanced recovery including postnatal home midwifery support were also observed in the mixed methods study (Bowden et al., 2019). It has been additionally reported that home visiting midwifery programs for women who had caesarean section or vaginal births had high satisfaction, although this was not in a reduced length of stay context (Nielsen Dana and Wambach, 2003). The model of care in the RCT reporting high satisfaction also included the preparation and assessment of the woman's home environment (Brooten et al., 1994). In contrast, the RCT demonstrating no improved satisfaction examined a model of care which did not include such preparation (Tan et al., 2012). Considering this evidence overall, policy-makers should consider the inclusion of home midwifery to support recovery and satisfaction following reduced length of stay post-caesarean section.

Similarly, the majority of the review evidence indicated no substantial impact on mental wellbeing for women who experienced reduced length of stay (Aluri and Wrench, 2014; Brooten et al., 1994; Tan et al., 2012), except for one RCT which demonstrated higher rates of postnatal depression in the reduced length of stay group compared to standard care (Bayoumi et al., 2016). This unique finding could be accounted for by a lack of preparation as randomisation was conducted at discharge, no home visiting midwifery was included, and a greater number of hospital readmissions occurred in the reduced length of stay group (Bayoumi et al., 2016). Overall, these findings are in line with a previous systematic review examining vaginal and caesarean section which concluded that early discharge does not appear to have a negative impact on maternal depression, provided that women are healthy and have at least one home midwifery visit in the postnatal period (Brown et al., 2002).

Limitations and strengths

The findings of the review need to be considered in view of several limitations. Whilst we employed a comprehensive search strategy, there is a possibility that grey literature such as reports, particularly from medical institutions, have been missed. Similarly, conference abstracts of which there were many ($n = 2632$), were excluded as they do not provide enough evidence for a systematic review, suggesting there exists a body of relevant research which is not yet published.

It has been recognised that much of the literature does not separate type of caesarean section (i.e. emergency or elective)

(Benton et al., 2019). This was also observed in this review despite literature stating that there are unique psychosocial outcomes associated with emergency caesarean section (Benton et al., 2019). Unfortunately, there was insufficient evidence in this review to allow subgroup analyses of emergency and elective caesarean section. A further limitation is the inconsistency in which length of stay was categorised in the studies (see Table 1), and this may impact the comparability of the findings across the studies.

A major contribution of this review is that it focuses on caesarean section, which previous research suggests is experienced differently to other modes of birth (Lobel and DeLuca, 2007). The review is also unique in that it examines women's experiences and psychosocial outcomes with a reduced hospital stay, whereas the current literature has mainly focused on medical perspectives such as readmission rates. The review also captured papers from a variety of languages including English, French and German.

Recommendations for future research

Future studies should use psychometrically-validated measures and specify the features of the early discharge program under investigation, such as any provided preparation and inclusion of any home visiting midwifery. Whilst this review included primary research including qualitative and mixed methods designs, a majority of papers were quantitative in nature with the inclusion of one mixed methods study (Bowden et al., 2019). This suggests a need for more qualitative or mixed methods research to gain a more in-depth understanding of women's experiences of early discharge (Pope and Campbell, 2001).

Recommendations for practice and conclusions

Against a backdrop of a small number of heterogeneous studies, this review indicates no systematic negative impact on psychosocial outcomes and the maternal experience associated with reduced length of hospital stay after caesarean section. The review also identifies a number of features of care associated with a more positive experience for women. These include the provision of support systems, access to pain relief before and after discharge and the continuation of care with home midwifery. These measures should be considered in the implementation of future pathways facilitating the early transition of women from hospital to home after caesarean section.

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Declaration of Competing Interest

None declared.

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Appendix

Search strategy for each database

Database	Search terms
Pubmed	"cesarean section"[mh] OR cesarean*[tw] OR caesarean*[tw] OR cesarian*[tw] OR caesarian*[tw] OR abdominal deliver*[tw] OR postcaesarean*[tw] OR postcesarean*[tw] OR c-section*[tw] OR surgical birth*[tw] OR surgical deliver*[tw] OR obstetric surger*[tw] AND "patient discharge"[mh] OR discharg*[tw] OR postdischarg*[tw] OR sent home[tw] OR fast track recover*[tw] OR fast track surger*[tw] OR dismiss*[tw] OR enhanced recover*[tw] OR ERAS[tw] OR EROS[tw] OR "length of stay"[mh] OR length of sta*[tw] OR stay length*[tw] OR treatment duration*[tw] OR "home care services"[mh] OR home base*[tw] OR home car*[tw] OR home visit*[tw] OR length of hospital sta*[tw] OR lengths of stay*[tw]
PsycInfo	caesarean birth.sh OR cesarean*.mp OR caesarean*.mp OR cesarian*.mp OR caesarian*.mp OR abdominal deliver*.mp OR postcesarean*.mp OR c-section*.mp OR surgical birth*.mp OR surgical deliver*.mp AND discharge planning.sh OR hospital Discharge.sh OR discharg*.mp OR postdischarg*.mp OR transition of car*.mp OR dismiss*.mp OR enhanced recover*.mp OR ERAS.mp OR treatment duration.sh OR treatment duration*.mp OR length of sta*.mp OR length of hospital sta*.mp OR lengths of stay.mp OR stay length*.mp OR home visiting programs.sh OR home care.sh OR home car*.mp OR home base*.mp OR home visit*.mp
Embase	"cesarean section"/exp OR cesarean*:ti,ab,kw OR caesarean*:ti,ab,kw OR cesarian*:ti,ab,kw OR caesarian*:ti,ab,kw OR "abdominal deliver*":ti,ab,kw OR postcaesarean*:ti,ab,kw OR postcesarean*:ti,ab,kw OR c-section*:ti,ab,kw OR "surgical birth*":ti,ab,kw OR "surgical deliver*":ti,ab,kw OR "obstetric surger*":ti,ab,kw OR "obstetric operation*":ti,ab,kw AND "hospital discharge"/de OR "length of stay"/de OR "home care"/exp OR "treatment duration"/de OR discharg*:ti,ab,kw OR postdischarg*:ti,ab,kw OR "sent home":ti,ab,kw OR "treatment duration*":ti,ab,kw OR "fast track recover*":ti,ab,kw OR "fast track surger*":ti,ab,kw OR "transition of car*":ti,ab,kw OR dismiss*:ti,ab,kw OR "enhanced recover*":ti,ab,kw OR ERAS:ti,ab,kw OR EROS:ti,ab,kw OR "length* of hospital Sta*":ti,ab,kw OR "length* of Sta*":ti,ab,kw OR "stay length*":ti,ab,kw OR "home bas*":ti,ab,kw OR "home car*":ti,ab,kw OR "home visit*":ti,ab,kw
CINAHL	MH "cesarean section+" OR TI cesarean* OR AB cesarean* OR TI caesarean* OR AB caesarean* OR TI cesarian* OR AB cesarian* OR TI caesarian* OR AB caesarian* OR TI "abdominal deliver*" OR AB "abdominal deliver*" OR TI postcaesarean* OR AB postcaesarean* OR TI postcesarean* OR AB postcesarean* OR TI c-section* OR AB c-section* OR TI "surgical birth*" OR AB "surgical birth*" OR TI "surgical deliver*" OR AB "surgical deliver*" OR TI "obstetric surger*" OR AB "obstetric surger*" AND MH "patient discharge+" OR TI discharg* OR AB discharg* OR TI postdischarg* OR AB postdischarg* OR MH "length of stay" OR TI "length of stay*" OR AB "length of stay*" OR TI "length of hospital sta*" OR AB "length of hospital sta*" OR TI "lengths of hospital sta*" OR AB "lengths of hospital sta*" OR TI "lengths of hospital sta*" OR AB "lengths of hospital sta*" OR TI "lengths of hospital sta*" OR AB "lengths of hospital sta*" OR TI "transition of car*" OR AB "transition of car*" OR TI dismiss* OR AB dismiss* OR TI "enhanced recover*" OR AB "enhanced recover*" OR TI eras OR AB eras OR MH "home care services" OR TI "home car*" OR AB "home car*" OR TI "home base*" OR AB "home base*" OR TI "home visit*" OR AB "home visit*" OR MH "treatment duration" OR TI "treatment duration*" OR AB "treatment duration*"
ProQuest dissertations and theses	AB, TI(cesarean*) OR AB, TI(caesarean*) OR AB, TI(cesarian*) OR AB, TI(caesarian*) OR AB, TI("abdominal deliver*") OR AB, TI(postcaesarean*) OR AB, TI(postcesarean*) OR AB, TI(c-section*) OR AB, TI("surgical birth*") OR AB, TI("surgical deliver*") OR AB, TI("obstetric surger*") OR AB, TI("obstetric operation*") AND AB, TI(discharg*) OR AB, TI("length of stay*") OR AB, TI("length of hospital sta*") OR AB, TI(dismiss*) OR AB, TI("enhanced recover*") OR AB, TI(eras) OR AB, TI(homecar*) OR AB, TI("home car*") OR AB, TI("home visit*") OR AB, TI("home base*") OR AB, TI("treatment duration*") OR AB, TI("fast track recover*") OR AB, TI("fast track surger*")

References

AIIHW, 2019. Australia's Mothers and Babies 2017—in brief., Perinatal statistics Series AIIHW. Canberra.

Aluri, S., Wrench, I., 2014. Enhanced recovery for obstetric surgery: a UK-wide survey of practice. *Int. J. Obstet. Anesth.* 23, S27. doi:10.1016/j.ijoa.2014.03.011.

Bayoumi, Y.A., Bassiouny, Y.A., Hassan, A.A., Gouda, H.M., Zaki, S.S., Abdelrazek, A.A., 2016. Is there a difference in the maternal and neonatal outcomes between patients discharged after 24 h versus 72 h following cesarean section? A prospective randomized observational study on 2998 patients. *J. Matern. Fetal Neonatal. Med.* 29 (8), 1339–1343. doi:10.3109/14767058.2015.1048678.

Benton, M., Salter, A., Tape, N., Wilkinson, C., Turnbull, D., 2019. Women's psychosocial outcomes following an emergency caesarean section: a systematic literature review. *BMC Pregnancy Childbirth* 19 (1), 535. doi:10.1186/s12884-019-2687-7.

Boerma, T., Ronsmans, C., Melesse, D.Y., Barros, A.J.D., Barros, F.C., Juan, L., Moller, A.-B., Say, L., Hosseinpoor, A.R., Yi, M., de Lyra Rabello Neto, D., Temmerman, M., 2018. Global epidemiology of use of and disparities in caesarean sections. *Lancet North Am. Ed.* 392 (10155), 1341–1348. doi:10.1016/S0140-6736(18)31928-7.

Bowden, S.J., Dooley, W., Hanrahan, J., Kanu, C., Halder, S., Cormack, C., O'Dwyer, S., Singh, N., 2019. Fast-track pathway for elective caesarean section: a quality improvement initiative to promote day 1 discharge. *BMJ Open. Qual.* 8 (2), e000465. doi:10.1136/bmjopen-2018-000465.

Bowers, J., Cheyne, H., 2016. Reducing the length of postnatal hospital stay: implications for cost and quality of care. *BMC Health Serv. Res.* 16, 16. doi:10.1186/s12913-015-1214-4.

Bravo, P., Uribe, C., Contreras, A., 2011. Early postnatal hospital discharge: the consequences of reducing length of stay for women and newborns. *Rev. Esc. Enferm. USP* 45, 758–763. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342011000300030&nrm=iso.

Brooten, D., Roncoli, M., Finkler, S., Arnold, L., Cohen, A., Mennuti, M., 1994. A randomized trial of early hospital discharge and home follow-up of women having cesarean birth. *Obstet. Gynecol.* 84 (5), 832–838. [Go to ISI>://WOS:A1994PN55100020](https://doi.org/10.1097/00006123-199405000000020).

Brown, S., Small, R., Faber, B., Krastev, A., Davis, P., 2002. Early postnatal discharge from hospital for healthy mothers and term infants. *Birth* 29 (4), 291–294. doi:10.1046/j.1523-536x.2002.00204.x.

Carty, E.M., Bradley, C.F., 1990. A randomized, controlled evaluation of early postpartum hospital discharge. *Birth* 17. doi:10.1111/j.1523-536X.1990.tb00021.x.

Coons, M.J., 2013. Pain, psychosocial aspects. In: Gellman, M.D., Turner, J.R. (Eds.), *Encyclopedia of Behavioral Medicine*. Springer, New York, New York, NY, pp. 1428–1431.

Cornett, B.B., 1989. Postpartal mothers' Perceptions of In-Hospital Breastfeeding Information and Affective Support As Related to Breastfeeding Status. Ohio State University, p. 182.

Cusack, L., Digenis, C., Schultz, T., Klaer, B., Hobbs, M., 2020. Women's experiences with enhanced recovery after elective caesarean section with next day discharge: a qualitative study. *Midwifery* 83, 102632. doi:10.1016/j.midw.2020.102632.

Cusack, L., Schultz, T., Karnon, J., Hobbs, M., Klaer, B., Bruening, L., Kane, S., 2018. Evidence For Reduced Length of Stay For Elective Caesarean Sections. The University of Adelaide, Adelaide.

Ford, J.B., Algert, C.S., Morris, J.M., Roberts, C.L., 2012. Decreasing length of maternal hospital stay is not associated with increased readmission rates. *Aust. N Z J Public Health* 36 (5), 430–434. doi:10.1111/j.1753-6405.2012.00882.x.

Grullon, K.E., Grimes, D.A., 1997. The safety of early postpartum discharge: a review and critique. *Obstet. Gynecol.* 90 (5), 860–865. doi:10.1016/S0029-7844(97)00405-5.

Hong, Q., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O' Cathain, A., Rousseau, M.-C., Vedel, I., 2018. Mixed Methods Appraisal Tool (MMAT) Version 2018. Canadian Intellectual Property Office, Industry Canada, Canada.

James, L., Sweet, L., Donnellan-Fernandez, R., 2017. Breastfeeding initiation and support: a literature review of what women value and the impact of early discharge. *Women Birth* 30 (2), 87–99. <https://doi.org/10.1016/j.wombi.2016.09.013>.

Joanna Briggs Institute, 2014. Joanna Briggs Institute Reviewers' Manual 2014: Methodology for JBI Mixed Methods Systematic Reviews. Joanna Briggs Institute, Adelaide Australia.

Lavand'homme, P., 2018. Postoperative cesarean pain: real but is it preventable? *Curr. Opin. Anaesthesiol.* 31 (3), 262–267. doi:10.1097/aco.0000000000000585.

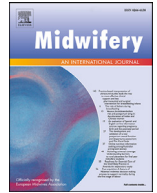
Lobel, M., DeLuca, R.S., 2007. Psychosocial sequelae of cesarean delivery: review and analysis of their causes and implications. *Soc. Sci. Med.* 64 (11), 2272–2284. <http://dx.doi.org/10.1016/j.socscimed.2007.02.028>.

- Long, J., Cumming, J., 2013a. Psychosocial Predictors. In: Gellman, M.D., Turner, J.R. (Eds.), *Encyclopedia of Behavioral Medicine*. Springer, New York, NY, pp. 1584–1585.
- Long, J., Cumming, J., 2013b. Psychosocial Variables. In: Gellman, M.D., Turner, J.R. (Eds.), *Encyclopedia of Behavioral Medicine*. Springer, New York, NY, pp. 1585–1587.
- Lucas, D.N., Gough, K.L., 2013. Enhanced recovery in obstetrics; a new frontier? *Int. J. Obstet. Anesth.* 22 (2), 92–95. doi:10.1016/j.ijoa.2013.02.001.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., 2009. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med.* 6 (7), e1000097. doi:10.1371/journal.pmed.1000097.
- NICE, 2011. *Caesarean section, National Institute For Health and Clinical Excellence Guidelines*. National Institute for Health and Clinical Excellence Manchester, UK.
- Nielsen Dana, S., Wambach, K., 2003. Patient Satisfaction With an Early Discharge Home Visit Program. *J. Obst. Gynecol. Neonatal Nurs.* 32 (2), 190–198. doi:10.1177/0884217503251733.
- Nilsson, I., Danbjørg, D.B., Aagaard, H., Strandberg-Larsen, K., Clemensen, J., Kronborg, H., 2015. Parental experiences of early postnatal discharge: a meta-synthesis. *Midwifery* 31 (10), 926–934. <https://doi.org/10.1016/j.midw.2015.07.004>.
- Oyeyemi, N., Oyeyeyin, L., Ayodeji, O., Oyeyemi, A., Bosede, A., 2019. Post-operative management in uncomplicated caesarean delivery: a randomised trial of short-stay versus traditional protocol at the Lagos University Teaching Hospital, Nigeria. *Niger. Postgrad. Med. J.* 26 (1), 31–37. http://dx.doi.org/10.4103/npmj.npmj_166_18.
- Peahl, A.F., Smith, R., Johnson, T.R.B., Morgan, D.M., Pearlman, M.D., 2019. Better late than never: why obstetricians must implement enhanced recovery after cesarean. *Am. J. Obstet. Gynecol.* 221 (2), 117.e111–117.e117. <https://doi.org/10.1016/j.ajog.2019.04.030>.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., 2006. *Guidance on the conduct of narrative synthesis in systematic reviews*. Econ. Soc. Res. Council Methods Prog..
- Pope, C., Campbell, R., 2001. Qualitative research in obstetrics and gynaecology. *BJOG* 108 (3), 233–237. doi:10.1111/j.1471-0528.2001.00077.x.
- Tan, P.C., Norazilah, M.J., Omar, S.Z., 2012. Hospital discharge on the first compared with the second day after a planned cesarean delivery: a randomized controlled trial. *Obstet. Gynecol.* 120 (6), 1273–1282. <http://10.1097/AOG.0b013e3182723a95>.
- Wrench, I.J., Allison, A., Galimberti, A., Radley, S., Wilson, M.J., 2015. Introduction of enhanced recovery for elective caesarean section enabling next day discharge: a tertiary centre experience. *Int. J. Obstet. Anesth.* 24 (2), 124–130. <https://doi.org/10.1016/j.ijoa.2015.01.003>.
- Zanardo, V., Giliberti, L., Volpe, F., Simbi, A., Guerrini, P., Parotto, M., Straface, G., 2018. Short hospitalization after caesarean delivery: effects on maternal pain and stress at discharge. *J. Mater.-Fetal Neonatal Med.* 31 (17), 2332–2337. doi:10.1080/14767058.2017.1342802.



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Women's experiences with enhanced recovery after elective caesarean section with next day discharge: A qualitative study

Lynette Cusack^{a,b,*}, Christianna Digenis^b, Tim Schultz^b, Bronwen Klaer^a, Meredith Hobbs^a

^a Northern Adelaide Local Health Network, Lyell McEwin Hospital, Haydown Road, Elizabeth Vale, 5112 South Australia, Australia

^b The University of Adelaide, North Terrace, Adelaide 5005, South Australia, Australia

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ABSTRACT

Background: A maternity service in Australia recently implemented an 'Enhanced recovery after Elective Caesarean' pathway, which includes antenatal preparation and facilitates an active role in postnatal recovery such as encouraging mobility and early cessation of fasting. The pathway includes next day discharge for women and their babies after elective caesarean section and safely transitions maternity care from hospital to home with community midwifery care. While enhanced recovery has been implemented in a number of surgical procedures to reduce hospital stay and to improve patient outcomes it has only been considered for elective caesarean sections in more recent years. Given this, enhanced recovery is not well established or researched in obstetric contexts. Furthermore, women's experiences with reduced hospital stays post-caesarean, particularly next day discharge, is limited. A qualitative explorative descriptive study of women's experiences with the pathway and the associated early transition home will help to inform clinical practice and the research evidence base.

Methods: Eleven interviews were conducted with women who had experienced the pathway and next day discharge. Thematic analysis was conducted.

Findings: Three major themes and twelve sub-themes emerged from the data. Major themes identified were women's general experience of an enhanced recovery pathway, their experiences following arrival at home and support at home. All women interviewed were satisfied with the pathway and home recovery. However, there are a number of aspects of care that are essential to a positive experience. This includes excellent support from social networks, healthcare staff and home midwifery care; well managed pain relief; and adequate and timely information, including reassurance that they or their baby could remain in hospital if required.

Conclusion: This study takes a woman-centred perspective adding to both literature and practice.

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Introduction

The Australian Institute of Health and Welfare (AIHW) indicates that 35% of women gave birth by caesarean section in 2017 (AIHW, 2019). The rate of caesarean birth has increased by 4% over the last 10 years (AIHW, 2019). With an increasing caesarean section rate, in 2015 a maternity service within South Australia introduced a practice development initiative called 'Enhanced recovery after Elective Caesarean (EREC)'. EREC is a criterion led discharge

pathway that includes next day discharge between 24–36 h, for women and their babies after elective caesarean section (ECS), and safely transitions maternity care from hospital to home. This pathway includes antenatal preparation and improved postnatal care such as encouraging mobility and early cessation of fasting. To be eligible for this pathway, women must meet all of the following criteria: multiparous, living within the community midwifery catchment area, no major comorbidities, singleton foetus and social supports available in the community. Women on the pathway receive additional support at home from a visiting midwifery service and the option for the mothercarer service. Most women did not choose to make use of the Mothercarer Service. Mothercarers are employed by the health service to assist women postnatally with emotional and practical support in the home such as household duties, transport, care of children, and referral to ongoing services. They can offer up to 4 days of care for 5–6 h.

* Correspondence to: The University of Adelaide, Faculty of Health and Medical Sciences.

E-mail addresses: Lynette.cusack@adelaide.edu.au (L. Cusack), Christianna.digenis@adelaide.edu.au (C. Digenis), Tim.schultz@adelaide.edu.au (T. Schultz), Bronwen.Klaer@sa.gov.au (B. Klaer), Meredith.Hobbs@sa.gov.au (M. Hobbs).

This article reports on a qualitative study that explored the experiences of women on the enhanced recovery pathway of care who transitioned home the next day. It is part of a larger study that investigated if a reduced hospital length of stay (LOS) model is a safe, accepted and cost effective pathway of care.

Enhanced-recovery

Fast-tracked surgery or enhanced recovery has been implemented in a number of surgical procedures to reduce LOS and to improve patient outcomes. The process is in response to improved surgical, anaesthetic and pain management techniques as well as the implementation of earlier mobilisation and earlier cessation of fasting (Aluri and Wrench, 2014; Lucas and Gough, 2013; McNaney, 2011). Given these improvements, enhanced recovery is synonymous with reducing the patient's hospital stay.

More recently, enhanced recovery has been considered in obstetric care and has begun to be implemented in caesarean sections (Lucas and Gough, 2013; Peahl et al., 2019). As a result of changes in maternity practices and a reduced LOS there are benefits to both the patient and the health system (Lucas and Gough, 2013; Wrench et al., 2015). Reduced LOS after caesarean sections is not associated with an increase in maternal readmission or mortality and is considered safe in carefully selected and consenting participants (Bayoumi et al., 2016; Grullon and Grimes, 1997; National Institute for Health and Clinical Excellence (NICE) 2011, 1.6.7.1).

Patient experiences

Based on patient experiences with enhanced recovery in other clinical settings (e.g. colorectal surgery), there is an expected improvement in the psychosocial experience of patients as it demedicalises the recovery and reduces risk of infection (Lucas and Gough, 2013). Laronche et al. (2017) reported that maternal satisfaction and mother infant bonding were higher within a program of enhanced recovery after caesarean sections. However, enhanced recovery in this study focussed on early mobilisation, nutrition, catheter withdrawal and oral analgesia, rather than reduced LOS. Therefore, further investigation of the woman's experience of a post-caesarean enhanced recovery pathway that includes reduced LOS is warranted.

While research into women's experiences with enhanced recovery have not been thoroughly investigated, women's experiences with a reduced hospital stay after caesarean section have been considered. The literature on reduced LOS specifically after caesarean section indicate that women's outcomes and satisfaction are comparable to longer hospital stays or standard care (Brooten et al., 1994; Deniau et al., 2016; Laronche et al., 2017; Tan et al., 2012). Randomised controlled trials have shown no statistically significant differences on functioning (Brooten et al., 1994) and wellbeing in women who had a reduced LOS after caesarean compared to usual LOS (Brooten et al., 1994; Tan et al., 2012). Pain management was reported as an important aspect of the woman's experience. While Aluri and Wrench (2014) found pain was managed well in their study, Christmas et al. (2015) reported difficulties filling out prescriptions, a lack of information and needing better pain follow-up procedures once home.

Adequate social support is a predictor of shorter hospital stays postpartum (Brown; and Lumley, 1997; Shiell et al., 1994). Having social support at home such as living with a partner increases a woman's likelihood of having a reduced LOS (Brown and Lumley, 1997; Shiell et al., 1994). Importantly, within the EREC program one aspect of the inclusion criteria required women to have support at home.

Given the lack of literature specific to the context of Enhanced recovery and reduced LOS within 24-hours, a qualitative study is required to better understand women's experiences. It aims to understand from the woman's perspective their experiences with enhanced recovery after ECS and the associated early transition home.

Methods

This is a qualitative explorative descriptive study based upon interviews with women after returning home from an ECS. This research was approved by the health service and university Human Research Ethics Committees.

In 2016 ($n = 269$) women were initially identified as being eligible for EREC ($n = 87$) women (32%) completed EREC and were discharged in 24–36 h post ECS, however it was noted that ($n = 125$) (47%) who were initially classified as suitable were subsequently taken off the EREC pathway for unknown reasons within the antenatal period.

Data collection

A total of 11 women who completed EREC and had been discharged in 24–36 h were interviewed at least 2 weeks post discharge. The interview schedule was developed to explore with the participants their experience of the EREC pathway. Questions covered the women's and their families experience in the antenatal and postnatal period. This included the amount and relevance of information and support provided by the midwives and obstetricians, to help enhance their recovery and early transition home. The participants were also asked for any suggestions to improve the experience. The interview schedule was reviewed by the health services consumer group.

A research team member met women in the antenatal clinic at both the health services where EREC was implemented. The researcher introduced the study and provided women with a Participant Information sheet and permission was gained (signed consent) to contact them via telephone on discharge to participate in an interview. Women were assured that they may refuse to participate at any time, and this will not effect the care they receive from the health service. A gift voucher of A\$50 was provided to women in acknowledgement of their time given for the interview.

The women were contacted by phone to organise a time to either meet with them or to interview them over the telephone. Two consent forms were posted with a return stamp addressed envelope for one signed consent form to be returned to the researcher before the telephone interview. For the face-to-face interviews the consent forms were signed before the interview.

Although 20 interviews were planned data saturation was reached by the 10th interview therefore, only 11 interviews were conducted (Braun and Clarke 2006). Interviews took approximately 30 min; and included discussion about participants' experience of EREC including the positive and negative impacts on them, their baby and family. Interviews were audiotaped (with participant consent) and transcribed verbatim.

Data analysis

Thematic analysis, a widely used method in qualitative research (Braun and Clarke, 2006), provided a systematic recording of themes in interview data. The six phases prosed by Braun and Clarke (2006, p.87) were followed to identify themes. To achieve credibility the transcripts were analysed separately by two researchers (LC & MS) who then came together to compare coding and analysis of transcripts and finalised thematic categories.

Table 1

Major themes and subthemes identified from thematic analysis.

Major themes	Sub themes
1. Women's general experience of an enhanced recovery following ECS.	a. Informed of the options b. Knowing what to expect c. Information provided to their family antenatally d. Information provided while in hospital about being prepared to go home early, e. Experiencing a quicker recovery f. Experiencing effective pain relief g. Finding staff supportive and positive about EREC
2. Experiences following arrival home	a. Just happy to be home b. Coping in the home environment
3. Support at home	a. Having the support of family and friends b. Having the support of midwives c. Having the support of the mothercarer was valued

Findings

Participant characteristics

Participants ranged from 21 to 37 years of age. Prior to their current hospitalisation all women had previously had an emergency caesarean section, with an average five days LOS. Participants interviewed were all discharged within 24–36 h for this ECS. The participants came from a range of cultural backgrounds including Caucasian, Asian and African.

Major themes

The qualitative data provided a better understanding of the key issues from women's experience of the EREC pathway. Three major themes and twelve subthemes shown in Table 1 emerged from the data.

Women's general experience of an enhanced recovery following ECS

This theme explored from women their key overall experience of the pathway from the time they were assigned to EREC to their early postnatal days at home.

Informed of the options. Most women felt that they were informed of the options with the EREC pathway and that it was a favourable choice for them. Most importantly for the women knowing that if they changed their mind or became unwell they could have the option to stay in hospital longer.

"When the nurse told me that you will stay one day in hospital and others at home, ..., I thought yeah that's a good idea" W2.

"... if things weren't going right then you can stay in hospital" W10.

"...I want to go home because I want to walk and get better quick'... 'Yeah it's my choice I say because I want to go home, I don't want to stay in hospital, ...because if you lay down in the bed in hospital you don't get better quick" W1.

Knowing what to expect. All the women interviewed had experienced at least one previous caesarean section, so they felt that to some extent they knew what to expect with a caesarean recovery.

"... I think because I had experienced a caesarean before a lot of it was just a refresher, oh yeah that's what happens, okay this is happening a lot sooner than what it was before..." W9.

They also had more confidence in going home with a newborn having had at least one previous child.

"Because it's not my first baby it was fine, I mean I wouldn't probably recommend it for first baby. Because it was my second baby I kind of knew a lot" W8.

Information provided to their family antenatally. One of the interview questions explored with the women 'how their family were assisted in the antenatal period to adjust to the idea of a reduced stay'. The information the woman received either verbally or in writing was valuable because they could use it to inform their families about the pathway. This was useful to assist the woman in reassuring her family that the pathway was right for her.

"No he [partner] didn't even read the information I told him about it. He agreed because it is what I wanted ... mum was a bit worried. She did ask some questions and I did read some of the brochure out to her" W3.

"So when people asked me questions I already had the answers for them and because I was confident in it I guess that gave other people confidence in it so mum never doubted it for a second" W4.

"The information was relayed through me, so I kept discussing with my family" W11.

Information provided while in hospital about being prepared to go home early. Post-caesarean hospitalisation was, for some women, a bit "hazy". Women interviewed generally reported that it was difficult to retain information within the early stages of their hospital recovery.

"I was a bit out of it to be honest. I remember the pharmacist explaining medications. Don't remember being talked to about first night fears ... I probably used my husband as an extra set of ears regarding the information about medication and things like that" W5.

In the postnatal ward reaffirming key messages learnt during enhanced recovery antenatal preparation was important in preparing the women to transition home.

"She [midwife] let me know what was going on, she talked me through things [mobilisation, stopping fasting, catheter removed, getting ready to go home]" W6.

"community midwife visited me, mothercarer visited me [in hospital]. They [midwife, mothercarer] said they are going to come to my home and I think there is one pharmacist as well who gave me medications like pain management... and written information about dosages" W10.

Experiencing a quicker recovery. As all the participants had previously experienced emergency caesarean sections several reported that in comparison to their last experience the EREC pathway was very good as they felt it was easier physically and psychologically.

"Experience this time was very good... I was prepared in my mind... that I have to get up from bed the next day" W11.

"In the morning I had the catheter taken out and then I got up by myself and had a shower and walked around the room" W3.

Experiencing effective pain relief. Effective and immediate access to pain relief through appropriate use of medicines was highlighted as important to women. Information on the medicines was also important when transitioning home.

"...make sure information is given about pain relief and then having the medication as well" W9.

Finding staff supportive and positive about EREC. The midwives' attitude (either positive or negative) toward transitioning home early on the postnatal ward influenced the woman's feelings of confidence in her ability to cope with a newborn and recovery at home. Women's experience and progress was primarily influenced by staff attitudes. If the staff were aware the woman was on the EREC pathway and actively supported the process, then the women felt more confident in their decision. However, not all staff were aware of participants' involvement in EREC.

"From the moment I got into the hospital they knew I was on the EREC program and it was mentioned numerous times throughout the whole twenty-four or however long it was that we were there" W9.

"The midwife came told me tomorrow were going to take a shower before 10 o'clock. So I was like OK. She said I will tell you how to get up from bed, how to take a shower, everything. It just went really well" W11.

"some nurses [midwife] and midwifery students didn't know I was going home in 24-hours. I told them. I felt confident in my choice but felt that other women who were less confident may have experienced anxiety" W4.

Experiences following arrival home

This theme highlighted women's satisfaction with recovering earlier in the comfort and familiarity of their own home, with their new baby and family. There were a few challenges for women to navigate within the home environment, however none raised any concern about early transitioning home once they were home.

Just happy to be home

The women expressed their satisfaction to be home because it enabled them to feel more comfortable and see their other children.

"I really loved it to go home early, it was good for me because I felt ready and I feel more comfortable at home, so for me it was a great experience but I guess it depends on the person and how anxious they are" W8.

"...I feel very lucky that I came home the next day and I can see my son in front of me you know that kind of feeling. That satisfies me... He [the son] said [when visiting her in hospital] Mumma lets go home" W10.

Coping in the home environment

While being at home much earlier was appreciated, it was not without its challenges.

"It was good, it was difficult at first because I've got stairs ... the bedrooms are upstairs" W3.

"difficult to not move or bend when you have other children to look after so having the support of family and friends is vital" W2.

Support at home

A critical criterion for inclusion of women on the EREC pathway was to have existing social support networks, including plans for family and friends support at home. The community midwifery service transitioned care from the hospital to home and provided the necessary reassurance that the woman and her baby were doing well. The women also have the option of extra support for around the home with a mothercarer.

Having the support of family and friends

Some women had prepared before the ECS to have their social supports in place to ease the transition.

"because we were coming home earlier a lot of people were like, we'll take time off work to help. We knew the day of the section so could plan support in advance" W3.

The biggest support provided by family was to look after any other children in the early days of the woman's recovery.

"And I've got wonderful support from my parents and they pretty much said look we're taking her [other child], we'll bring her back..." W4.

"It was really good because my mum had her [eldest child] so that I didn't have to worry, so my mum had her for the simple fact that I couldn't move" W6.

Having the support of midwives

The home visiting midwife arrived soon after the women returned home. This is a very important part of the EREC pathway. Not only was it reassuring for the women to know that a midwife would visit to see that all was well with them and the baby, but it enabled early identification of any arising problems. It was also a chance to have one-to-one time with the midwife to ask questions.

"The midwives and just that reassurance that they're on top of it all, I mean they were very consistent in their visits and letting me know where [the baby] was at without making me worry as well, you know letting me know that she [the baby] was making those small steps to regain that weight... I ended up having, the second week when I was home I still had the midwife coming out every couple of days" W5.

"... you don't think of questions when you're in the hospital you're probably still a bit drugged up and you've got questions then afterwards when the midwife comes about bleeding, about how your scar feels, so having those midwives come out or even for baby and you, should I be feeding like this, should I be doing this" W9.

"Midwives visits every second or third day was reassuring" W10.

Though lack of continuity of the midwife was for some frustrating, especially when they were having specific problems as this woman mentions:

"I suppose I found it a little bit frustrating sometimes having a different midwife, I mean I did see some of them more than once... I mean you're very tired and very drained and a lot of it, the basics are there in the notes anyway, but just kind of having to go over that again and re-explain" W5.

Having the support of the mothercarer was valued

Access to a mothercarer who provided practical support was greatly appreciated.

"The carer that came to help helped a lot... Because it made everything easy" W2.

“They are a good help. Looked after my little one [toddler]... so I could rest...did laundry. Looked after my baby so I could sleep” W11.

“They did the washing, the dishes, the vacuuming, all things I couldn't do...” W3.

Discussion

Using a qualitative approach this study investigates women's perspectives and experiences with EREC and the associated reduced hospital stay. Based on these interviews the EREC pathway and a reduced LOS is seen as acceptable for women who completed the pathway. All women interviewed were satisfied with the pathway and home recovery. This is consistent with the literature on women's satisfaction with reduced hospital stay in other obstetric contexts (Brooten et al., 1994; Deniau et al., 2016; Laronche et al., 2017; Tan et al., 2012). These findings are also consistent with the research on enhanced recovery in other surgical settings e.g. colorectal surgery, and in the early work on enhanced recovery programs in caesarean sections (Laronche et al., 2017; Lucas and Gough, 2013). However, the postpartum experience after ECS have specific challenges related to the physical and psychosocial adaptations that the woman transitions through, rather than only the healing of the abdominal wound. Examples of these extra challenges are the initiation of breastfeeding and changes to the family dynamics with the introduction of the new baby (Pehl et al., 2019). Given that women report satisfaction with the enhanced recovery pathway with consideration to the additional challenges of the postpartum period and motherhood, reports of a positive experience should be reassuring for the maternity service providers.

While women were satisfied with EREC, there are a number of aspects of care that are essential to ensure a positive experience. The women highlighted their requirements for flexibility in their discharge time if they or their baby were not recovering as planned, and reassurance about this from the start of the program would be comforting. Information in the antenatal period, about preparing for an early transition home and what to expect immediately after the ECS are other important factors for ensuring satisfaction with the pathway. This information provides practical advice as well as reassurance about the ongoing support that women will receive while recovering at home. This is both useful for the woman and their families who are at the frontline of support at home. Furthermore, that the information is provided at a time when women or their support person are able to absorb the information, for example not in the first 24-hours after the ECS as women report feeling unable to concentrate on new instructions. However, this is an important time for reiterating key messages from information provided prior to the ECS including management of pain relief.

Women expressed that well managed pain relief, required instructions and access to pain medication for home. This is essential for a positive experience and feeling that they were recovering well. This is consistent with Aluri and Wrench (2014) and Christmas et al. (2015), who noted that well managed pain relief was an important factor for women with a reduced hospital stay after caesarean.

Interestingly, the interviewed women expressed confidence in organising and accepting social support to recover at home. This required partners, family and friends to be organised to provide practical support, particularly with looking after other children in the family. Women reported that there are some challenges in preparing the home's physical environment as mobility was difficult during the early recovery period. What is unique about this pathway is the additional practical and emotional support in the

home offered to all women through a mothercarer role. Those women who chose to have this additional support report valuing the service.

The most critical aspect to the pathway is community midwifery support in the woman's home, this is essential to the pathway because it transitions post-natal midwifery care for both mother and baby from hospital to home. Women's satisfaction was related to the opportunity to have quality one-on-one care with a midwife while at home. Although some women expressed disappointment in not always having the same midwife visit. Generally, women had a positive attitude to recovery at home and a strong desire to being in the family environment. This is seen to support family togetherness and parental bonding, not only for the birthing mother but also for partners.

What was interesting for the pathway in this context is women reported that the staff's attitude impacted on their confidence on their decision to transition home early. Any negative attitudes from maternity staff about the EREC pathway made the women question their preparedness and ability to cope at home. Given the high non-completion rate noted in the study context, staff attitudes to enhanced recovery and reduced hospital stays needs to be considered. Literature on the impact of healthcare staff attitudes on enhanced recovery in other clinical settings indicates that staff resistance and awareness of enhanced recovery is a barrier to uptake (Herbert et al., 2017; Stone et al., 2018). However, this has not been explored in the context of caesarean sections.

In considering research limitations this study was conducted in a maternity service that provided community midwifery support and therefore the findings cannot be generalised to the context where community midwifery services may not be available due to different models of maternity care or budget restraints. Another potential study limitation is that women with more positive attitudes or experiences are more likely to agree to be interviewed. A further constraint with this work is that in the context of EREC there is a high non-completion rate, where 47% of women did not complete the pathway for unknown reasons. Therefore, they did not go home within 24–36 h and did not get the additional home support. These interviews include only women who completed the pathway and were home within 24–36 h. This suggests that women who did not complete the pathway but still experienced EREC antenatally may have a different experience. This could have practical implications for understanding barriers to implementing enhanced recovery and a reduced hospital stay. Future research should seek to understand this group of women's experiences as they may highlight additional areas for improvement or barriers.

While having prior caesarean section is not a criterion for EREC eligibility, all women interviewed experienced prior emergency caesarean section. This could have contributed to their satisfaction of home recovery as they were not only confident in caring for a baby but also on the recovery process post-caesarean section. This also gave women a reference point for how well they were recovering, perhaps also adding to their satisfaction as several expressed having a better recovery than their previous caesarean section.

Alternatively, it is possible their perceived rapid recovery after EREC may be due to the differences of an ECS, compared to an emergency caesarean section, rather than the benefits of the EREC program *per se*.

Conclusion

While the literature on enhanced recovery after caesarean section states an expected improved psychosocial experience and satisfaction this has not previously been evaluated adding to the importance of this study as it takes a woman-centred perspective. By acknowledging the postnatal period as unique in comparison

to other clinical settings, understanding women's experience with enhanced recovery and 24-hour discharge after a caesarean section is critical to understanding the acceptance of such programs in obstetric care. This qualitative study indicates that a reduced hospital stay and enhanced recovery is not only safe (Bayoumi et al., 2016; Grullon and Grimes, 1997; NICE, 2011, 1.6.7.1; Wrench et al., 2015) but an accepted form of practice from the woman's perspective provided supports are in place to facilitate this recovery.

Ethics approval

This research was approved by the Central Adelaide Local Health Network Human Research Ethics Committee (HREC/15/TQEH/286: Ref No. Q20151221).

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Conflict of interest

None to declare.

CRediT authorship contribution statement

Lynette Cusack: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing - original draft, Writing - review & editing. **Christianna Digenis:** Writing - original draft, Writing - review & editing. **Tim Schultz:** Funding acquisition, Investigation, Methodology, Writing - original draft, Writing - review & editing. **Bronwen Klaer:** Conceptualization, Formal analysis, Investigation, Methodology, Writing - original draft, Writing - review & editing. **Meredith Hobbs:** Conceptualization, Investigation, Methodology, Project administration, Writing - original draft, Writing - review & editing.

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References

AIHW, 2019. Australia's mothers and babies 2017—in brief., perinatal statistics series AIHW, Canberra.

- Aluri, S., Wrench, I., 2014. Enhanced recovery for obstetric surgery: a UK-wide survey of practice. *Int. J. Obstet. Anesth.* 23, S27. doi:10.1016/j.ijoa.2014.03.011.
- Bayoumi, Y.A., Bassiouny, Y.A., Hassan, A.A., Gouda, H.M., Zaki, S.S., Abdelrazek, A.A., 2016. Is there a difference in the maternal and neonatal outcomes between patients discharged after 24 h versus 72 h following cesarean section? A prospective randomized observational study on 2998 patients. *J. Mater. Fetal Neonatal Med.* 29 (8), 1339–1343. doi:10.3109/14767058.2015.1048678.
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3 (2), 77–101. doi:10.1191/1478088706qp063oa.
- Brooten, D., Roncoli, M., Finkler, S., Arnold, L., Cohen, A., Mennuti, M., 1994. A randomized trial of early hospital discharge and home follow-up of women having cesarean birth. *Obstet. Gynecol.* 84 (5), 832–838. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3694422/>.
- Brown, S., Lumley, J., 1997. Reasons to stay, reasons to go: results of an Australian population-based survey. *Birth* 24 (3), 148–158. doi:10.1111/j.1523-536X.1997.00148.pp.x.
- Christmas, T., Bamber, J., Patient, C., 2015. Maternal satisfaction with analgesia following hospital discharge after caesarean section. *Int. J. Obstet. Anesth.* 24 (1), 85–86. doi:10.1016/j.ijoa.2014.07.008.
- Deniau, B., Bouhadjari, N., Faitot, V., Mortazavi, A., Kayem, G., Mandelbrot, L., Keita, H., 2016. Evaluation of a continuous improvement programme of enhanced recovery after caesarean delivery under neuraxial anaesthesia. *Anaesthesia Crit. Care Pain Med.* 35 (6), 395–399. doi:10.1016/j.accpm.2015.11.009.
- Grullon, K.E., Grimes, D.A., 1997. The safety of early postpartum discharge: a review and critique. *Obstet. Gynecol.* 90 (5), 860–865. doi:10.1016/S0029-7844(97)00405-5.
- Herbert, G., Sutton, E., Burden, S., Lewis, S., Thomas, S., Ness, A., Atkinson, C., 2017. Healthcare professionals' views of the enhanced recovery after surgery programme: a qualitative investigation. *BMC Health Serv. Res.* 17 (1), 617. doi:10.1186/s12913-017-2547-y.
- Laronche, A., Popescu, L., Benhamou, D., 2017. An enhanced recovery programme after caesarean delivery increases maternal satisfaction and improves maternal-neonatal bonding: a case control study. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 210, 212–216. doi:10.1016/j.ejogrb.2016.12.034.
- Lucas, D.N., Gough, K.L., 2013. Enhanced recovery in obstetrics—a new frontier? *Int. J. Obstet. Anesth.* 22 (2), 92–95. doi:10.1016/j.ijoa.2013.02.001.
- McNaney, N., 2011. *Enhanced Recovery Partnership Project Report*. Department of Health, National Health Service (NHS) Improvement, National Cancer Action Team (NCAT), NHS Institute, UK.
- NICE, 2011. *Caesarean Section*. National Institute for Health and Clinical Excellence Guidelines. National Institute for Health and Clinical Excellence Manchester, UK.
- Peahl, A.F., Smith, R., Johnson, T.R.B., Morgan, D.M., Pearlman, M.D., 2019. Better late than never: why obstetricians must implement enhanced recovery after caesarean. *Am. J. Obstet. Gynecol.* 221 (2), 117. doi:10.1016/j.ajog.2019.04.030, e111-117.e117.
- Shiell, A., Cameron, S., Kenny, P., King, M., 1994. A mother's choice: the reasons women choose hospital stay over early discharge. *Health Soc. Care Community* 2 (2), 69–76. doi:10.1111/j.1365-2524.1994.tb00151.x.
- Stone, A.B., Yuan, C.T., Rosen, M.A., et al., 2018. Barriers to and facilitators of implementing enhanced recovery pathways using an implementation framework: a systematic review. *JAMA Surg.* 153 (3), 270–279. doi:10.1001/jamasurg.2017.5565.
- Tan, P.C., Norazilah, M.J., Omar, S.Z., 2012. Hospital discharge on the first compared with the second day after a planned caesarean delivery: a randomized controlled trial. *Obstet. Gynecol.* 120 (6), 1273–1282. doi:10.1097/AOG.0b013e3182723a95.
- Wrench, I.J., Allison, A., Galimberti, A., Radley, S., Wilson, M.J., 2015. Introduction of enhanced recovery for elective caesarean section enabling next day discharge: a tertiary centre experience. *Int. J. Obstet. Anesth.* 24 (2), 124–130. doi:10.1016/j.ijoa.2015.01.003.