

PAEDIATRIC EAR, NOSE, AND THROAT SURGERY: INCIDENCE PATTERNS AND PARENTAL EXPERIENCES

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For Mitchell & James

The first was my inspiration to start;

The second, my courage to continue;

Both were my motivation to finish.

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List of Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
AMWAC	Australian Medical Workforce Advisory Committee
AR-DRG	Australian Refined Diagnosis Related Groups
ASOHNS	Australian Society of Otolaryngology Head and Neck Surgery
<i>cf.</i>	<i>conferre</i> (Latin), 'compared to'
CI	confidence interval
DoHA	Department of Health and Ageing
ENT	ear, nose, and throat
ERP	Estimated resident population
GIS	geographic information system
ICD	International Classification of Diseases
ICD-10-AM	International Classification of Diseases, Australian Modification, Version 10
ICD-10-CA	ICD-10 with Canadian Enhancement
ICD-10-CM	ICD-10 with Clinical Modifications
ICD-10-GM	ICD-10 German Modification
IRSD	Index of Relative Socio-economic Disadvantage
ISAAC	Integrated South Australian Activity Collection
NCCH	National Centre for Classification Health
NHMD	National Hospital Morbidity Database
NSW	New South Wales
OR	odds ratio
SA	South Australia
SEIFA	Socio-Economic Indexes for Areas
SAR	standardised admission ratio
SD	standard deviation
TTI	tympanostomy tube insertion
USA	United States of America
<i>vs.</i>	versus

Abstract

Background

Surgery on the ears, nose, and throat (ENT) is amongst the most frequently performed on children driven by the propensity of children to contract infectious diseases as their immature immune systems develop. Previously epidemiological reports presented incidence of surgical intervention in age-bands, typically in 5-year age groups, which when reporting on paediatric conditions, can obscure the reporting of those children most likely to undergo surgery. Reports also suggested that the geographical distribution of the children who undergo surgery may follow specific patterns reflecting socio-economic status or geographical locale. The purpose of the thesis was to gain a clear and in-depth understanding of the incidence of tonsillectomy, adenoidectomy, and myringotomy within South Australia; to investigate how these incidences compared to other states and territories within Australia, and to identify and understand the factors that underpin and influence these incidences.

Method

In order to address the aims of the thesis, a mixed methods approach was adopted. Three retrospective cross-sectional quantitative studies were conducted to 1) describe the epidemiology of the procedures within the South Australian paediatric population; 2) describe and compare the epidemiology of the procedures across the Australian paediatric population; and 3) to describe and compare the geographical distribution of the surgical incidences across the South Australia. A prospective cross-sectional qualitative study was conducted that utilised semi-structured interviews with parents/caregivers of children undergoing ENT surgical intervention to understand their experiences, perspectives, and expectations.

Results

This thesis has shown that South Australian children have a higher than expected incidence of these ENT surgical procedures as compared to other Australian states and territories. There are definitive disparities across Australia in the frequency and age at which children undergo the procedures, with the state in which a child lives clearly associated with the likelihood of undergoing the surgery. Specifically, within South Australia, the children who most often underwent tonsillectomy, adenoidectomy, and myringotomy with/without tympanostomy tube insertion were very young, more commonly were boys, and with private health insurance. Disruptions to the financial security and wellbeing of the child's household - through school and childcare absences, parental work absences, cost of repeat doctors' visits and medications, and the household's overall quality of life - were identified as key factors influencing the decision of parents and caregivers to proceed with surgery.

Conclusion

Clearly, there are geographical disparities in the ENT surgical incidences in South Australia and these are influenced by the child's age, gender and state in which they lived, with South Australian children undergoing these surgical interventions at a somewhat earlier age than the other states and territories examined in this thesis. These variations are most likely underpinned by difficulties in the affordability of healthcare and the financial pressures linked to lower socioeconomic status. This was further reinforced by the experiences described by parents and caregivers of children undergoing the surgeries; with financial security and disruptions to the family's quality of life being key factors driving surgical intervention. These broader implications of childhood illness should be considered when planning improvements in the access to appropriate health services, and may have important implications for reducing the burden on the Australian healthcare system.

Thesis Declaration

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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Dated: 23 February 2017 _____

Grants and Awards

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Presentations

An exploration of the large variations in the epidemiology of childhood grommet insertion across Australia. Population Health Congress 2012, Adelaide Convention Centre. Wednesday, 12 September 2012. [Snapshot Presentation]

Childhood middle ear infections impact the social and financial health of families. Population Health Congress 2012, Adelaide Convention Centre. Monday, 10 September 2012. [Poster]

Paediatric ear, nose, and throat surgery: who, where, why and when? The University of Adelaide's Faculty of Health Sciences Postgraduate Research Expo. National Wine Centre, Adelaide. Friday, 31 August 2012. [Poster]

Paediatric ear, nose, and throat surgery: who, where and when? Spatial Information Day 2012, Adelaide Convention Centre, Adelaide. Friday, 3 August 2012 [Podium Presentation]

Research Update. School of Paediatrics & Reproductive Health Higher Degree Research Seminar, Women's & Children's Hospital, North Adelaide. Wednesday, 11 July 2012. [Presentation]

An investigation into the variations in the Australian epidemiology of paediatric tympanostomy tube insertion. Australian Society for Medical Research SA Scientific Meeting, Adelaide Convention Centre. Wednesday, 6 June 2012. [Presentation]

Large variations in the epidemiology of paediatric otorhinolaryngological surgery across Australia. Head and Neck Surgery Section, Royal Australasian College of Surgeons Annual Scientific Congress. Kuala Lumpur, Malaysia. Monday, 7 May 2012. [Poster]

Stephens J, Baghurst P, O'Keefe M, Schembri M. Large variations in the epidemiology of paediatric otorhinolaryngological surgery across Australia. HN32P. ANZ J Surg. 2012; 82 (S1): 82. Head and Neck Surgery Section, Royal Australasian College of Surgeons Annual Scientific Congress. Kuala Lumpur, Malaysia. Monday, 7 May 2012 [Conference Proceedings Abstract]

Epidemiology of Paediatric Myringotomy and Tympanostomy Tube Insertion in South Australia: 1997 to 2007. Australian Epidemiological Association (SA Group) Conference – Epidemiology over the lifespan. The University of Adelaide. Friday, 14th August 2009. [Presentation]

Epidemiology of Paediatric Tonsillectomy and Adenoidectomy in South Australia: 1997 to 2007. State Population Health Conference - Public Health Research for the Real World. Education Development Centre, Hindmarsh. Saturday 18th October 2008. [Presentation]

Paediatric otorhinolaryngologic surgery in South Australia: 1997 to 2007. The University of Adelaide's Faculty of Health Sciences Postgraduate Research Expo. National Wine Centre, Adelaide. Tuesday, 22 July 2008. [Poster]

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The most worth-while thing is to try to put happiness into the lives of others.

Robert Baden-Powell

∞

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My family

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