

# Breastfeeding in an urban population

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**Bond University**

## **Thesis title**

**Breastfeeding in an urban population**

Maree Anne Crepinsek

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Master of Science by Research

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Principle supervisor

Assistant Professor Neil Smart

Co-supervisors

Professor Mieke van Driel

Dr Wendy Brodribb

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## Declaration

This thesis is submitted to Bond University, in fulfilment of the requirements for the Degree of Master of Science by Research. This thesis represents my own work and contains no material which has been previously submitted for a degree or diploma at this university or any other institution, except where due acknowledgement is made.

Signed:

Date:

## **Author's contribution to Cochrane Review: 'Interventions for preventing mastitis after childbirth'**

Maree Crepinsek is the primary author as well as the contact author for this Cochrane Systematic Review. The conception, design and co-ordination of both the protocol and review were conducted by Maree Crepinsek. Maree also provided a clinical perspective for the review, as well as writing the review in Review Manager. Dr Neil Smart provided support as a co-author, providing general advice on the writing of both the protocol and review. Maree Crepinsek and Dr Neil Smart independently reviewed all articles found in the search, initially by title and abstract. Full texts of articles selected were then reviewed by Maree Crepinsek and Dr Neil Smart for inclusion into or exclusion from the review. Linda Crowe is the second author who provided a clinical perspective and general advice on the review. Maree Crepinsek and Linda Crowe independently extracted the data from the selected articles for analysis. Keryl Michener provided support as a librarian writing search strategies, carrying out searches and locating papers used as background research evidence.

The authors would like to acknowledge Karen New for her assistance and advice with the editorial review of the protocol and Michael Steele who provided statistical advice.

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support throughout this period in our lives. You have been my rock; I could not have done this without your love.

I would like to dedicate this work to all mothers – past, present, and future – who have the important role of nurturing future generations.

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## Thesis abstract

### Introduction

Despite the many health benefits of breastfeeding, exclusivity and duration rates fall short of the World Health Organisation guidelines. This body of work is an examination of breastfeeding exclusivity and duration in an urban population.

### Aims

This thesis aimed to investigate the breastfeeding initiation rates of women in the Gold Coast region of Queensland, to report on the breastfeeding exclusivity and duration rates of a sample of breastfeeding women from this population, to describe their knowledge of mastitis, and to review published interventions for the prevention of mastitis in breastfeeding women after childbirth.

### Methods

This longitudinal study investigated a population of women who delivered their infants at the Gold Coast hospital in 2008. Firstly, the prevalence of breastfeeding upon hospital discharge in a cohort of postpartum women was observed and reported. From this population, a subgroup cohort was recruited and followed for a period of six months or until they weaned their infant. The subgroup study was designed to provide cross-sectional data about breastfeeding exclusivity and duration within an Australian urban population, as well as to compare breastfeeding women's knowledge of mastitis within the clinical definition. Finally, a Cochrane systematic review examined the published literature on interventions for the prevention of mastitis after childbirth.

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## Results

Findings suggest that breastfeeding exclusivity and duration rates observed are comparable with rates from other national studies including survey data. Prevalence data showed that 87.5% of women discharged from hospital exclusively breastfeeding. The cross-sectional subgroup showed participants exclusively breastfed for a mean of  $95.27 \pm 73.40$  days, while the mean breastfeeding duration was  $125.36 \pm 70.47$  days. The responses to the questionnaires demonstrated that the majority of women have a minimal understanding of mastitis and its treatment. Participants reported that their first option when seeking information on mastitis was their mother or family and friends, followed by their general practitioner. The Cochrane Systematic Review identified the need for better quality trials and interventions that are more vigorous in the prevention of mastitis following childbirth. The trials published to date produced no statistically significant findings or benefits from any interventions designed.

## Conclusions

Ongoing research is required into improving breastfeeding duration rates so that they reach recommended levels. Further research into effective interventions for the prevention of mastitis in the postpartum period is required to reduce the prevalence of mastitis in breastfeeding women.

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## Abbreviations

<b>Acronym</b>	<b>Description</b>
ABA	Australian Breastfeeding Association
ANHS	Australian National Health Survey
BF	Breastfeeding
BFHI	Baby Friendly Hospital Initiative
BSES-SF	Breastfeeding Self Efficacy Scale – Short Form
CDCU	Central Data Collection Unit
EL/CS	Elective Caesarean Section
EM / CS	Emergency Caesarean Section
GCHSD	Gold Coast Health Service District
GCH	Gold Coast Hospital
HSCQ	Health Statistic Centre Queensland
NHMRC	National Health & Medical Research Council
PDCS, QLD	Perinatal Data Collection Centre Queensland
QLD	Queensland
SIDS	Sudden Infant Death Syndrome
SPSS	Statistical Package for the Social Sciences
UNICEF	United Nations Children’s Fund
VD	Vaginal Delivery
WHO	World Health Organisation

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## Publications

**Crepinsek M**, Crowe L, Michener K, Smart N. Interventions for preventing mastitis after childbirth, (Protocol). *Cochrane Database of Systematic Reviews* 2008, Issue 3. Art. No.: CD007239. DOI: 10.1002/14651858.CD007239.

## Presentations

**Crepinsek M**, Crowe L, Michener K, Smart N (2008). Interventions for preventing mastitis after childbirth, Cochrane systematic review (Protocol) published May 2008. PHCRED. GP & PHC Research, Conference 'Driving Change' Melbourne, Wednesday 15th – Friday 17th July 2009

**Crepinsek M**, Crowe L, Michener K, Smart N (2008). Interventions for preventing mastitis after childbirth, Cochrane Systematic Review (Protocol) published May 2008. Health in transition, research for the future, the 4<sup>th</sup> international conference on community health nursing research August 2009 Adelaide South Australia.

**Crepinsek M**, Crowe L, Michener K, Smart N (2008). Interventions for preventing mastitis after childbirth, Cochrane Systematic review (Protocol) published May 2008. PHCRED, research fellows meeting November 2008 Brisbane QLD Australia.

**Crepinsek M**, Smart N, Brodribb W, Van Driel M. The effect of mastitis on breastfeeding exclusivity and duration. Research Design & Statistics Research Proposal Seminar, Bond University Gold Coast, Australia. 2008.

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## Posters

**Crepinsek M**, Smart N, Brodribb W. Self-management versus Usual Care of Mastitis Following Childbirth: A Randomised Control Trial. Hobart, GP PHCRED Conference (2008).

**Crepinsek M**, Crowe L, Michener K, Smart N, (2008). Interventions for preventing mastitis after childbirth, Cochrane Systematic Review (Protocol) published May 2008. Hobart GP PHCRED Conference.

**Crepinsek M**, Smart N, Brodribb W. Self-management versus Usual Care of Mastitis Following Childbirth: A Randomised Control Trial. ACNN 3rd Annual Neonatal Conference Gold Coast April 2008.

**Crepinsek M**, Crowe L, Michener K, Smart N, (2008). Interventions for preventing mastitis after childbirth, Cochrane Systematic Review (Protocol) ACNN 3rd Annual Neonatal Conference April 2008 Gold Coast.

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## Thesis inspiration

As a clinical midwife and lactation consultant in hospitals and private practice, sharing many women's breastfeeding experiences and challenges has provided me with knowledge and an interest in breastfeeding and complications of lactation. This experience has led me to pursue breastfeeding research.

While at the University of Southern Queensland (USQ), the experience I gained as a researcher provided insight into investigating women's experiences and complications of lactation. The research I conducted at USQ consisted of two studies. The first involved setting up a telephone support service for women in the postpartum period. This service provided women with weekly telephone support and consultation with an experienced lactation consultant during the first month postpartum. Part of the support service also involved triaging women to health services for support when required. Most referrals were for breastfeeding related complications. The second study involved interviewing women who had experienced extraordinary breastfeeding complications but had continued to breastfeed.

As a result of conducting these studies, and through experience and observations as a lactation consultant in private practice, it became apparent that mastitis was a common breastfeeding problem. Women would often only seek help with this debilitating disease in the later stages, instead of earlier when the outcomes and recovery could have been more favourable. These observations led me to investigate the prevalence of mastitis, along with what can be done to reduce its incidence and improve the duration and exclusivity of breastfeeding.

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## Thesis overview

This thesis consists of four parts. Chapters 1, 3, 4 and 5 outline the four main elements including the literature review and three studies. Chapter 2 outlines the research design and methodology.

Following the review of relevant literature, Chapter 1 provides an overview of conditions that affect breastfeeding initiation, exclusivity, and duration trends on a global, national, and state level. This chapter then discusses complications of lactation, mastitis in particular, and concludes with the aims of the study.

Chapter 2 gives an overview of the methodology of each of the three studies in this thesis. A comprehensive outline of the methodology used for each study is detailed in the relevant chapter.

Chapter 3 covers '*Prevalence of breastfeeding at the Gold Coast Hospital*'. This study collated breastfeeding and limited demographic information from women who birthed at the Gold Coast Hospital between January 2008 and April 2008. The data collected were used to compare maternal age, parity, mode of feeding and the type of delivery against national and international breastfeeding rates. Data on breastfeeding exclusivity, duration and knowledge of mastitis were not available for the women in this study, which led to Study 2 (covered in Chapter 4).

Chapter 4 details '*Breastfeeding duration, exclusivity, and knowledge of mastitis in an urban population*'. Firstly, this provides cross-sectional data about breastfeeding exclusivity and duration rates within an Australian urban population and, secondly, it

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compares the women's breastfeeding knowledge of mastitis with the clinical definition. Thirdly, Chapter 4 benchmarks the Gold Coast breastfeeding data with both global and national statistics. During this study the participants were asked three exploratory questions about their knowledge of mastitis, and findings from the review of these questions has led to the third study in this thesis

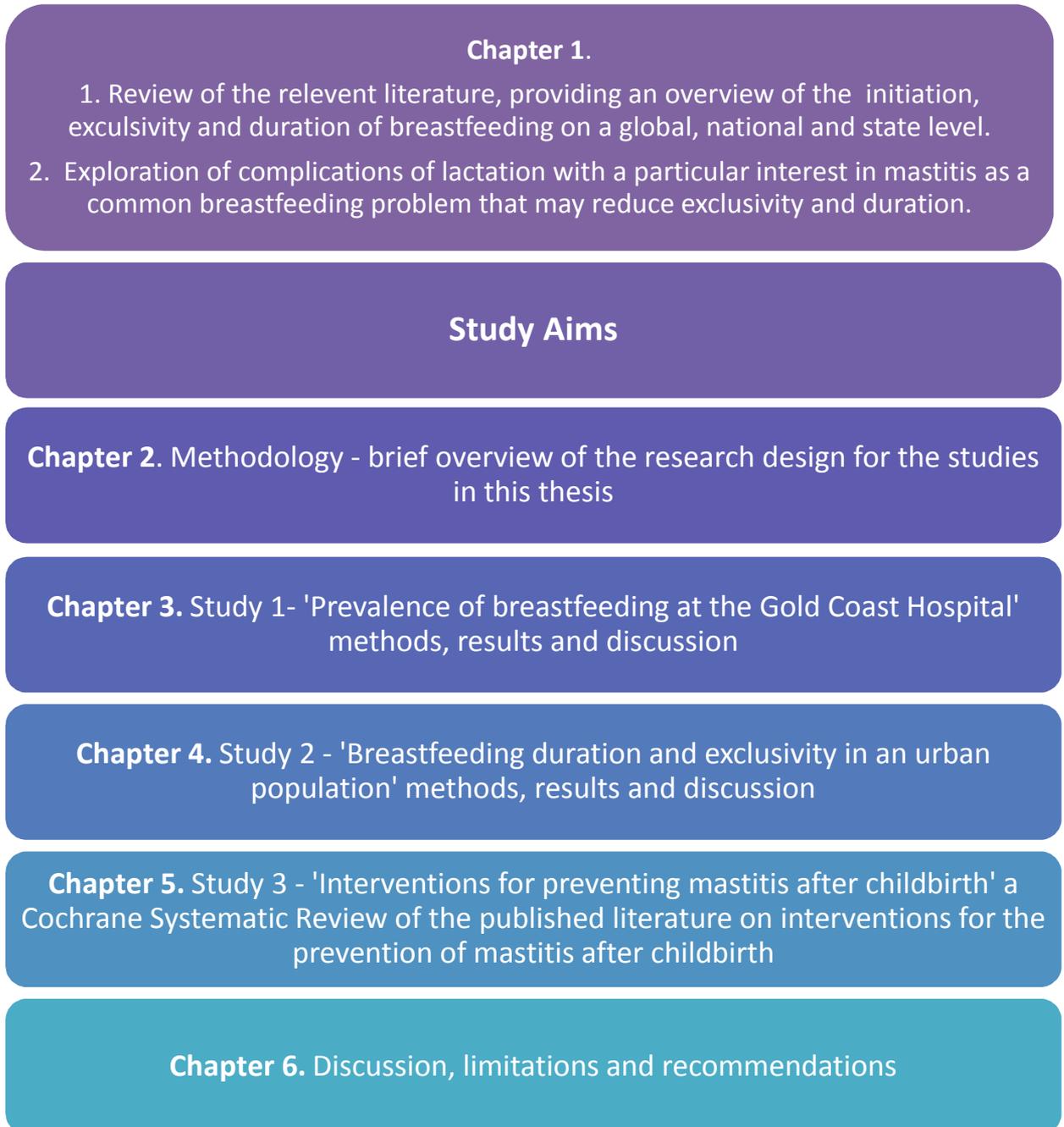
Chapter 5 is a Cochrane Systematic Review of the published literature on the prevention of mastitis following childbirth up until November 2010 titled '*Interventions for preventing mastitis after childbirth*'.

Finally, the results and limitations of these studies are discussed, as well as recommendations. An outline of this thesis has been summarised in Figure 1.

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**Thesis outline briefly describing each chapter**



**Figure 1: Outline of thesis chapters**