

**The Prevalence of Compassion Satisfaction and Compassion Fatigue Among Midwives in one
Australian Health Service: A Descriptive Cross-sectional Study.**

By

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Abstract

Introduction: This study was undertaken to investigate the prevalence of compassion satisfaction (CS) and/ or compassion fatigue (CF) among midwives. While there is limited research into CS and CF in midwives, these have been demonstrated as key aspects that affect professional quality of life (ProQOL) in a range of caring professions.

Methods: A quantitative descriptive cross-sectional online survey was used as the approach to the research. Demographic questions and the ProQOL v5 questionnaire were used as methods of data collection. Survey Monkey software was used to gather the responses. Midwives from a large Melbourne based metropolitan health service were recruited for this survey from three maternity settings, which were geographically dispersed. Descriptive and inferential statistics were performed using SPSS version 20 to analyse the data.

Results: The survey had a 32% response rate, and data from 152 midwives were analysed. The Midwives were from hospital A (42.1%), B (30.9%), C (21.7%), and 5.3% worked across the three campus; all were female with mean age of 39.16 (SD 11.97). Overall findings on the levels of CS and CF were; 25% of midwives had high levels of CS and 75% had average to high levels of STS and BO. Midwives who experienced average to low levels of STS were at risk of similar levels of BO. Midwives with STS still had high CS meanwhile midwives with BO had average to low CS. The key statistically significant findings were high levels of compassion satisfaction [$n = 42$, $t(150) = 2.43$, $p = 0.016$] in midwives who were employed full time, and high levels of secondary traumatic stress [$n = 110$, $t(150) = -2.49$, $p = 0.014$] in the midwives who were employed part time. In

this study the Cronbach's alpha coefficient for ProQOL v5 subscales was Compassion satisfaction (CS) $\alpha=0.884$, Burnout (BO) $\alpha=0.815$ and Secondary Traumatic Stress (STS) $\alpha= 0.81$.

Conclusion: CS and CF (STS) in this study were linked to being either a full time or part time employee respectively. There is a need for similar research to be done to further explore the prevalence of these concepts in midwifery. The findings have implications for midwives and managers in being aware of the factors that are possibly linked to CS and CF in the professional midwifery workforce.

Keywords: Burnout, compassion fatigue, compassion satisfaction, midwife, midwifery, professional quality of life and secondary traumatic stress.

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Declaration

This thesis does not contain any material which has been accepted for award of any other degree or diploma in any university and that, to the best of the candidate's knowledge and belief, the thesis contains no material previously published or written by another person except when due reference is made in the text of the thesis.

Signed: 

Date: 30/03/2016

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Abbreviations

ANOVA	Analysis of variance
AUM	Assistant Unit Manager
BO	Burnout
CMS	Clinical Midwifery Specialist
CS	Compassion Satisfaction
IBM SPSS	International Business Machine Statistical Package for the Social Science
MUM	Maternity Unit Manager
ProQOL	Professional Quality Of Life
ProQOL v5	Professional Quality Of Life version 5
RM	Registered Midwives
STS	Secondary Traumatic Stress
T-test	Independent sample t-test
UNFPA	United Nations Population Fund
ZCS	Z scores for Compassion Satisfaction scale
ZBO	Z scores for Burnout scale
ZST	Z scores for Secondary Trauma scale

Definition of PROQOL Terms

Compassion Satisfaction: Is the positive aspect of ProQOL defined as a pleasure derived from being able to do your work well.

Compassion Fatigue: Is negative aspect of ProQOL that incorporates burnout and secondary traumatic stress.

Burnout: Is a negative feeling driven by exhaustion, frustration, anger and depression.

Secondary Traumatic Stress: Is a negative feeling driven by fear and work related trauma.

Definition of ProQOL Values

High	High scores of the ProQOL v5 subscale are 57 for CS, 56 for BO and 56 for STS.
Average	Average scores of the ProQOL v5 subscale is 50 for all subscales
Average-low	Average-low scores of the ProQOL v5 subscale are below the mean score of 50 and above the low score of 44 (CS), 43 (BO) and 42 (STS).
Average-high	Average-high scores of ProQOL v5 subscales are above mean score of 50 but below the high score of 57 (CS), 56 (BO) and 56 (STS).
Low	Low scores of the ProQOL v5 subscale which is 44 for CS, 43 for BO and 42 for STS)
At risk CS	Compassion satisfaction of low levels.
At risk BO	Burnout of average and high levels
At risk STS	Secondary traumatic stress of average and high levels

Abbreviations

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AUM	Assistant Unit Manager
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ZST	Z scores for Secondary Trauma scale

Chapter One: Introduction

This study is exploring midwives professional quality of life. The professional quality of life concept is adopted from Stamm (2010). The author has addressed the professional quality of life lived by helping professionals. Midwives are the core caregivers in the aspect of improving maternal and child health. Midwives as healthcare professionals primarily meet physical and emotional needs of their clients (Mathieu, 2012). Midwifery tasks can either be rewarding or stressing or both, however job satisfaction is important in obtaining work-life balance (Kalliath & Brough, 2008). The nature of roles that are being played by midwives are more likely to subject them to emotional or physical fatigue. These roles that are assumed by midwives in observing the beginning and the end of life build empathetic, hopeful and compassionate connections with their clients (Mathieu, 2012).

Midwives directly or indirectly may come into contact with traumatized clients or may hear stories about traumatized clients. This leads midwives to be exposed to traumatizing events in either a primary or secondary encounters. Thus, midwives can be prone to compassion fatigue (CF), secondary traumatic stress (STS) and/or burnout (BO) (Beck, Driscoll, & Watson, 2013; Mathieu, 2012). Most studies (Li, Early, Mahrer, Klaristenfeld, & Gold, 2014; Austin, Goble, Leier, & Byrne, 2009; Goldbort, Knepp, Mueller, & Pyron, 2011; Rickard, et al., 2012) have explored the nursing profession's job satisfaction, CF, BO and STS and there is a paucity of research about these concepts in the midwifery profession. The studies previously conducted in midwifery have either explored one concept at a time (Rouleau, Fournier, Philibert, Mbengue, & Dumont, 2012; Hildingsson, Westlund, & Wiklund, 2013; Jordan, Fenwick, Slavin, Sidebotham, & Gamble, 2013; Yoshida, & Sandall, 2013) or combined several concepts in a single study (Mizuno, Kinefuchi, Kimura, & Tsuda, 2013; Walpole, 2011; Mollart, Skinner,

Newing, & Foureur, 2013; Oncel, Ozer, & Efe, 2007). Therefore, this study, which utilises the Professional Quality Of Life version V (ProQOL v5) tool by Stamm (2010), investigates CS and CF.

According to Stamm (2010), job satisfaction has been referred to as CS, whereas CF has encapsulated BO and STS. With limited knowledge of CS and CF aspects of caring on personal and professional lives of midwives, this study will explore prevalence of either CS and/or CF among midwives who work in Australian metropolitan health service. The chosen health service is based in the capital city of Victoria, Melbourne. It is an institution with three hospitals which are geographically dispersed throughout the south eastern suburbs of Melbourne.

There are several global efforts that are aimed at improving maternal and child health (UNFPA, 2011). Several factors have been associated with global poor maternal outcomes with investments in maternal and newborn health have been undertaken (UNFPA, 2011). Global initiatives focus on reducing delays in seeking help, in reaching a healthcare facility and receiving appropriate care upon arrival and strategies to improve maternal and newborn health such as increase access to family planning; increase access to quality care for pregnancy and childbirth and increase access to safe abortion services have been prioritised (UNFPA, 2011). However, delivery of appropriate care is affiliated with the care giver's empathy, and the latter is the outcome of professional quality of life (ProQOL) lived by midwives as healthcare providers. Improved services, well equipped facilities with sophisticated instruments for delivery of appropriate care without midwives whose professional quality of life (ProQOL) is satisfactory, will not enhance these efforts.

In Australian midwifery practice, the major concern is promoting normal birth primarily through midwifery led continuity of models of care (Dove and Muir-Cochrane, 2014). The midwife acts like a catalyst in fulfilling the midwife-led model of practice (Browne & Taylor,

2014). However, midwifery practice needs to assess the medical-legal aspects of women's preference of care. Therefore, midwifery continuity of care has been a challenging practice since midwives often need to play the role of "risk-negotiator" between midwifery and medical practice (Dove & Muir-Cochrane, 2014). It is likely that if midwives experience less autonomy and they feel more powerless as they do not have autonomy in their scope of practice, this can affect their experience of professional quality of life (CS and CF). Also when the midwifery role identity is questionable, it could also contribute to development of a negative aspect of professional quality of life such as CF (BO and STS).

Introduction to the Research Study

Professional quality of life (ProQOL) is defined as "quality of life one feels in relation to work as a helper" (Stamm, 2010, p. 8). ProQOL has positive and negative aspects. These aspects are influenced by an ability to help people (positive) and exposure to traumatic stressors while helping (negative). Stamm (2010) elaborates the negative aspects to being "burnout, counter-transference, secondary traumatic stress, compassion fatigue and vicarious trauma" (p. 8) and the positive feelings related to capability to help as CS. Hence, for midwives' professional credibility to be enhanced quality personal, client and work life need to be acknowledged and promoted for compassionate care to be delivered to their clients.

This study aims at answering the research question. The research is "As measured by the professional quality of life scale, what is the prevalence of CF and CS in midwives at a Melbourne based Metropolitan health service?"

The Background

The current obstetric-led hospital care might challenge midwives professional quality of life. In 2012, Australia-wide 96.9% of women gave birth at the hospital and the proportion in the state of Victoria was 98% (Hilder, Zhichao, Parker., Jahan, & Chambers, 2014). These data depicts the majority of women gave birth in hospital with hospital based midwives providing some or all of the care. The act of caring for women in labour involves evaluating the risks factor and selecting appropriate management for safety of both the mother and baby. Moreover, midwives need to manage their patient in accordance to competence standards (Homer et al., 2007) and scope of their practice.

Maternity care in Australia is said to be one of the best in the world (Australian Government, 2009) so midwives in Australia are expected by their clients to provide woman-centred safe and sustainable care as well as to promote collaborative relationships with other health professionals when required (Homer et al., 2009). However, several barriers have been identified that hinder midwives reaching the expected potential of their complete midwifery roles. The barriers include midwifery workforce shortages, complex institutional systems (Dove & Muir-Cochrane, 2014) and an unclear social midwifery image (Homer et al., 2009). These barriers are arguably likely to expose midwives to negative aspects of professional quality of life.

Therefore, the prevalence of CS and CF in a small population of midwives is explored. The exploration relies on the ProQOL v5 as a measure of the midwives' low, medium or high scores of both CS and CF.

The Context of the Research

The study reported in this thesis was conducted at a major Melbourne health service with three hospitals that offer maternity services. Two of the maternity services are secondary services that are able to accept women from low risk to moderate complexity, with one of these also offering home birth services. Both of these maternity services have level two nurseries that can accept babies above 34 weeks gestation. The third hospital is a one of three tertiary maternity hospitals in Melbourne that accepts women with very complex health issues. As well as a special care nursery, this hospital offers a neonatal intensive care unit for babies born above 24 weeks gestation or with complex health issues (Victorian Government, 2010). By investigating prevalence of CS and/ or CF, the results are expected to help to discover the aspects, which may help or hinder compassionate care. Midwives are the key stakeholders caring for women at vulnerable times and arguably, ensuring the midwives' professional quality of life is at equilibrium will enhance their capacity to deliver compassionate care.

The Theoretical Framework of the Research

In using the ProQOL v5 as the theoretical framework of this study, several factors that are associated with professional quality of life have been integrated. Dependent factors are CS, CF, STS and BO. In addition, in this study the demographic independent variables such as age, gender, education level, marital status and years of professional experience will be looked at so as to depict their association with professional quality of life lived by midwives.

Overview of the Research (Definitions, Design and Methods)

This study has considered the definition of CS as pleasure derived from helping others and the extent of support received from colleagues (El-bar, Levy, Wald, & Biderman, 2013). Several factors are presumed to increase compassionate care if midwives are satisfied with their personal, work and their client environment. Moreover, CF is defined as a negative aspect of work that develops over time from thoughtful emotional and physical exhaustion experienced by the helper (Stamm, 2010). Exposure to a single traumatic event in health professionals and care givers is sufficient for development of helper's fatigue.

STS is a subscale of CF and in this study is defined as a negative feeling driven by fear including work related trauma (Hegney et al., 2014; Stamm, 2010) potentially resulting from being involved with clients who had or are enduring trauma (Leinweber & Rowe, 2010). Stamm (2010) acknowledged the consequences of STS to lead to helper's sleep deprivation, involuntary images and averting reminders of traumatized client incidences. Avoidance of reminders of traumatizing events hampers critical reflective practice (Raynor, Marshall, & Sullivan, 2005), which is deemed to improve midwifery decision making and clinical practice. Therefore, response to excessive and prolonged work related stress leads to BO. With appropriate coping skills such as reflecting on the traumatic events and support from colleagues are employed, the chances of STS are reduced.

BO is also as a subscale of CF and is defined as a result of negative consequences of caring (Stamm, 2010). El-bar et al. (2013) acknowledged BO to being associated with psychological and physical exhaustion an outcome of exposure to incidents that are emotionally demanding. Thus, BO can affect midwives who are subjected to dissatisfying and demanding working environment.

Therefore, a quantitative descriptive cross-sectional survey was designed. Specifically, information was designed to be gained through the use of demographic and ProQOL v5 questionnaires in relation to the lived professional quality of life among midwives (in the previous 30 days). This methodology aimed at meeting the research objectives of firstly, describing the extent to which midwives working in a Melbourne based health service report experiencing CS and/or CF. Secondly, by describing correlations of significance between demographic variables and the state of CS. Thirdly by describing correlations of significance between demographic variables and the state of CF. Lastly by describing any differences between demographics and CS and CF.

Outline of Anticipated Outcomes and Their Significance

In summary, the adapted definitions of CS and CF (BO and STS) and the association with midwifery roles provides linkage to the next chapter. This chapter discusses several studies investigating these concepts in nurses and midwives. The contributing factors that are related to our theoretical framework will be explained. The explanations given will depict the associations between independent and dependent factors. The later aims at providing a clear picture that the theoretical framework portrays on the concepts of CS and CF. Also, the identified levels of CS and CF in population of midwives in this Victorian health service will be described and reported. The reported findings will be discussed in relation to other global and local studies undertaken in the professional quality of life concepts which are either congruent or in contrast to this study's findings. The latter is aimed at raising awareness of midwives' professional quality of life.

The Structure of the Thesis

The thesis is presented in six chapters. In this chapter the study has been introduced. In Chapter Two the findings of the literature review are presented. The review includes an analysis of literature directly related to the concepts of CS and CF (BO and STS). Studies that have used either similar keywords or different keywords to this study that have aims congruent to this study's aim are also discussed.

In Chapter Three theoretical framework and the study design that was employed to achieve the research aim and objectives are identified. The data collection analysis plans are discussed and ethical considerations undertaken to conduct this study are addressed. The process of research governance and ethical review for the study is also outlined.

In Chapter Four, the results of the study are presented. The statistical tests of significance are highlighted. Chapter Five is commenced with a discussion of the findings of the research and study limitations are thereafter described. Chapter Six is the final chapter, implications to research and practice are outlined and recommendations for future similar studies, policy and practice are made. The chapter is concluded with summative statements relating to the main outcomes achieved by the study.

Chapter Two: Literature Review

In this chapter a discussion of the literature related to the study interest is presented. Initially the search strategy that was undertaken is described, and then the results are discussed. After the initial search CS and CF for midwives found very few articles, the search was widened to include nurses working in maternity unit settings and gynaecologic/obstetric nurses. The process and results of critiquing the potential included papers are also described. The findings from the included literature are presented using the headings: 'job satisfaction', 'burnout', 'stress and burnout', 'secondary traumatic stress', and 'professional quality of life'.

The literature search was carried out to gather available evidence on this study's aim. The core concepts of CS and CF (BO and STS) are the integral part of the search strategies employed. Keyword derived from the study's aim will be used to search the database for relevant papers.

The literature review to support this research on the 'Prevalence of CS or/and CF among Midwives in a Melbourne based health service, Victoria, Australia' needed to be undertaken. To inform this research title, keywords for literature search of relevant published articles on the topics and a Population Intervention Comparison Outcome and Time (PICOT) strategy was formulated as shown in the table below.

Table 2.1: The Original PICOT Developed for this Study

Population	Intervention	Outcome
Midwives	Compassion satisfaction and/or Compassion fatigue	Prevalence

The acronym PICOT was originally matched to this study's research question. There was no comparison (C) since the study design is descriptive also timeframes (T) for the Intervention (I) were not applicable to this cross-sectional study. This literature review has aimed at answering the research question, which investigates the incidence CF and CS concepts in the professional quality of life of midwives.

Literature sources that have been used in this review are either primary or secondary studies that were obtained from several databases. These databases (CINAHL, Scopus, ProQuest, Maternal and Infant Care and Ovid Medline) were searched, through the Monash University library portal, for articles that addressed 'CS' and/ 'CF' among midwives in Australia. This search was limited by subject and geographical location and yielded only three articles (Hegney et al., 2014; Leinweber & Rowe, 2010; Walpole, 2011). Hence, the search was broadened to include Medical Subjects Heading (MeSH) such as "job/work satisfaction" for CS and "burnout/secondary traumatic stress and stress" for CF. The search geographical location was also broadened to include studies from around the world and study's year limit was set from 2006-2015. Additionally, appropriate suggested MeSH, truncation symbols and Boolean operators were used to narrow and broaden the search whenever necessary (Appendix 1); the articles obtained were written in English language and from peer reviewed journals. Appendix 2 presents an outline of summary of the searched, databases and the retrieved articles.

Research Critique Procedures

The identified relevant papers were critically appraised. The appraisal consisted of three key aspects that were aimed at 1) identifying paper's relevance in regard to this study's research question, 2) identifying the credibility of the sources (authors and journal) and 3) appraising the scientific reasonableness of the reported studies. Data was only extracted after satisfying these appraisal conditions. The critical procedure involved reviewing the papers: authors' credibility, journal impact factors, context of their studies, data collection and analysis methods as well as the findings. The Critical Appraisal Skills Programme (CASP) tools were used guide the scientific critique procedures through identifying validity and reasonableness of each study. Data were then extracted from the included papers in relation to important results and those that were are applicable to this particular study's question.

Methods: Selecting Papers for Exclusion and Inclusion

The search had yielded 323 research papers (Figure 1) however, only 14 were relevant and have been included in the literature review after the critique (Appendix 3). Critical appraisal has been undertaken in respect of studies that address this study's interest in CS, CF (BO, STS) in the professional quality of life umbrella.

Due to the limited number of papers retrieved in the original search, appropriate papers researching the prevalence of CS and CF from other countries were retained to show a wider picture from different geographical locations. Moreover, there was no restriction to study context of the included papers, all relevant papers from different/similar/same settings to the Australian health care setting have been appraised.

Methods: Appraising the Quality of Papers

Published critical appraisal tools were used in the research papers quality appraisal. The Critical Appraisal Skills Programme (CASP) checklists (CASP, 2014) for qualitative research and literature reviews; also, a similar tool to CASP named 11 questions to assess the scientific quality of descriptive/ cross-sectional studies developed by Guyatt, Sackett, and Cook (1993) was used for descriptive/cross-sectional research quality appraisal.

In this quality appraisal; authors and journals credibility, summary of the research findings and the relevant data to CS and/or CF were also appraised and relevant information was extracted. Authors and journal credibility was inclusive of the author's H index, key affiliation, subject area, and the document the author had published and number of articles that cited his/her work. The journal impact factor including the rank was stated as well as the publication year of the paper. Furthermore, a summary description of research design, question, data collection and analysis was developed. Research findings in particular to relevant themes and the conclusions made from the study is presented. Each paper was assigned a CASP tool score out of ten, it was also ranked as good quality and fairly good quality depending on its rate included and missed information. The lowest quality appraisal score of the papers included was seven out of ten. In addition, the research paper topic relevance to our research question was described as highly relevant, relevant and just relevant. Finally, the presented extracted data in the tables (Appendix 3) was dependent on the relevant information that was thought to be congruent with this study's concepts of CS and CF. Overall comment on the published study's implications to either practice or future research was stated.

Methods: Grouping Results and Extracting Data

Research studies that addressed similar findings with regard to CS and CF, the detailed study information are explained as a group under the same heading. The groups heading have been written in a way that portrays the section's core message and its significant contribution to topic's knowledge. Emergent themes have also been clarified by building arguments that either support or are in contrary to the themes/results of the respective studies.

Overall Results and PRISMA Flow Chart

In this section of the chapter the overall results of the literature search and through to the included papers are described using a Preferred Reporting items for systematic Reviews and Meta-Analysis (PRISMA) style flow chart and the themed results as they were classified from this research are then identified. In Figure1 the results of the search and critical appraisal are depicted using a PRISMA style flow chart (Moher, Liberati, Tetzlaff & Altman, 2009).

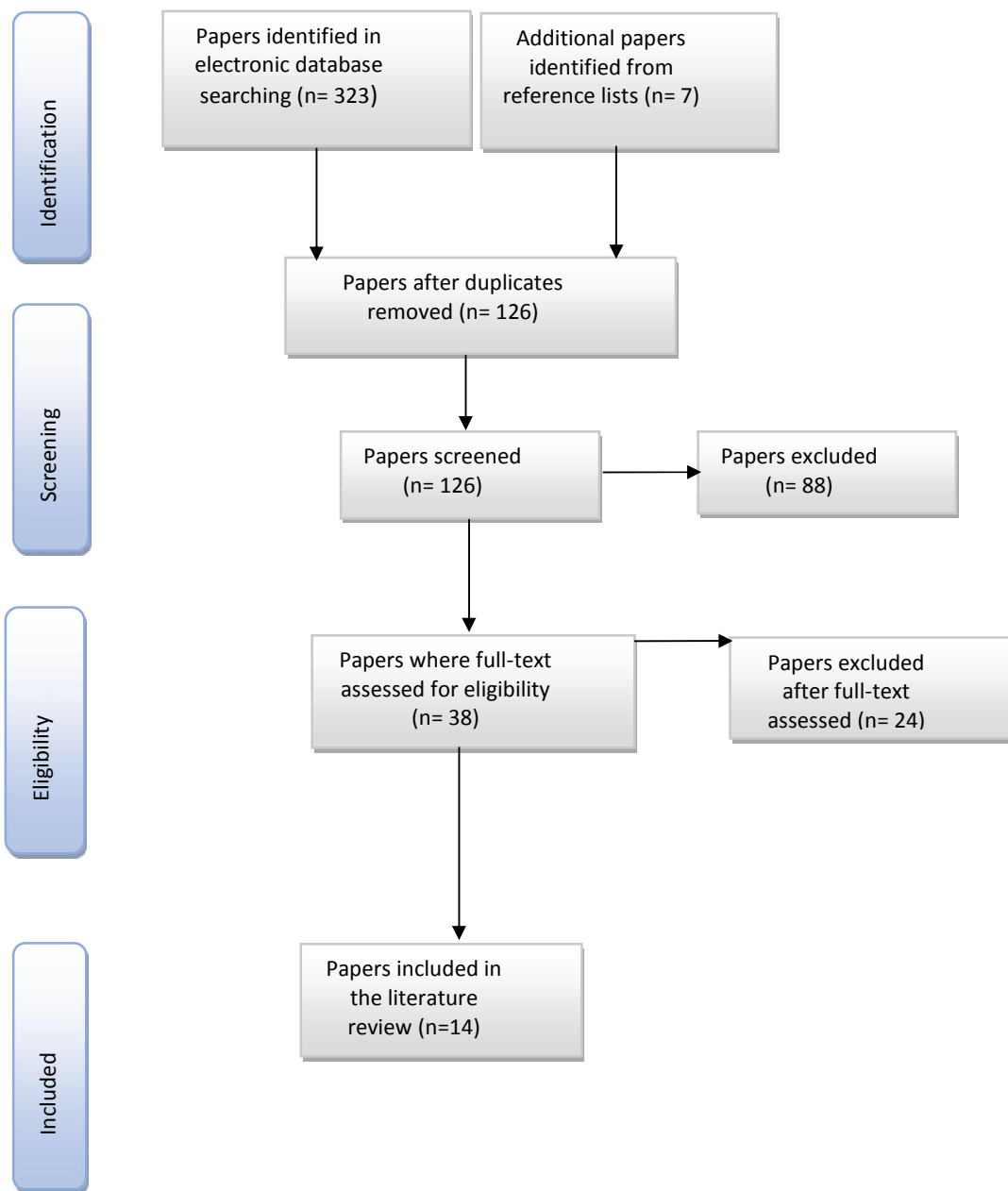


Figure 1: PRISMA Style Flow Chart for Retrieved, Excluded and Included Papers

The 14 included papers were classified according to the data they contained. There were three studies (Austin, Goble, Leier, & Byrne, 2009; Hegney et al., 2014; Mizuno, Kinefuchi, Kimura, & Tsuda, 2013) that explored attributes of professional quality of life in nursing and midwifery caring professions. Professional Quality of Life described in these studies comprised of CS and CF; with similar concepts those investigated in this study in regard to Stamm (2010). Most of other studies have measured CS and CF concepts with different tools; despite the different terminologies that described CS and CF the studies have a significant contribution to this literature. These studies have referred to CS as job satisfaction and CF as stress, anxiety, depression and BO.

In this literature, only three studies (Hegney et al., 2014; Mizuno et al., 2013; Walpole, 2011) with related concepts to CS and CF whose study population were either midwives or nurses who work in maternity units were retrieved from the databases. This highlights the paucity of studies in midwifery in investigating the professional quality of life, regardless the fact that it is clear that midwives' experiences towards caring for patients' can both or either be rewarding or traumatising. Therefore, studies that described separately concepts of BO, stress, STS and job satisfaction and their impact to exposed midwives/nurses have been discussed and the mentioned concepts are the discussion headings. Also traumatic scenarios that might directly or indirectly impact the occurrence of CS or CF concepts have been highlighted. Five groups of findings from the review are identified and discussed, these are: job satisfaction, BO, stress and BO, secondary traumatic stress, and professional quality of life.

Job Satisfaction

The articles reviewed which address the issue of job satisfaction focus on factors such as working environment, type of management, morale, remuneration, job security and continuing education (Li, Early, Mahrer, Klaristenfeld, & Gold, 2014; Oncel, Ozer, & Efe, 2007; Rouleau, Fournier, Philibert, Mbengue, & Dumont, 2012). However, very few of them address job satisfaction in relation to midwives specifically.

Rouleau et al. (2012) explored Senegalese midwives on the issue of job satisfaction and its impacts on BO, intention to quit and the rate of turnover. The authors studied a cohort of 226 Senegalese midwives; 58.9% intended to leave their job as they were unsatisfied with some aspects of their job. However, in contrast, only 18% quit their job in the two years of the study. Retention of midwives who intended to leave, is thought to be positively influenced by satisfaction derived from job security and morale; while being least satisfied is associated with negative features in remuneration and in the working environment. In this particular aspect of the latter statement the Senegalese midwives portrayed a significant level of CS in regard to the caring nature of their job despite some unsatisfactory conditions. However, further research needs to be done to investigate the reasons for the decisions to stay; whether the employment conditions improved or there was no place to go. The latter leads to the necessity of exploring BO as midwives still work in the unfavourable remuneration and environment.

In the Australian context, there are limited reports about midwives' job satisfaction. One study has addressed this issue for both nurses and midwives (Rodwell & Munro, 2013). The authors argued that support from supervisors in the daily demands of clinical staff in one public hospital maternity settings positively increased midwives and nurses job satisfaction. Rodwell and

Munro (2013) reported that very low and very high job demands in a cohort of Australian midwives and nurses negatively influenced their job satisfaction. However, in such situations support from supervisors increased job satisfaction to both high job demand and low job control. Both studies (Rodwell & Munro, 2013; Rouleau et al., 2012) suggest that job dissatisfaction is a risk to developing BO, stress and anxiety, which explain CF; there is a need to investigate if CF and job satisfaction can co-exist in a midwives' cohort only.

On the other hand, clinical environments incorporate different aspects of work-life such as clearly stated midwives' duties that are recognized by law (Oncel et al., 2007). Also, the authors stated that Turkish midwives derive their satisfaction from being able to work more independently such as in client's home visitations. Moreover, Oncel et al. (2007) reported that positive midwifery view from clients and other health professionals increases midwives' job satisfaction and reduces stress and BO levels. Turkish midwives found a supportive working environment facilitates smooth operations at the maternity including good inter or intra-professional communication had a role in job satisfaction.

Therefore, there is a need to find out what happens to midwives in Australia with regard to working environment, client environment and personal environment. The three environments have been succinctly acknowledged in the survey tool (ProQOLv5) that will be used by this study. ProQOLv5 tool "theoretical path analysis" (Stamm, 2010, p. 10) illustrates on the association of the mentioned environments with CS.

Burnout (BO)

Experience of BO has extensively been associated with caring professionals lost hope and inability to deal with their job demands (Stamm, 2010). Several studies have reported that job

demands such as shortage of midwives, type of shift and time pressure at work add to BO that is being experienced by midwives (Bakker, Groenewegen, Meijer, Sixma, & de Veer, 1996; Hildingsson, Westlund, & Wiklund, 2013; Yoshida & Sandall, 2013). The BO phenomenon has been explored by a number of cross sectional studies using Copenhagen Burnout Inventory (CBI) tool (Hildingsson et al., 2013; Jordan, Fenwick, Slavin, Sidebotham, & Gamble, 2013) done to midwives in Sweden and Australia respectively. The authors reported that the BO concept in addition to job demands in the studied population were associated with inadequate resources and high demand of clinical activities. Using a different tool, the Maslach Burnout Inventory (MBI), Yoshida and Sandall (2013) and Oncel et al. (2007) studied midwives in maternity units in England and Turkey respectively. Both studies affirmed that unsupportive working environment factors increased BO including lack of autonomy (Yoshida & Sandall, 2013) and less than ten years of experience (Oncel et al., 2007). Therefore, midwives personal responses and ability to adjust to job demands is influenced by recognized life demands such as autonomy.

Furthermore, the CBI survey tool (with three subscales namely personal, work related and client related) was used to investigate Swedish midwives' (Hildingsson et al., 2013). In this study 475 midwives participated in the survey; 38.3% of midwives had high personal BO, 15% of midwives had work and client related BO. Work related BO had a strong positive association with the age of below 40years and less than 10 years of work experience. Similar findings were related to personal BO in the Australian study performed by Jordan et al. (2013). However, client related BO was high to midwives who work in a casual basis (Hildingsson et al., 2013) whilst in Jordan et al. (2013) study client BO was low and had a positive association with age of more than 35 years and lowest paid midwives.

Despite the fact that these studies have been done in different geographical locations, the use of either MBI or CBI, led to similar findings. It is evident that BO has affected midwives roles and their work-life balance with resignation considered by some midwives. However, stress has not been clearly thought of as midwives in these studies seem to have been evaluating themselves negatively. The latter has been assured by the findings correlation with younger age, low professional level, few years of experience and casual employment. Midwives might have been through internal conflicts such as chaotic feelings, which are hard to be forgotten (Goldbort, Knepp, Mueller, & Pyron, 2011) hence stress whilst adjusting to these; midwives personal and professional wellbeing needs to be investigated.

Stress and Burnout

Typically midwives' work-life is associated with BO and stress; shift work, workload and years of experience. Several studies have reported on BO and stress; these studies have explored existence of BO in conjunction with stress in, United Kingdom (Sheen, Spiby, & Slade, 2015), Turkey (Oncel et al., 2007) and Australia (Mollart, Skinner, Newing, & Foureur, 2013; Walpole, 2011).

A study conducted in the United Kingdom investigating midwives' exposure to traumatic perinatal experiences (Sheen et al., 2015) reported that those midwives who had high BO level in the aspects of MBI's emotional exhaustion (EE) and depersonalization (DP) had symptoms of post-traumatic stress [measured by Impact of Event Scale-Revised (IES-R)]. The authors reported that perinatal midwives high empathy levels and their personal trauma history contributed to symptoms of post-traumatic stress disorder (PTSD). PTSD is explained as an

experience of overwhelming stress with incident of distinguished threat involving personal or client's life (Krippner, Pitchford, & Davies, 2012).

Health Workforce Australia (2012) reported upon a shortage of midwives in relation to the health system demands. Potentially this might increase midwives' workload, which could affect both their personal lives as well as that of their traumatised clients. However, Mollart et al. (2013) identified that Australian midwives' feelings of exhilaration whilst working with their clients was evident to midwives whose professional experience was equal to or more than 21 years. The authors explained that in that sample of Australian midwives' BO levels were influenced by emotional exhaustion (60.7%), DP (30.3%) and low personal accomplishment (30.3%). Mollart et al. (2013) also found that rotating day and night shift had a positive correlation with high BO scores of low personal accomplishment. The authors reported the BO levels on personal accomplishment subscale with midwives who work exclusively in a night shift to be the lowest. However, midwives' stress levels were positively associated with the number of clients with multiple psychological issues they cared for.

Similarly, results of moderate emotional exhaustion and personal accomplishment, low BO levels due to DP was reported by Oncel et al. (2007) study investigating midwives. In their study, Turkish midwives emotional exhaustion had a negative correlation with professional years of experience and work related strain was moderate. In spite of the fact that the studies were done in different populations with different sample size, the authors affirmed similar findings and conclusion on BO levels.

Additionally, midwives' stress levels have been associated with limitations in confidence and competence as revealed by Walpole (2011); in a mixed method study to comprehend stress and BO in 41 birth suite midwives at two Melbourne based maternity units. In the qualitative

aspect of this study 10 midwives were interviewed. The interviews revealed that midwives experienced increasing stress when they had limited confidence and competence in managing their clients. In the quantitative cross-sectional longitudinal aspect of the study the Maslach's Burnout Inventory (MBI) and Professional Quality of Life (ProQOL v3) survey tools were used; 31 midwives revealed that BO and CF were associated with bereavement care and stress was due to heavy workload and lack of supportive supervision.

Rickard et al. (2012) reported that stress leads to work absenteeism, poor work performance and job turnover. Job turnover increases work pressure upon the remaining employees hence decreases their working morale resulting into increased clinical errors. Ultimately stressful employees can be costly to organizations. Hence, the authors (Rickard et al. 2012), advocated for support from supervisors and colleagues to alleviate employees from stressful incidences through motivation, which improves attention and memory required for effective tasks performance.

In a review undertaken by (ten Hoope-Bender et al., 2014) on improvement of maternal and newborn health in countries that have expanded their midwifery workforces, the authors succinctly explained midwifery roles towards high quality compassionate care, attainment of compassionate care indicated in stressful work-life environment was a preamble. Therefore, it is necessary to investigate STS as an effect of exposure to stressful personal, client and work environment among midwives. Since organization and client factors predict the quality of midwives' compassionate care to their clients. Compassionate care is expected to be provided by midwives within women's care, empathy is a catalyst in achieving this however, BO and STS subscales of CF might impede this care. Therefore, through ProQOLv5 tool this study will identify the prevalent negative aspects of caring in midwives.

Secondary Traumatic Stress (STS)

Midwives engage in empathetic relationships with women in their care. The extent of empathy they show in traumatic childbirths can expose them to STS (Leinweber & Rowe 2010). Midwives have been stressed by new-born deaths and their clients dying, conflicts with doctors (Banovcinova & Baskova, 2014), and the struggle to analyse what should/could have been done differently on a clients' care (Beck & Gable, 2012; Rice & Warland, 2013) when things do not go as well as expected. Repeated exposure to these primary and secondary stressors can lead to STS. STS is one of the two subscales of CF in the ProQOL v5, it is described as thoughts of a caregiver in regard to traumatized clients that have been in her/his care (Stamm, 2010).

Challenging working environments, acknowledged by Halperin et al. (2011), have been associated with increased stress related syndromes among midwives; with midwives in the birthing suite exhibiting occupational stress. The authors explained that main work stressors were job uncertainty, unsupportive physical-social environment, unpredictable issues related maternal and newborn wellbeing as well as midwives' incidents of lack of control. If continuous exposure to these contexts persists, midwives' stress can be faceted potentially risk development of secondary traumatic stress. Furthermore, stress as a result of an unsupportive physical environment hinders good rapport between a midwife and the childbearing woman (Foureur et al., 2010). Despite these prevailing situations midwives in the Foureur et al. (2010) study reported that sufficient support from colleagues had increased their self-esteem despite the prevalence of remorse and complexity in handling stressful incidences.

Additionally, a study done by Knezevic et al. (2011) to explore work related stress among university hospital midwives and paediatric nurses found that a sample of Croatian midwives

reported organizational structure, insufficient number of midwives and resources as main work stressors. Supportive environment and good relationships between midwives and clients has been reported to facilitate midwives to efficiently support birth despite of labour and delivery uncertainties (Page & Mander, 2014). Therefore, good organizational factors and adequate resources are significant in reduction of stressful environment and increase midwives' job satisfaction.

It has been reported that, mandatory registration as nurse prior to getting a licence to be able to practice as a midwife has contributed to job stressors to midwives in Israel (Halperin et al., 2011). Concurrently, Scamell and Alaszewski (2012) admit that wider organizational practice-culture impacts on the midwives' roles. Midwives are expected to support normal birth in a complex working culture. Simultaneously, they are subjected to stress as they aim for the best birth outcomes within unforeseeable consequences of the provided intrapartum midwife-led care. Poor intrapartum outcomes have been reported to lead to negative emotions and midwives being held responsible (Scamell & Alaszewski, 2012).

Australian midwives practice in a setting that supports different models of practice (Stevens, Thompson, Kruske, Watson, & Miller, 2014); currently the medical model is widely accepted however midwifery models are under mounting recognition. In an obstetric-led hospital, researchers found that midwives consider two imaginable outcomes of either a successful normal birth or a failure for both expectant mothers at risk and those not at risk (Scamell & Alaszewski, 2012). Being guided by the most influential model of care, midwifery practice becomes challenging and subjects midwives to stress. Thus, midwives' continuously imagine unwanted futures which impact their management of birth in a midwife-led model of practice.

Additionally, midwives whose model of practice is hampered have experienced STS. In a descriptive qualitative study exploring midwives experiences of witnessing traumatic births by Rice and Warland (2013), the authors reported on experiences of traumatic stress of ten midwives in their study to be related to being trapped within two models of practice. One is medical model of practice whereby birth is considered to need medical intervention for the positive outcome and the other is midwifery models of practice that considered birth as normal and natural unless complications arise. Medical models of care had been claimed to traumatise midwives through interventions done to women with emergency obstetric conditions that are regarded unnecessary as per midwives' model of care and contrary to women's preference (Rice & Warland, 2013). The authors also stated that midwives' empathy, traumatic experiences and being stuck between two philosophies affects their potential to work with birthing women. As midwives struggle to analyse these challenges when caring for traumatic birth events, the struggle exposes them to STS upon reflecting on the good and bad incidences of their clients' care.

Professional Quality of Life (ProQOL)

In a quantitative survey (Hegney et al., 2014) undertaken with 132 acute care Australian nurses at a tertiary hospital; the survey tools used were ProQOLv5 and DASS (Depression Anxiety and Stress Scale), it was reported that nearly 26 nurses were at risk of an elevated level of STS and BO. DASS findings were that 10 nurses had a very distressed profile meanwhile anxiety and depression were significantly related with BO and STS. Higher anxiety levels had an association with younger age, full time employment and lack of postgraduate qualifications. Moreover, the correlations between ProQOL v5 subscales were reported: BO and STS had a significant positive

correlation whilst BO and CS had a medium negative correlation and CS and CF had no correlation.

Similarly, in a quantitative cross-sectional survey undertaken with 255 Japanese nurses and midwives Mizuno et al. (2013), suggested that professional quality of life is highly affected by personal beliefs and the professional roles played by the nurses and midwives. Nurses/ midwives were not at high risk for BO and CF however prevalence of CF had association with stress; and both BO and CF significantly correlate with negative emotions. In spite of the fact that these studies differ in type and number of participants recruited, they both suggest that a nurse/midwife is affected by personal, environmental issues and the nature of roles plays in everyday life of caring for traumatized pregnant women.

Midwives are not isolated from either CS or CF aligned from their involvement in their caring profession. High shortage of staff in their daily work related lives can influence development of STS. Therefore there is a need to investigate the prevalence of CS/CF in this caring profession that deal with beginning and end of life. Midwifery models of care emphasise the role of midwives being empathetic during the important period of intrapartum care. Empathy builds a significant bond between the midwife and the pregnant woman in their therapeutic relationship; Austin et al. (2009) argue that caring professionals are at risk of CF if there is lack of empathy, compassion and connections towards their patients.

Conclusion

Variability between countries and midwives or nurses cohort on the concept of CS and CF has led this study to investigate prevalence of CS and CF with BO and STS subscales. There is a paucity of research in midwifery literature on the concepts of CF and CS. This study aims to

generate new knowledge that will firstly, inform midwives about their professional quality of life in particular to the extent of CS and CF in their profession. Secondly, describe prevalence of CS in midwives and lastly describe prevalence of CF in midwives. One Melbourne metropolitan health service with three maternity settings services through this descriptive cross-sectional online survey will be informed on prevalence of CS or CF among midwives.

Therefore, the theoretical framework which underpins this study relates to work environment, personal environment and client environment. In summary, work environment was discussed in organizational structure, commitments and remuneration. Meanwhile, personal factors were associated with job/role autonomy, work demands and peer/supervisor's support. Client factors were; traumatizing condition/chronic illness, empathising with client's treatments of her illness in a medical model context of care. The next chapter (methodology) provide a detailed explanation on the professional quality of life work, personal and client's factors that will be measured by demographic questionnaire and ProQOL v5 survey tool. The survey data will be presented in a way that answers the research question: What is the prevalence of CF and CS in midwives at a Melbourne based Metropolitan health service?

Chapter Three: Methodology

In this chapter the methodological approach and methods that have been used to achieve the aim of the research study are described. In the opening sections of the chapter a statement regarding the intent of the study including the research aim, question and objectives is made; and the theoretical framework of the study is identified and described. The strengths and weakness of survey as an approach to research are discussed. The study design, sampling methodology, recruitment of participants, instruments used, pretesting of the questionnaires and their validity and reliability are discussed. Moreover, the procedures for data collection, the statistical methods of analysis and the ethical considerations associated with the study are addressed.

This study uses a quantitative descriptive cross-sectional online survey approach. Demographic questions and the professional quality of life (ProQOL v5) self-administered tool were used as methods of data collection. As the previous chapter identified there are three other research studies performed on nurses and midwives that used ProQOL tool in combination with other emotional and depression tools. Hegney et al. (2014) mixed method study to acute care Australian nurses and Mizuno et al. (2013) quantitative survey to Japanese maternity unit midwives used ProQOL v5. Moreover, there was a PhD thesis by Walpole (2011) with a mixed method study undertaken with Victorian birth suite midwives however the study used an earlier version of the tool the ProQOL R-III. There is a need for this survey study investigating midwives' professional quality of life through the use of ProQOL v5 questionnaire to be undertaken.

Statement of the Study

This study is about midwives professional quality of life. The research aim in regard to CS and CF (BO and secondary traumatic stress) will be discussed. The research question and objectives in relation to study aim are outlined.

Research Aim

The purpose of this study is to investigate the prevalence of CS and/or CF among midwives working at one health service with three different maternity settings in the State of Victoria.

Research Question

As measured by the professional quality of life scale, what is the prevalence of CS and CF in midwives at one Melbourne Metropolitan based health service?

Research Objectives

The objectives of this study are;

1. To describe the extent to which midwives working in a Melbourne based health service report experiencing CS and/or CF.
2. To describe correlations of significance between demographic variables and the state of CS.
3. To describe correlations of significance between demographic variables and the state of CF.
4. To describe any differences between demographics and CS and CF.

The Theoretical Framework of the Study

The theoretical framework 'professional quality of life' that was utilised for the study, was developed by Stamm (2010) and is the basis from which her measure 'the professional quality of life scale' (ProQOL v5) was developed and tested. The framework provides a model of CS and CF, which is explicitly linked to experiences in the work environment, client environment and personal environment. The relevant attributes about the lives of midwives were described in the literature review chapter. The theoretical path analysis (Figure 2), as described by Stamm (2009), illustrates the professional quality of life framework and the ProQOL v5 instrument is used as a basis to measure CS and CF.

The model in Figure 2 illustrates the association that CS and CF have with the caring professionals work-life attributes. It has been clearly indicated that the act of helping others might lead to rewarding or traumatizing consequences. However, there is no single cause of either CS or CF, a number of factors have been associated with caring professionals wellbeing.

CS has been defined as pleasure derived from helping others and the extent of support received from colleagues. CF has been defined as a negative aspect of work that develops over time from thoughtful emotional and physical exhaustion experienced by the helper. CS and CF can emerge as a result of pleasurable and negative consequences respectively; derived from work, client and person environments (Stamm, 2010). As depicted in Figure 2: depression related to work environment has been reported to be an output of CF, which encapsulates exhaustion, frustration and anger, these are characteristics of healthcare provider BO. Furthermore, depressing working environments have been linked to exposure and experiences of healthcare providers to both primary and secondary traumatic work events (Stamm, 2010).

The trauma caused by the nature of the job is a construct of STS (Beck et al., 2013; Stamm, 2010).

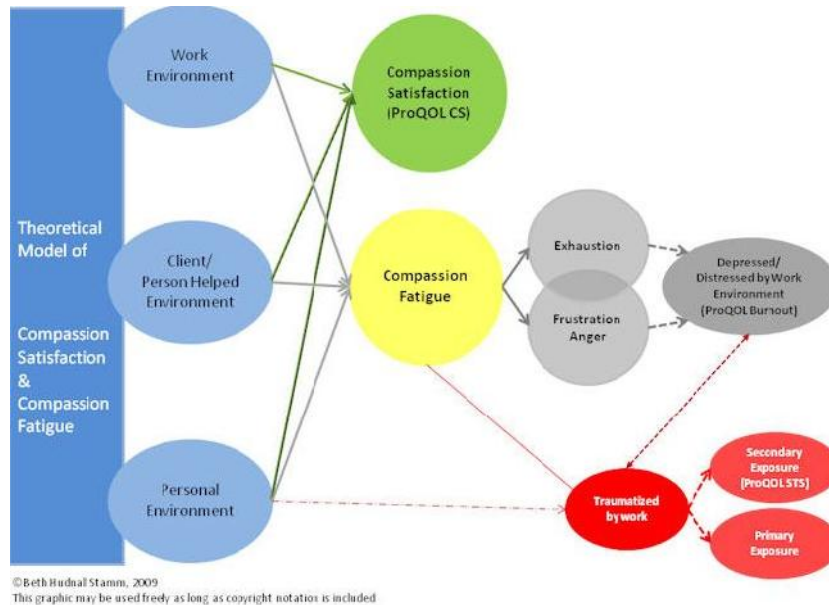


Figure 2: Professional quality of life 'Theoretical path analysis'

The Professional quality of life 'Theoretical path analysis' was reprinted from 'The concise ProQol manual' (p. 10), by Stamm, B. H. (2010). Pocatello. The ProQOL.org http://proqol.org/uploads/ProQOL_Concise_2ndEd_12-2010.pdf. The website identifies permission for use of figure in research using the PROQOL tools.

The nature of midwifery means that midwives are exposed to stressful and traumatic events. While performing their daily work activities, midwives are exposed to a range of emotions. They may experience pleasure when their work outcome is rewarding or guilt when the job has not been done as expected. In this research the Stamm (2010) ProQOL v5 survey tool will be used to measure the prevalence of CS and CF, and thus will provide a description of midwives'

professional quality of life based on the work environment, client environment and personal environment.

Research Approach: Survey

In this research study, a survey approach is used. Survey is the data collection method where participants are asked questions and the answers obtained are analysed to determine the study findings (Fowler, 2014). This method is preferable for descriptive studies that aim at generating statistical information of a particular population.

Survey as an Approach to Research

Why choose survey as an approach to research?

Survey method was considered the most appropriate method to investigate prevalence of CS and CF among midwives' cohort at three maternity settings at a metropolitan health service. Self-administered online survey is an appropriate survey method for data collection since it is cost effective, easily developed and implemented (Dillman, 2006; de Vaus, 2014; Fowler, 2014) thus would provide a good coverage for three study sites, which are geographically dispersed. Moreover, surveys have been reported to guarantee anonymity when numerous steps are taken into account (Nardi, 2014). Also, this study employs non-probability sampling techniques; this technique is supported by survey as a data collection method. Therefore, ProQOL v5 was considered the most suitable tool for data collection in this survey.

Strength of survey as an approach

Survey has been preferred over other methods due to the fact that surveys are easily administered, particularly online surveys, which is used as a method in this study. The

unsupervised online surveys are advantageous as they are believed to allow more representative samples as the larger sample of population is likely to respond to the survey (Bourque, 2002; Fowler, 2014). Surveys allow structuring of questions in a way that questions asked provide flexibility in data analysis.

Weakness of surveys

Existence of errors related to sampling. Survey respondents who eagerly participate in the survey might have characteristics different from those who do not participate (Bourque, 2002; Fowler, 2014). Therefore these participants are more likely to create bias, as the sample is not population representative (Fowler, 2014). Inappropriately phrased questions can be misunderstood and give varied answers with different meaning (Fowler, 2014). So it is recommended to undertake a pilot study first to review and revise any questions. Surveys undertaken through the internet have been reported to have low response rates (de Vaus, 2014). Additionally, surveys that have no incentives upon answering are faced with low response rates (Nardi, 2014); the lower response rate hinders study findings generalisability. Dillman (2006) and Bourque (2002) reported that surveys response rates are more likely to be approximately 20%.

Managing electronic surveys

To maximise the response rate several issues were considered. Length of the questionnaire was set to take fifteen minutes participants upon responding. de Vaus (2014) suggested that internet based surveys need to be brief to maximise the survey participation and return of the responses. Participation in this study was voluntary, there were no coercive forces that could lead the participants' to refrain from responding or indeed induce them into participation in the survey. Also the researcher directly spoke to potential participants through information

sessions. Impacts associated with gathering data through online survey have been examined to maximise benefits and minimize unforeseeable risks (Dillman, 2006; Nardi, 2014). In this study, the health service intranet participant emails were used to send survey link for data collection. Sending to a frequently checked email address has been thought to increase the response rate (de Vaus, 2014). The reminder email prepared by the research team was forwarded to Maternity Unit Manager (MUM); the MUM then forwarded four reminder emails to midwives through their health service intranet at regular intervals.

Quantitative Descriptive Cross-Sectional Survey Approach

This study employed the quantitative descriptive cross-sectional survey approach. The description of the design, features of the approach and its related data collection methods and lastly, the care undertaken while designing this study are discussed.

Description of this design

Descriptive studies have been reported to effectively identify issues in the current practice as real life situations are described (Dillman, 2006; Johnson & Christensen, 2008; Schneider, Whitehead, LoBiondo-Wood, & Haber, 2013). In this study, which aims at investigating prevalence of CS and CF a quantitative descriptive cross-sectional survey was chosen. A quantitative descriptive method facilitates exploration and detailed description of phenomena of interests (McNeill, 2005). This research design is employed through measuring and assessing systematically the constructs of the phenomena (Nardi, 2014). The study design aimed to explore the prevalence of CS and CF and the relationship with the demographic information.

Due to the limited time period that was available for data collection; the cross-sectional study that utilised a survey method was considered. A cross-sectional study is a data collection

method whereby data is collected from a chosen population at a particular point in time (Gray, 2009, p. 34). In a cross-sectional survey, there is fixed time to contact participants for data collection (Mann, 2012). This method will facilitate the researchers to determine midwives' CS/CF. Hence, descriptive cross-sectional study will inform this study on the prevalence of CS and/or CF.

Features of this method

Issues of threats to internal, external and construct study's design validity were considered. Firstly, to maximise internal validity of the survey instrument; the same survey tool (ProQOL v5) was used in both pilot study to midwifery lecturers and research project to eligible midwives (de Vaus, 2014; Gray, 2009). A second issue relates to external validity threats whereby results generalisability by the researchers goes beyond the studied population (de Vaus, 2014; Gray, 2009). To minimize threat to external validity, the study findings will be restricted to studied population rather than generalised to other populations, which might have settings differences with the studied population. This method is also prone to construct validity threats whereby the researchers violates statistical assumptions of numerical data collected through quantitative descriptive methods that explains the phenomena studied (de Vaus, 2014; Gray, 2009). In this study, the ProQOL v5 validated survey tool, which has previously been used in many other contexts, was selected to enhance the collection of information for the phenomena of interest. ProQOL v5 was used together with the questionnaire for collecting data on participants' demographic characteristics, the latter allowed data comparison between phenomenon of interest and the demographic information.

Taking care when designing this type of study

In this cross-sectional study, the researchers' minimised threats to internal validity through use of a validated survey tool (ProQOL v5) in both pilot study and in the research project. The researchers have attempted to reduce tool ambiguity (instruments have limited ambiguity, and acceptable clarity and continuity) and the questionnaire length had not exceeded 20 minutes (Curtis & Drennan, 2013). Moreover, the researchers have responded to construct validity threats through drawing correct statistical inferences from the retrieved data. Addressing threats to external validity and to eliminate this threat, the researcher will avoid generalisation of the study finding to a different population. However, researchers may conduct similar future studies to different settings (Fowler, 2014) and if the findings are similar then generalisation can be made without implications. In addition to this, the validity of the survey content to enhance sample representativeness of the institution's population, the research team sought assistance with statistical and psychometric data interpretation from a consultant with psychology expertise.

Design of this Study

The main purpose of this study is to investigate prevalence of CS or CF among midwives in three maternity settings in one Australian health service. A quantitative descriptive cross-sectional survey method was chosen to discover whether midwives are positively or negatively affected by the caring nature of their duties.

This descriptive study used online self-administered questionnaire to gather data from midwives about whether or not they experience CS and CF. The sample will assist the

calculation of the prevalence of the CS and CF, and assist interpretation of statistical relationships between these and other demographic data.

Designing the Quantitative Descriptive Cross-Sectional Survey

In this descriptive cross-sectional study, maternity settings across three sites of one health service were selected for the study, and midwives were the studied population. The timing of data collection was a cross-sectional across 16th June to 25th August 2015. Midwives from three hospitals in one health service were invited to participate in the study as to gather information on phenomena of interest. As it is simple to conduct, time efficient, a cross-sectional survey is employed. Cross-sectional surveys are appropriate in studying characteristics which change and those which do not change over time (Mann, 2012). In this study, CS and CF as phenomena of interest changes with time (Stamm, 2010) and some of the demographic characteristics (gender) do not change with time. Therefore, descriptive cross-sectional survey is an appropriate design for this study.

Instruments Used

The survey consists of two components. The first component is demographic questionnaire and the second component is a validated ProQOL v5 survey. Each of these components is described in the following sections.

Demographic questionnaire

A demographic questionnaire (Appendix 4) developed by the researchers was designed to gather participants' specific demographic characteristics. This instrument is structured in such a

way that links to ProQOL v5 theoretical framework work, client and personal environment constructs.

The ProQOL v5 survey instrument

This study used self-administered ProQOL v5 validated tool (Appendix 5) developed by Stamm (2010) to determine the relationship between CS, CF subscales namely, BO and STS. The ProQOL v5 questionnaire measures CS, BO and STS (Stamm, 2010). The developed demographic questionnaire identified independent variables associated with either CS or CF as explained in Figure 2. These questionnaires focused on identifying prevalence of dependent and independent study variables in a study population.

Validity and Reliability of the Questionnaire

The validity and reliability of the questionnaire is an important aspect of the research. The ProQOL v5 survey tool is a validated tool (Stamm, 2010). The demographic component of the survey is not validated, but it was planned to pilot-test the tool before being administered in the study.

Reliability of ProQOL instruments

ProQOL instruments has been used in more than 200 peer reviewed published papers of different discipline to nursing and midwifery in different languages such as French, English, Hebrew, Spanish, Japanese, Finish and Croat (Stamm, 2010) a good reliability in these different studies has been reported. Both ProQOL v4 and ProQOL v5 have been used, Cronbach's alpha for ProQOL v5 for CS is 0.88, BO is 0.75 and STS is 0.81 (Stamm, 2010), Cronbach's alpha was above 0.7 hence the measurements are consistent to each other. Therefore, the subscales have

portrayed high degree of steadiness in various studies done to different cohorts of caring professionals and significant correlation within subscale items was evident.

Validity of the ProQOL instruments

Validity is the degree to which an instrument measures what it is supposed to measure (Schneider et al., 2013). The reflection of contents of interest is expected to be described in a valid instrument therefore ProQOL v5 construct validity is explained. The BO and STS the subscales of CF have a positive shared variance of 34% ($r=-0.58$; $\text{co-}\sigma=34\%$; $n=1187$). Stamm (2010) affirmed that the existing shared variance of these subscales was due to shared distress as a negative effect of professional quality of life. In summary, the expected retrieved data in the subsections BO and STS are valid since higher than average value of each subscale has been reported. Both STS and BO have positive covariance despite the BO distinctive feature of not addressing fear. The ProQOL v5 tool validity is good as the relationships of CF elements (BO and STS) complement each other and would be determined. In spite of the fact that ProQOL v5 scale is a reliable questionnaire calculating Cronbach's alpha in which the acceptable minimum level is 0.7 will check the subscale's reliability. The ProQOL v5 tool validity and reliability for subscale measures of CS, BO and STS of caring professionals of nurses and midwives has been discussed and the tool has demonstrated a good to very good internal consistency hence the ProQOL v5 tool is justifiable to be used in this study to measure CS and CF is concrete.

Pretesting of the questionnaire (pilot study)

The survey consisting of two components questionnaires was pre-tested to a cohort of midwifery staff ($n= 6$) at Monash University School of Nursing and Midwifery to detect the readability, clarity of the tools and range of probable responses (Bourque, 2002; de Vaus,

2014). The pilot study was opened on 1st June, 2015 through email by inviting individual staff to participate. Received feedback was in regard to instrument instructions' clarity, easy to understand, and the time spent to complete the survey. Suggestions for improvement of questionnaire were taken into consideration and time to complete the survey was on average ten minutes.

Sampling Procedures

In this online survey the target population was all midwives employed by a metropolitan health service in three maternity settings who were able to access the intranet email service during the data collection period. Purposive non-probability sampling technique is employed. Inclusion criteria were: participants must be registered midwives employed in a part-time or full-time basis at one or more of the institution's maternity units. Exclusion criteria were midwives casually employed by the institution and those not employed by the institution e.g. agency staff.

The researchers were well informed by the type of errors associated with survey study sampling. Therefore, several initiatives were taken into account to minimize the foreseeable errors. Fowler (2014) described that survey studies are done to gather information from the studied population and provide estimation of the population's statistics on the core concepts studied. Hence, to achieve that the researchers collected data through an online survey, this was open to all eligible employees of the institution. The researchers had no control of the midwives who chose to answer the survey since the survey link was sent through hospital intranet midwives' emails. Hence, the non-identifiable data obtained would inform researchers of the characteristics of participants who responded to the online survey with its variability.

Sampling errors that would be associated with midwives who participated in the survey could have randomly occurred however there would be no bias associated with such errors. Sampling bias was minimized through:

1. Giving equal chances to all midwives at hospital's settings A, B and C to participate in the study.
2. The sample frame was approximately 470 midwives in these maternity units.
3. The survey was open to all employees who met the inclusion criteria (de Vaus, 2014). Therefore the participants were expected to self-select and voluntarily participate.
4. This survey was developed in such a way that study efficiency would be maximised through three weekly participation reminders (Fowler, 2014). Therefore, answers were collected from every participant who wished to take part in the study.

Participants' recruitment

The target population was midwives who work in a health facility in South-east part of Melbourne, the capital city of the State of Victoria in Australia. The midwives were employed either full time or part time in three maternity units located at hospital A, B and C of the health service. As requested by the health service, midwives who worked in a casual basis and employed by agencies were excluded from participating in the study.

Convenient non-probability sampling of these maternity units was done however participants were invited to participate in the study. The study was open to all 470 midwives, invitation email through their institution intranet was sent to individual midwives through their Maternity Unit Managers (MUM). Prior to opening the online survey link, advertisements on the date and time of information sessions were posted in these three maternity units' notice boards. Thereafter, information sessions were conducted whereby the presenter described the study

rationale and eligibility criteria was offered in each hospital's maternity unit. Moreover, participants were informed about the process regarding notification of the dates when the online survey link would be active. Each hospital's MUM was emailed an invitation letter with survey link to share with units' midwives by the research team on the day of the first information session. The online survey link integrated participant's information sheet (Appendix 6), the ProQOL v5 survey tool and demographic questionnaire. The study was electronically conducted and no identifiable information was collected. Participation in this study was voluntary and step by step recruitment was undertaken as stated below.

Recruitment procedure

The recruitment procedure is summarised in the list of activities stated below:

1. Principal investigator had prior contacted MUMs in all three hospitals, through the Professor of Midwifery / Co-director of Maternity Services who was part of research team.
2. Advertisements of the information session at each hospital were displayed on maternity unit notice board.
3. Information sessions were conducted at the three maternity units on specific allocated date for each hospital.
4. MUMs sent survey invitation letter to participants when survey was active.
5. Participants voluntarily participated in the survey.
6. Implied consent was considered when a participant submits the survey.
7. Reminder to participate in the survey was sent three weekly.
8. Researcher closed the survey by disabling the survey link in due course.

Data Collection and Data Analysis

In this study, the data collection was done online through a survey link with a direct access to the survey questionnaires. The attached questionnaires aimed at collecting the demographic information and midwives' professional quality of life lived in the past 30 days. Data collection procedures and statistical methods employed are discussed.

Data Collection and Procedures

Data was collected for nine weeks using "Survey Monkey" as the online survey software. The ProQOL v5 survey tool by Stamm (2010) and researchers developed demographic questionnaires were the instrument for data collection in this study. Integration of both survey questionnaires into an online link was done. The ProQOL v5 survey tool gathered information on CS and CF; the two aspects of CF namely BO and STS (Stamm, 2010) were investigated. The demographic questions (Appendix 4) were on participant's age, gender, country of birth, ethnicity, qualification(s), employment status, years of experience, midwife's working site, shift pattern, area where a midwife regularly works and working level. Demographic characteristics mentioned in the former statements were further categorised into either two groups or more than two groups to allow statistical descriptive and inferential tests to be performed. The ProQOL tool has thirty statements (Appendix 5) each with a five point Likert scale; the constructs of CS, BO and STS were each represented by ten elements/questions.

The study aim was achievable since the ProQOLv5 survey tool had sections that interrelate and comprehend each other (de Vaus, 2014). Survey method was used so as to collect midwives information from these three maternity units, which are located in different suburbs. Survey method allowed midwives to complete the survey at their own time and pace.

Statistical methods for Data Analysis

Data retrieved from the “Survey Monkey” software were transferred to International Business Machine Statistical Package for the Social Science (IBM SPSS) version 20 for statistical analysis. The imported surveys were assigned unique codes by the researcher. The unique coding of returned survey was to maintain anonymity and confidentiality throughout the study (de Vaus, 2014; Johnson & Christensen, 2008; Schneider et al., 2013).

Data cleaning and labelling was undertaken. Respondents who did not complete either fully (six) or in parts (two) the ProQOL v5 part of the survey were eliminated from the analysis. Also, imported data was labelled based on a code book prepared (Appendix 7) for the survey instruments. Moreover, missing data on the demographic characteristics was assigned a special number as stated in the code book that distinguished it from the other numbers assigned to other responses. Then ProQOLv5 scoring was done as instructed by Stamm (2010, p. 16). The raw data from ProQOL v5 was standardized to and transformed into t-scores and labelled as ‘CS’, ‘BO’ and ‘STS’ ready for the statistical tests to be performed. The missing responses (Appendix 8) from ProQOL v5 were replaced by a mean score of the other items in that particular element.

ProQOL v5 survey tool is based on ordinal scale of measurement hence was interpreted in cut scores indicated by high (CS= 57, BO=56 and STS=56), average (50 for all subscales) or low (CS=44, BO=43 and STS 42) levels of CS or BO or STS and mean score was determined and compared (Stamm, 2010). Measurements of variability were displayed as standard deviation, range, percentile, frequency of distribution and interquartile range.

Moreover, demographic data under nominal and categorical scale of measurements; mean and median as measurement of central tendency as well as variability measures of modal percentage, standard deviation, range and frequency distribution were determined. A descriptive graphical presentation of demographic data was prepared and relationship between independent demographic variables and dependent ProQOL v5 variables was explored.

Additionally, the correlation between ProQOL v5 constructs was performed and overall reliability of ProQOL v5 tool scale constructs was determined by Pearson's (r) correlation coefficient. The Pearson's correlation analysis was preferred due to the fact that variables' normal distribution was achieved (de Vaus, 2014). Moreover, for the sample in this study, the reliability of the key concepts in the ProQOL v5 scale (CS, BO, STS) was determined by Cronbach's alpha coefficient (α) to re-check correlation of the instrument key concepts (Creswell, 2009; de Vaus, 2014). The CS, BO and STS stability informed researchers that the instrument was correctly administered and there was consistency in scores obtained. The Cronbach's alpha values $\alpha = 0.7$ and above is acceptable results.

The ProQOL v5 descriptive statistics was determined. The description of the extent that either low, average or high levels of CS, BO and STS achieved by midwives was presented. However, the Chi-Square statistical tests to analyse these ranked categories was performed to enhance further determination of co-existence of high CS with either low or high risks of BO and STS.

Furthermore, relationships between demographic and ProQOL v5 data was explored.

Parametric statistical tests; independent t-test and analysis of variance (ANOVA) were performed. Prior to these analyses, the demographic data was further categorised into groups as described in the codebook to facilitate performing independent t-test and ANOVA. The

independent t-test was performed to test the significant mean difference between two groups. One way between groups ANOVA was performed to test the significant mean difference between three or more groups (Allen & Bennett, 2012). These statistical tests (ANOVA and t-test) were used to explore relationship between demographic information and the levels of CS and CF (BO and STS) and a p-value of 0.5 was considered significant.

Rigour

This study was performed on midwives who are employed by one health care facility across three sites in one state in Australia. For this reason, the study findings would not be generalized to other populations who are employed by other Health care facilities or reside in other jurisdictions nationally and internationally. It is believed that this study could be replicable to samples drawn from different populations. However, for practical utility (Curtis & Drennan, 2013) the survey instruments used were pre-tested to determine factors that might lead to responses difference if there was lack of clarity.

The aim of the research was to describe prevalence of CS and CF among midwives, the ProQOL v5 and the demographic questionnaires were sufficient to address these elements. The survey tools used addressed the elements of theoretical framework set forth by (Stamm, 2010). The key question has been answered and the professional quality of life has been described.

Moreover, the bias based on the sampling technique employed has been tackled through; attachment of information sheet that informed the participant eligibility of taking part in the study. Response bias is unforeseeable since there is a possibility of some participants in the target population to not get a chance to access their email during first invitation (Curtis & Drennan, 2013). Furthermore, means of increasing responses accuracy were maximised

through this online survey. Involvement of the researcher in the research process would greatly reduce the validity of a test (Fowler, 2014). This survey had minimized test bias to maximise construct validity through the use of self-administered survey in which the researcher is distant and cannot influence the study's respondents.

Ethical Issues

This study was conducted in accordance with the National Statement on Ethical Conduct in Human Research. In Australia, this is legislated by the National Health and Medical Research Council [NHMRC], the statutory body responsible for issuing guidelines on and advising the community on the ethical issues relating to health (Australian Government, National Health and Medical Research Council, & Australian Research Council, 2007; Schneider et al., 2013). The ethical principles used in this survey for data collection and management aggregated data are discussed.

Values and Principles

Like other research conducted in human subjects, values and principles of ethical conduct that apply to all human research surveys needed to be observed in order to avoid harming the participants. This section reports on the ethical values, principles and procedures undertaken to ensure that the survey is conducted ethically and that no participant will suffer as a result of undertaking the in this survey (Fowler, 2014).

Informing the participants

Abiding to respect as a central value (Australian Government, National Health and Medical Research Council, & Australian Research Council, 2007) participants were informed on the survey's key information as described below in the information sessions held in all three maternity units settings A, B and C. These were done to facilitate informed participants who could elect to participate in the online survey without coercion.

Prior to information session the online survey advertisement (Appendix 6) was posted on each maternity unit's notice board to promote justice (Australian Government et al. 2007) for equal participation. This gave information on the organization in which the researchers were based. Also the name of the corresponding investigator was listed for participants to contact should they have any queries.

During the information sessions, participants were informed that the research project independently undertaken by the Master of Clinical Midwifery student who was the principal investigator. Integrity of the study researchers it was explained that the research team was made up by experts in survey methods, nursing and midwifery care and human psychology

were introduced. The latter aimed at reassuring participants that the research team had appropriate competence and qualifications (Fowler, 2009).

Moreover, the description on the merit of research was granted (Australian Government et al., 2007). Information on merits of this research survey that; firstly, aimed at informing midwives about their professional quality of life, particularly the extent of CS and CF. Secondly, described the prevalence of CS in midwives; and lastly, described the prevalence of CF in midwives was granted. Additionally, it was explained that midwives just like any other caring profession are vulnerable to experience positive and negative attributes of their care. Therefore, there was a need to conduct an online survey for convenience of both the participants and the researchers in investigating prevalence of CS in the hospital's three maternity settings.

Confidentiality and anonymity principles were made clear in the participants' information sheet (Appendix 6) that in this online survey, the collected data were non-identifiable and the submitted surveys would be assigned a unique code and reported in aggregated form hence abating the chances of participants' identification (de Vaus, 2014). It was further explained that the collected data were managed by the researchers and that the storage of retrieved survey information would safely be done through Coordinating Principal Investigator password protected computer. Moreover, the data will be securely stored for seven years in Monash University research database.

Concurrently, participants were informed that participation in this online survey was entirely voluntarily. Their work-life would not be negatively affected by not participating in this study. Lastly, a copy of the information sheet was attached in the survey link for the participants to download for their convenience.

To maximise justice in this online survey, the survey link was sent to all health service's employees in the three maternity sites (at setting A, B and C). The information sheet that had inclusion criteria was attached so that participants who met the inclusion criteria could participate, and who were not eligible and could not participate opted in or out in a non-identifiable manner. According to Australian Government et al. (2007) justice description participants' recruitment was fair since the initial time each participant was emailed the survey link was the same to all midwives. Moreover, the researchers had no contact details of participants hence could not influence in any way the participation of any participant.

This online survey, observed beneficence principle by scrutinized likely risks of harm or discomfort following participation in the study (Australian Government et al., 2007). The self-administered surveys have been reported to facilitate participants to respond to the survey without coercion (Bourque, 2002) hence safeguard participant's responses welfare. The identified research benefits were not directly to the participants rather to their practice context hence the survey was designed in such a way that the risks are minimal foreseeable emotional discomforts experienced and bearable.

Risks

There is minimal risk anticipated for the midwives. However, the risks anticipated in this study were that of participants' emotional discomfort, which has been described by Fowler (2014) to be encountered by the participants in their everyday lives. This research with foreseeable risk of emotional discomfort was considered a low risk (Australian Government et al., 2007). The researcher's set study aim and online survey as the data collection method to minimize unforeseeable risks as participants could stop responding at any stage. Hence, in the participant information sheet (Appendix 6) it was stated clearly that whenever the participant

experiences emotional discomfort while attending the online survey need to immediately stop before adverse effects were encountered. However, if the participant did experience any discomforts and continued responding to the online survey several support strategies were devised.

Support strategies for participants who experience discomfort

Although it is anticipated there will be minimal emotional discomfort for the midwives participating in the survey, the researchers acknowledge there is a potential hence prior to data collection:

1. The participants were provided with information sheet, which had contact details of potential people who will support the participant if faced with emotional challenge.
2. The questionnaires were pre-tested to determine the validity and reliability of the tool related to contents, construct and coherence of the survey tools.
3. Participants were urged to contact the Coordinating Principal Investigator through contact details provided in the information sheet (Appendix 6) for further management following any survey related emotional discomforts.

Benefits

The identified benefits in this research were examined in regard to (Australian Government et al., 2007) suggestive categories of the gained knowledge by both researchers and participants.

There would be knowledge gained by using an Australian sample of midwives on the prevalence of CS and CF. Despite the fact that the study undertaken with midwives from one health institution at one point in time, similar studies can be replicated in the future to other groups of midwifery professionals. Evidence of improved understanding is expected from the

study finding as generated new knowledge would inform maternity services on the state of CS/CF of midwives' in the sample studied. Moreover, participants' wellbeing is expected to be improved since the study's theoretical framework (Figure 2) informs midwives on factors for developing either CS or CF.

Furthermore, this online survey to midwives informs the principle researcher who is a Master of Clinical Midwifery student on skills and expertise required to manage the procedures and processes involved with the conducting the quantitative research.

Consent

Participation in this online survey was voluntary and consent was implied. Participants were required to make decisions to respond to the survey after being well informed by the survey's attachments describing survey's benefits and implications. The survey link had a cover letter that contained information for participants. The information provided outlined the study purpose, aims, possible benefits and harm, participant's obligations and data storage and management in a plain language (Appendix 6). The statement further explained that participants would not be affected if their choice not to participate in the study was made. The information session was conducted thereafter participants who were interested in the study were advised to contact the principal investigator if they need any further clarification. Then, the survey link was emailed to the participants through their hospital intranet by the Maternity Unit Manager (MUM) when the period for data collection became live. The information sheet was attached for the midwives to keep in accordance to Australian Government et al. (2007). Implied consent was considered when a midwife submitted the completed online survey. However, it was also explained that withdrawal from the study after online survey was

submitted could not be feasible since there would be non-identifiable information collected that would facilitate withdraw of data.

Ethical Considerations Specific to Research Methods

The Nuremberg code ("The Nuremberg code", 1996) is being referred to in this section, since participants in this survey involves human subjects. Therefore, several initiatives have been taken into account to maintain human respect and dignity.

Firstly, voluntary participation was guaranteed. The researchers succinctly explained the scope of the survey (Hoerger & Currell, 2012) through participant's information sheet, for the participant to understand and her/his relevant queries to be answered. This process aimed to inform the participant and facilitate him/her to make desired decision to either continue with the survey or not.

Secondly, participants' rights to privacy and dignity are protected. Online survey using Survey Monkey aims at collecting non-identifiable participant's information (Hoerger & Currell, 2012). This was facilitated through the MUM emailing participants the survey link to their institution's intranet. The researchers considered this type of recruitment to ensure that participants were not known to the researchers. Furthermore, data analysis was done to the retrieved survey responses that had been each assigned a unique code. There was no data or information collected during sampling, data analysis, findings dissemination and possible future research data use (Nardi, 2014) that could link to participant's identity.

Furthermore, it was aimed that participants were protected from foreseeable psychological harm in this study. It was explained in the information sheet that participant should stop taking

part in the survey as soon as emotional discomfort is experienced. The researchers aimed to protect participants from further damage caused by responding to the survey. Despite the distance and the aforementioned privacy issues, researchers provided contact details of counselling services for anyone experiencing difficulties.

Disclosure of necessary information regarding this study was explained in the aspects of benefits and risks. To ensure the protection of the health welfare of participants', an option to withdraw from this study was possible prior to submission of the survey. After submission any participant's withdrawal was not possible because the submitted survey, the collected data that was automatically added and collated by the software into the pool of non-identifiable information. Moreover, the collected data will be reported as aggregated data. Additionally, the researchers employed suitable statistical analysis on the raw data that allows reporting the statistical inferences.

Process of Research Governance and Ethical Review

The survey protocol was submitted together with the institution's Human Research Ethics Committee (HREC) form 14317 Low Negligible Risks-Site Specific Assessment form and 14318 Victorian Low Negligible Risk- HREC Application form. Study invitation letter, advertisement (Appendix 9) and participant's information sheet together with each researcher curriculum vitae. The survey instruments to be used ProQOL v5 and demographic questionnaire was also attached.

Conditional approval was granted on 7th April, 2015 by the Human Research Ethics Committee, whereby the researchers were required to make amendments on the participant information sheet, survey advertisement and demographic questionnaire items. The proposed amendments

were undertaken, and the version two of these documents were emailed to the ethics committee. Several amendments thereafter followed in the participant's information sheet until the agreeable information was incorporated to achieve coherence and made user friendly. Ethical approval was granted by both the Health Institution's Human Research Ethics Committee reference number 15134L of 12th May, 2015 (Appendix 10), and approval number CF 15/1706-2015000860 (Appendix11) of 26th May, 2015 from Monash University Human Research Ethics Committee (MUHREC). The approval has been granted as the study protocol met the distinguished ethical standards for a low risk study

Conclusion

The descriptive cross-section survey was an approach used in this quantitative study. The demographic and ProQOL v5 questionnaires were used as data collection method. This chapter has explained in details the research processes undertaken to attain the research aim of conducting this study. The employed ethical consideration for online survey was discussed. The next chapter (Chapter Four) presents the implementation of data analysis procedures described in this chapter. The results are presented in regard to performed descriptive and inferential statistics.

Chapter Four: Results

The aim of the results chapter is to determine, explain and analyse the data from the survey of midwives' professional quality of life experienced by midwives who participated in the survey. The study findings arising from the study context that explained the recoding of demographic questionnaire data and ProQOL v5 are reported. Descriptive statistics for both the demographic questionnaire and ProQOL v5 tool was determined. Moreover, ProQOL v5 instrument's data descriptive statistics, the subscales reliability and the correlations between subscales constructs are reported. Relationship data in terms of inferential statistics between different independent variables of interest and CS, BO and STS are presented. Finally, summary of study finding that compare the midwives from different campuses and with varying roles are discussed in relation to research question. The BO and STS are CF elements therefore in this chapter BO and STS will be used instead of CF. The use of BO and STS is influenced by them being the main constructs of ProQOL v5 together with CS.

Context

The ProQOL v5 tool has 30 statements each with five points Likert scale. The total number of midwives employed by the institution is approximately 470, there were 160 responses so the response rate was 34%. The survey had received a good response rate, since most surveys have been reported to get lower than 20% response (Bourque, 2002). There were eight participants (5%) who did not do any of PROQOL part of the survey at all so were excluded from analysis. Hence, the response rate was 32%, which is considered good.

Demographic Data

Demographic data is presented in Table 4.1 and Table 4.2; the demographic data explored specific characteristics of midwives including their personal environment, work environment and their clients' environment. This information allowed exploration of specific subgroups of the population that display unique characteristics. It also allowed comparisons between groups that links instruments of this study (Appendix 4 and Appendix 5) to theoretical framework discussed in Chapter Three.

Personal Environment

Participants who responded to this survey had a mean age of 39.16, 151 of them were female and one participant did not respond to the gender question (Table 4.1). Only 144 participants responded to the ethnicity question, out of 144 participants, 47.4% identified their ethnicity as Australia. Forty percent of those who were born in countries other than Australia had lived in Australia for at most 10 years. Incomplete demographic data were excluded from descriptive analysis for the age, ethnicity and country of birth.

Work Environment

In Table 4.2 most of the participants (72.4%) had both nursing and midwifery qualification. Midwives education levels varied, the majority (65.1%) had a bachelor degree as the highest qualification. Most midwives (n= 144, 94.7%) who participated in this study had a clinical experience of more than one year, eight graduate were eliminated from this analysis as they had an experience of less than a year The employment status of midwives who participated in this study is full time (27.6%) and part time (72.4%). Moreover, the roster pattern of midwives

was mostly a combination of night, morning (AM) and afternoon (PM) shifts (74.3%). Midwives who had rotating shifts were 80.9% (123) of 152 midwives that responded to the survey.

Clinical roles assumed by midwives and their levels of education were examined. It was found that among midwives who had a bachelor degree; registered midwives (n=49), clinical midwifery specialist (n=21), associate unit managers (n=14) and graduate midwives (n=8) had assumed clinical roles meanwhile, only 3 midwives with clinical consultation roles had a PhD.

Client Environment

The client environment of this metropolitan health service was the three maternity settings located within 30 kilometres of each other. The participants were from maternity units; A (n= 64, 42.1%), B (n= 47, 30.9%), C (n= 33, 21.7%) while a minority (n=8, 5.3%) worked across multiple maternity units. Some midwives in these three units worked in up to five clinical areas; one clinical area (n=34, 22.4%), two clinical areas (n=25, 16.4%) three clinical areas (n=22, 14.5%), four clinical areas (n= 52, 34.2%) and five clinical areas (n=19, 12.5%). These were reported as regular midwife's work area namely, antenatal clinic, antenatal ward, birth suite, postnatal ward and childbirth education.

Table 4.1: Continuous Demographic Data Statistics

	N	Mean	SD	Minimum	Maximum	Quartile 1 (25%)	Quartile 3 (75%)
Age	151 [*]	39.16	11.97	22	61	28	51
Year in Australia	45 ^{**}	21.38	16.76	1.5	57	8	33
Years in clinical experience	116 ^{***}	14.41	11.94	0.42	46	5	24

^{*}One participant did not do the age.

^{**}Only 45 participants responded to years in Australia

^{***}Only 116 responded to years in clinical experience.

Table 4.2: Other Demographic Data

Variable	Frequency	Percent
Qualification		
Midwifery	42	27.6
Both nursing and midwifery	110	72.4
Highest qualification		
Certificate	16	10.5
Diploma	17	11.2
Bachelor	99	65.1
Master	1	0.7
PhD	6	3.9
Graduate certificates	9	5.9
Graduate diploma	4	2.6
Employment status		
Work full time	42	27.6
Work part time	110	72.4
Working roles		
Registered midwives	72	47.4
Clinical midwifery specialist	30	19.7
Associate unit manager	26	17.1
Graduate midwives	8	5.3
Unit manager	5	3.3
Lactation consultant	2	1.3
Extended postnatal care coordinator	2	1.3
Midwifery educator	1	0.7
Missing data	6	3.9
Roster pattern		
Combination of night, AM and PM	113	74.3
Designated AM only	14	9.2
Night duty only	11	7.2
Rotating AM and PM	10	6.6
Caseload	4	2.6
Health service location		
A	64	42.1
B	47	30.9
C	33	21.7
B and C	3	2.0
A and B	1	0.7
A and C	4	2.6

Instrument Data

The ProQOL v5 questionnaire by Stamm (2010) is a tool that has been used in various studies in different context of helping professionals. Its validity and reliability is similar in different studies that have used its earlier version or ProQOL v5. Hence, confidence was gained from previous studies to use the tool in this study. Instrument data is presented in CS, BO and STS subscales' descriptive data, reliability and the correlations between the subscales.

Correlations Between ProQOL v5 Tool Constructs

Since the CS, BO and STS scales measure different constructs and their inter-scale Pearsons' correlation coefficient (r); there was no violation of normality in the sample. Hence, the relationship between ProQOL v5 tool's constructs was determined (Table 4.3). Coefficient of determination was calculated (Pallant, 2013); CS and BO had a shared variance of 45% with strong negative correlation $r = -.677$, CS and STS 14% shared variance with a moderate negative correlation $r = -.376$, lastly STS and BO shared variance was 41% with strong negative correlation $r = -.644$.

Table 4.3: Pearson's Correlations Coefficient

	CS	BO	STS
CS	Pearson Correlation 1	-.677**	-.376**
	Sig. (2-tailed)	.000	.000
BO	Pearson Correlation -.677**	1	.644**
	Sig. (2-tailed)	.000	.000
STS	Pearson Correlation -.376**	.644**	1
	Sig. (2-tailed)	.000	.000

* N=152 participants

** . Correlation is significant at the 0.01 level (2-tailed).

ProQOL Subscales Reliability

Stamm (2010) reported the scale reliability in terms of Cronbach's alpha (α) coefficient.

Likewise in this study the Cronbach's alpha coefficient was calculated. In this study, the calculated Cronbach's alpha coefficient and CS, BO and STS scores are; CS scale $\alpha = 0.884$, 25% of participants scored higher than 58.9 and 25% scored lower than 44, BO scale $\alpha = 0.815$, 25% of participants scored higher than 56.4 and 25% scored lower than 42 and STS scale $\alpha = 0.810$, 25% of participants scored higher than 56.7 and 25% scored lower than 44. The internal consistency portrayed by these subscales is in a very good range. Table 4.4 compares the Cronbach's alpha coefficients of Stamm (2010) and of this study.

Table 4.4: CS, BO and STS Items Alpha Reliability

A reliability coefficient	In this study			Stamm (2010)		
	CS Scale	BO Scale	Secondary Trauma Scale	CS Scale	BO Scale	Secondary Trauma Scale
Cronbach's Alpha	0.884	0.815	0.810	0.88	0.75	0.81
Cronbach's Alpha based on standardized items	0.888	0.813	0.818	-	-	-
Number of items	10	10	10	10	10	10

ProQOL Subscales Descriptive Data

Professional quality of life (ProQOL v5) descriptive statistics were completed by 152 participants. There were one to three missing responses in different subscales' items (Appendix 8) from different participants however, they were replaced by the mean scores of the corresponding item. After the raw scores were standardised: generally, 25% of participants

mean scores were high in all three subscales. Meanwhile, 72.4% scored low to average in CS, 75% scored average to high in BO and 81.6% scored average to high in STS (Table 4.5). The ProQOL v5 subscales distribution plots had observed normality (Appendix 12), therefore, the data was treated in a parametric manner and parametric tests were then considered.

Table 4.5: CS, BO and STS Descriptive Statistics

ProQOL subscales		Low	Average	High	Total
CS		36 (23.7%)	74 (48.7%)	42 (27.6%)	152 (100%)
CF	BO	38 (25%)	76 (50%)	38 (25%)	152 (100%)
	STS	28 (18.4%)	79 (52%)	45 (29.6%)	152 (100%)

However, in the aspect of scored categories above; Chi-Square statistical test was performed to determine likelihood of participants who scored low to average for CS to have risk of average to high levels of BO and STS. Table 4.6 illustrates the overall participants' levels of CS and their risk for BO or STS. Similar analyses were performed for the three maternity units' sites that participants of this study are employed. The Chi-Square of individual maternity unit settings had similar findings to the overall (three sites) findings. In this health service 84.5% (n=93) of midwives with low to average levels of CS (n=110) were at risk of STS however, these findings were not statistically significant since $\chi^2(1, N=152) = 2.331, p = 0.127$. Moreover, there was a statistical significance of association of 86.8% (n=99) of midwives at risk of BO (n=114) have low to average levels of CS $\chi^2(1, N=152) = 47.771, p = 0.000 (p < 0.001)$.

Table 4.6: Chi-Square Test Summary for High CS and at Risk of either BO or STS

Risk		High CS		Total
		YES	NO	
BO	YES	15 (13.2%)	99 (86.8%)	114
	NO	27 (71.1%)	11 (28.9%)	38
STS	YES	31 (73.8%)	93 (84.5%)	124
	NO	11 (26.2%)	17 (15.5%)	28

In the aspect of BO and STS; there was an association of significant on the fact that 83.9% of midwives at risk of STS (n=124) were at risk of BO (Table 4.7). The statistical significance was at $\chi^2(1, N=152) = 28.252, p=0.000 (p<0.001)$.

Table 4.7: Chi-Square Test Summary for at Risk of BO and STS

		STS at Risk		Total
		Yes	No	
BO at risk	Yes	104 (83.9%)	10 (35.7%)	114 (75.0%)
	No	20 (16.1%)	18 (64.3%)	38 (25.0%)
Total		124 (100.0%)	28 (100.0%)	152 (100.0%)

Exploring Relationships Between Data

This section aims at answering research questions posed in Chapter Three. The question is; as measured by the professional quality of life scale, what is the prevalence of CF and CS in midwives at one of Melbourne metropolitan health service Therefore, relationship data aims at providing information that answer this question as well as address the research objectives. The stated objectives are being met on further analysis performed to data. Hence, the extent of CS and/or CF experienced by midwives is discussed; also the correlations of significance between the demographic data and either CS or CF is presented. CF will be addressed by using its element of BO and STS.

CS, BO and STS are the dependent variables and the demographic data are the independent variables of interest. These variables of interest have been derived from the ProQOL v5 theoretical framework. The theoretical framework (Chapter Three) assumes that the CS, BO

and STS can be the result of factors in the personal, work and client environment (Stamm, 2010). Therefore, subheadings in this section provide information on demographic variables that the parametric tests; One-way analysis of variance (ANOVA) and Independent sample t-test (T-test) analyses were performed to determine their association of significance with CS, BO and STS scores. The parametric tests were considered to determine statistical significance of association between midwives ProQOL v5 normally distributed scores and the demographic variables.

Age Groups and CS, BO and STS

To enable descriptive analysis, participants' age in years were collected as a continuous variable (Table 4.1). For comparison analysis it was then categorized into seven groups of five yearly intervals with the lowest was twenty six years and less and the highest was fifty six years and higher. These categories are used together with CS, BO and STS scores to determine association of significance. ANOVA was performed and there was no statistical significance between mean differences of age-groups (Table 4.8) and the scores of CS, BO and STS. ANOVA assumption of equal variance was assumed since Levene's test (F) was not significant for CS $F_{(8,143)} = 0.840$, $p = 0.569$ similarly STS $F_{(8,143)} = 1.481$, $p = 0.169$. However, assumption of homogeneity of variance was violated in BO as $\alpha = 0.010$, $F_{(8,143)} = 0.790$, $p = 0.612$.

In spite of the fact that it is interpreted with caution due to small number of midwives representing these findings, the results are reported as the scores were trending towards either high or low in subsequent subscales. Midwives with age range between 46 and 50 had average high CS ($n=10$, Mean= 56.58, SD 9.16) whilst those with 36 to 40 age range had average low CS ($n=17$, Mean= 47.62, SD 12.02) amongst the age groups. There was no large difference

between mean scores in BO and STS subscales within the age groups although average low BO was reflected in the 46 to 50 age range ($n= 10$, Mean= 47.1, SD 12.50).

Table 4.8: Age-groups and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
CS	Between Groups	677.956	8	84.744	.840
	Within Groups	14422.044	143	100.853	.569
	Total	15100.000	151		
BO	Between Groups	639.123	8	79.890	.790
	Within Groups	14460.877	143	101.125	.612
	Total	15100.000	151		
STS	Between Groups	1155.149	8	144.394	1.481
	Within Groups	13944.851	143	97.516	.169
	Total	15100.000	151		

Furthermore, participants' age was categorized to below 35 years ($n=69$, 45.69%) and above 35 years ($n=82$, 54.3%) and an independent t-test was done to determine the significant association between CS, BO, STS and the two age groups. The assumption of equal variance was violated (equal variance cannot be assumed) as Levene's (F) test of equality was significant in CS $F_{(147.891)} = 5.350$, $p= 0.403$, 95% CI [-4.52, 1.83] and BO $F_{(148.043)} = 10.983$, $p=0.921$, 95% CI [-3.02, 3.34]. However, Levene's test was not significant in STS and equal variance was assumed $F_{(149)} = 2.474$, $p= 0.990$, 95% CI [-3.27, 3.23]. Hence, there was no statistical association of significance between levels of CS, BO and STS with age groups of less than 35 years and more than 35 years.

Country of Birth and CS, BO and STS

The descriptive statistics for country of birth had varied responses however, Australia was largely represented ($n=107$, 70.4%). Further categorization to two groups was done for the countries to Australia and other countries. Thereafter, independent t-test was performed to these two categories (Table 4.9); Australia ($n=107$) and others ($n=44$). There was one missing

response that was removed from this analysis. However, there was no statistical significant of association for the mean scores of CS, BO and STS with the country of birth being Australia or other countries. The results for the assumed equal variance of t-test are; CS; $t(149) = 1.075$, $p = 0.284$, two tailed, 95% CI [-1.61, 5.46] meanwhile for BO $t(149) = -1.024$, $p = 0.348$, two tailed, 95% CI [-5.34, 1.69] and for STS $t(149) = -0.877$, $p = 0.392$, two tailed, 95% CI [-5.08, 1.96]. Additionally, Australia or other country of birth group statistics mean scores for CS, BO and STS had low variation as mean ranged from 48 to 51.

Table 4.9: Country of Birth Independent Samples T-Test and CS, BO and STS scores

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CS	Equal variances assumed	2.533	.114	1.075	149	.284	1.92555	1.79120	-1.61389	5.46500
	Equal variances not assumed			1.018	71.658	.312	1.92555	1.89142	-1.84524	5.69635
BO	Equal variances assumed	1.625	.204	-1.024	149	.308	-1.82218	1.78016	-5.33980	1.69544
	Equal variances not assumed			-.960	70.376	.340	-1.82218	1.89746	-5.60619	1.96183
STS	Equal variances assumed	.003	.959	-.877	149	.382	-1.56055	1.78039	-5.07862	1.95751
	Equal variances not assumed			-.861	77.094	.392	-1.56055	1.81309	-5.17081	2.04970

Ethnicity and CS, BO and STS

Participants' ethnicity was also not normally distributed; the majority were Australian ($n=72$, 47.2%) and other had a representation of less than 16%. Hence, other ethnic groups were combined ($n=72$, 47.2%). Independent t-test for independent sample of Australian and non-Australian and mean scores of CS, BO and STS was performed. There were eight ethnicity

missing data (5%); the missing data was excluded from the analysis (Table 4.10). There was no significant difference between mean scores of CS, BO and STS of midwives from Australian ethnic groups or other ethnicity, t-test of equal variance was assumed; CS, $t(142) = 0.19$, $p=0.851$, two tailed, 95% CI [-3.01, 3.65] meanwhile for BO, $t(142) = -0.95$, $p=0.924$, two tailed, 95% CI [-3.49, 3.17] and for STS, $t(142) = -0.39$, $p=0.699$, two tailed, 95% CI [-2.62, 3.90].

Table 4.10: T-test for Ethnicity and CS, BO and STS

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CS	Equal variances assumed	.470	.494	.189	142	.851	.31752	1.68429	-3.01202	3.64705
	Equal variances not assumed			.189	141.990	.851	.31752	1.68429	-3.01202	3.64705
BO	Equal variances assumed	1.510	.221	-.095	142	.924	-.16018	1.68701	-3.49507	3.17471
	Equal variances not assumed			-.095	139.865	.924	-.16018	1.68701	-3.49551	3.17514
STS	Equal variances assumed	.522	.471	.388	142	.699	.63977	1.64980	-2.62157	3.90110
	Equal variances not assumed			.388	141.392	.699	.63977	1.64980	-2.62169	3.90123

Number of Years in Australia and CS, BO and STS

The survey participants had a significant diversity of their country of birth. Some were born in Australia ($n=107$, 70.4%) and others ($n= 45$, 29.6%) were born in other countries. For those who were born in other countries the relationships between number years spent in Australia and the mean scores of CS, BO and STS were investigated. The number of years was categorized in

six groups with a difference of ten; the lowest was 1-10 years and highest was 51 years and above. The mean scores of BO was highest in a group that lived in Australia for 31-40 years ($n=4$, 8.9%, Mean=59.3, SD 15.0, 95% CI [35.4, 83.2]) and mean scores of STS was higher to participants who have lived in Australia for 21-30 years ($n=6$, 13.3%, Mean=59.2, SD 13.5, 95% CI [45.1, 73.3]). Yet, there was no statistical significance in mean differences between and within groups (Table 4.11); CS $F_{(5, 39)}=0.3$, $p=0.909$, BO $F_{(5, 39)}=0.82$, $p=0.543$ and STS $F_{(5, 39)}=1.478$, $p=0.219$.

Table 4.11: Number of Years in Australia and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	194.704	5	38.941	.301	.909
CS Within Groups	5048.536	39	129.450		
Total	5243.240	44			
Between Groups	519.000	5	103.800	.820	.543
BO Within Groups	4939.111	39	126.644		
Total	5458.111	44			
Between Groups	760.393	5	152.079	1.478	.219
STS Within Groups	4013.614	39	102.913		
Total	4774.007	44			

Number of Years of Clinical Experience and CS, BO and STS

Participants responded to number of clinical experience in a continuous form (Table 4.1). The data was analysed by ANOVA to investigate whether there was any association between years of midwives' clinical experience and the mean scores for CS, BO and STS (Table 4.12). There was no statistical significance in groups mean differences; CS $F_{(55, 60)}=1.52$, $p=0.058$, BO $F_{(55, 60)}=1.17$, $p=0.275$ and STS $F_{(55, 60)}=1.28$, $p=0.172$. However, the mean plots portrayed that clinical experience of more than ten years positively correlated with the increase in the CS with a negative correlation with both BO and STS.

Table 4.12: Years of Clinical Experience and CS, BO and STS.

Subscale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7026.593	55	127.756	1.517	.058
CS Within Groups	5053.246	60	84.221		
Total	12079.840	115			
Between Groups	6349.979	55	115.454	1.170	.275
BO Within Groups	5919.648	60	98.661		
Total	12269.627	115			
Between Groups	6349.454	55	115.445	1.284	.172
STS Within Groups	5395.068	60	89.918		
Total	11744.522	115			

Since there was a tendency to significance of $p=0.058$ for CS, further categorization into two groups was done. Independent sample t-test for experience of less than 12 months ($n=13$) and more than 12 months ($n=139$) with the CS, BO and STS scores were performed. However, there was no significant difference between mean scores of CS, BO and STS for <12 months or ≥ 12 months of clinical experience. The t-test of equal variance was assumed and findings are for CS; $t(150) = -0.631, p=0.529$, two tailed, 95% CI [-7.58, 3.91] and for STS $t(150) = -0.308, p=0.758$, two tailed, 95% CI [-6.65, 4.85] meanwhile assumption of equal variance is violated for BO $t(18.47) = -0.599, p=0.556$, two tailed, 95% CI [-5.31, 2.95].

Moreover, categorization was done again from the raw data of years of clinical experience to less than or equal to 10 years and more than ten years. Independent t test was performed and there was no significant difference between mean scores of CS, BO and STS if clinical experience is less than or equal to ten years ($n=62, 53.5\%$) or more than ten years ($n=54, 46.5\%$). Findings for the independent t-test of equal variance was assumed were; CS; $t(114) = -1.458, p=0.148$, two tailed, 95% CI [-6.53, 0.99] meanwhile for BO $t(114) = 0.421, p=0.674$, two tailed, 95% CI [-3.01, 4.64] and for STS $t(112.860) = 0.372, p=0.710$, two tailed, 95% CI [-2.99, 4.37].

Country of First Qualification and CS, BO and STS

The association of significance between country in which participants obtained their first qualification and scores of CS, BO and STS was determined through independent t-test for independent samples. There were only 20 midwives who obtained their qualification in another country. For meaningful analysis between 'Australian qualification' (n=129), the 20 responses were combined to form a 'non-Australian first qualification variable' group (n=20) (Table 4.13). Group statistics for the scores of CS, BO and STS was average in both categories. There was no significant association between mean scores of CS, BO and STS for either Australia or others as participants' country of first qualification. T-test of equal variance was assumed; CS $t(147) = -0.517$, $p=0.606$, two tailed, 95% CI [-5.97, 3.49] meanwhile for BO $t(147) = -0.148$, $p=0.882$, two tailed, 95% CI [-5.12, 4.41] and for STS $t(147) = -0.045$, $p=0.964$, two tailed, 95% CI [-4.89, 4.67].

Table 4.13: T-Test for Country of First Qualification and CS, BO and STS

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CS	Equal variances assumed	.048	.827	-.517	147	.606	-1.23731	2.39351	-5.96744	3.49282
	Equal variances not assumed			-.548	26.410	.588	-1.23731	2.25702	-5.87317	3.39855
BO	Equal variances assumed	.133	.716	-.148	147	.882	-.35688	2.40931	-5.11823	4.40448
	Equal variances not assumed			-.145	24.895	.886	-.35688	2.46022	-5.42487	4.71112
STS	Equal variances assumed	.009	.924	-.045	147	.964	-.10956	2.41810	-4.88828	4.66917
	Equal variances not assumed			-.043	24.447	.966	-.10956	2.53850	-5.34369	5.12458

Maternity Units Location

Participants of this survey worked in different locations of the health service with very few working in multiple locations. Thus, ANOVA was performed (Table 4.14) to find the significant association of the mean differences of maternity units' location and their CS, BO and STS scores. The results suggested to have no statistical significance in the groups (sites A, B, C, A and B, B and C, and A and C mean differences with the mean scores of; CS $F_{(5, 146)}=0.96$, $p=0.445$, BO $F_{(5, 146)}=1.15$, $p=0.335$ and STS $F_{(5, 146)}=0.36$, $p=0.874$. One response warrants

highlighting from participants who worked in two locations (n= 8). As they had highest score for BO (Mean= 64.59) and average for both CS and STS while other participants had average scores in all three subscales.

Table 4.14: Maternity Units Location and CS, BO and STS

Subscale		Sum of Squares	df	Mean Square	F	Sig.
CS	Between Groups	479.859	5	95.972	.958	.445
	Within Groups	14620.141	146	100.138		
	Total	15100.000	151			
BO	Between Groups	573.960	5	114.792	1.154	.335
	Within Groups	14526.040	146	99.493		
	Total	15100.000	151			
STS	Between Groups	184.440	5	36.888	.361	.874
	Within Groups	14915.560	146	102.161		
	Total	15100.000	151			

Midwives' Qualification

Midwives who participated in the survey were asked to select whether they have nursing (n=0) qualification, midwifery (n=42) qualification or both midwifery and nursing (n=110) qualification. From the descriptive statistics findings, ANOVA was done to identify the relationship of significant between midwives' qualification and mean scores of CS, BO and STS. The results affirmed that there was no statistical significance of association between groups mean differences (Table 4.15); CS $F_{(1,150)}=0.05$, $p=0.832$, BO $F_{(1,150)}=0.02$, $p=0.893$ and STS $F_{(1,150)}=0.02$, $p=0.898$.

Table 4.15: Midwives' Qualification and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.570	1	4.570	.045	.832
CS Within Groups	15095.430	150	100.636		
Total	15100.000	151			
Between Groups	1.819	1	1.819	.018	.893
BO Within Groups	15098.181	150	100.655		
Total	15100.000	151			
Between Groups	1.662	1	1.662	.017	.898
STS Within Groups	15098.338	150	100.656		
Total	15100.000	151			

Highest Qualification

The highest level of educational qualification achieved by midwives was asked (Table 4.2).

Midwives had to choose the options allocated however, a chance to fill in other qualification that was not listed in the options was given. The other options which midwives filled in are graduate certificates (n=9) and graduate diplomas (n=4). Hence, from the demographic data of highest qualification that each midwife achieved; ANOVA was done to find the mean difference between midwives highest qualifications and their mean scores for CS, BO and STS. There was no statistical significance of association in groups mean differences (Table 4.16), CS $F_{(6, 145)} = 0.98, p = 0.444$, BO $F_{(6, 145)} = 1.47, p = 0.194$ and STS $F_{(6, 145)} = 0.47, p = 0.830$. Moreover, the mean score for CS was average-high in PhD (n=6, Mean=55.06, SD 9.52) meanwhile the ones with graduate diploma BO was high (n=4, Mean=59.31, SD 11.99) whilst the rest of participants with a varied high qualification scored averagely in these subscales.

Table 4.16: Midwives' Highest Qualification and CS, BO and STS

Subscale		Sum of Squares	df	Mean Square	F	Sig.
CS	Between Groups	586.328	6	97.721	.976	.444
	Within Groups	14513.672	145	100.094		
	Total	15100.000	151			
BO	Between Groups	863.571	6	143.929	1.466	.194
	Within Groups	14236.429	145	98.182		
	Total	15100.000	151			
STS	Between Groups	287.596	6	47.933	.469	.830
	Within Groups	14812.404	145	102.155		
	Total	15100.000	151			

Moreover, the highest qualification that midwives reported to have was categorized into two groups; postgraduate qualifications and non-postgraduate qualifications (Table 4.17). Then, independent t-test was performed to determine the association of significance between mean scores of CS, BO and STS and the two groups of highest qualifications. T-test of equal variance was assumed; CS $t(150) = 0.902$, $p = 0.368$, two tailed, 95% CI [-2.03, 5.44] meanwhile for BO $t(150) = -0.474$, $p = 0.636$, two tailed, 95% CI [-4.64, 2.84] and for STS $t(150) = 0.129$, $p = 0.897$, two tailed, 95% CI [-3.50, 3.99]. There was no significant association between mean scores of CS, BO and STS for either participants' highest qualification postgraduate or non-postgraduate.

Table 4.17: T-test of Midwives' Highest Qualification and CS, BO and STS

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CS	Equal variances assumed	.128	.721	.902	150	.368	1.70610	1.89121	-2.03075	5.44296
	Equal variances not assumed			.880	58.487	.383	1.70610	1.93983	-2.17620	5.58840
BO	Equal variances assumed	.167	.683	-.474	150	.636	-.89899	1.89491	-4.64316	2.84518
	Equal variances not assumed			-.456	57.295	.650	-.89899	1.97006	-4.84354	3.04556
STS	Equal variances assumed	.206	.650	.129	150	.897	.24505	1.89623	-3.50171	3.99182
	Equal variances not assumed			.132	63.378	.895	.24505	1.85186	-3.45517	3.94527

Employment Status

Midwives from the three maternity unit settings who responded to this survey had either been in full time (n= 42, 27.6%) or part time employment (n= 110, 72.4%). Therefore, relationship of significance of their mean scores for CS, BO and STS was determined through a t-test (Table 4.18); there was a difference in the mean scores that was statistically significant with the employment status. The t-test of equal variance was assumed and the findings are; CS $t(150) = 2.43, p=0.016$, two tailed, 95% CI [0. 80, 7.86] meanwhile for BO $t(150) = -1.65, p=0.1$, two

tailed, 95% CI [-6.54, 0.58] and for STS $t(150) = -2.49, p = 0.014$, two tailed, 95% CI [-7.97, -0.93].

The mean difference between the two groups (full time and part time) suggest that full time employment (Mean = 53.13, SD = 9.69) had a statistical association of significance with CS compared to part time employment (Mean = 48.80, SD = 9.89). Part time employment had a greater statistical association with STS (Mean = 51.23, SD = 9.85) compared to full time employment (Mean = 46.78, SD = 9.77)

Table 4.18: Employment Status and CS, BO and STS

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CS	Equal variances assumed	.118	.732	2.426	150	.016	4.33022	1.78521	.80282	7.85763
	Equal variances not assumed			2.449	75.646	.017	4.33022	1.76836	.80796	7.85249
BO	Equal variances assumed	1.070	.303	-1.653	150	.100	-2.98068	1.80354	-6.54430	.58294
	Equal variances not assumed			-1.754	84.144	.083	-2.98068	1.69942	-6.36007	.39872
STS	Equal variances assumed	.000	.987	-2.496	150	.014	-4.45043	1.78324	-7.97393	-.92692
	Equal variances not assumed			-2.505	74.745	.014	-4.45043	1.77692	-7.99043	-.91042

Work Roles

Participants were asked to choose their midwifery work roles among the listed ones or to write the description in the option of "others". The identified roles were either in clinical practice or administrative aspects, the roles were divided into eight groups according to specification given by participants as stated in the demographic questionnaire (Appendix 4) and as presented in

Table 4.2. ANOVA was performed to find the mean difference between identified midwives work roles groups and their mean scores for CS, BO and STS. The ANOVA results indicated that there was no statistical significance in groups mean differences (Table 4.19) with the mean scores for either CS, BO or STS; CS $F_{(7,138)}=0.85, p=0.550$, BO $F_{(7,138)}=0.23, p=0.978$ and STS $F_{(7,138)}=0.49, p=0.841$. The mean scores between groups particularly in CS subscale scores indicated that lactation consultant role ($n = 2$, Mean= 57.84, SD 1.47) had significantly high satisfaction compared to others. But this must be interpreted with caution as the number of participants was small. Each group of other the roles had average mean scores in BO (43.45 to 52.09) and for STS subscale lactation consultant ($n=2$, Mean= 39.99, SD 2.96) had the lowest scores whilst the rest of the work roles had average scores (46.28 to 55.70). The results from lactation consultants affirm that CS as a positive aspect of caring buffers STS a negative aspect of caring existence.

Table 4.19: Midwives' Work Roles and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	596.299	7	85.186	.847	.550
CS Within Groups	13879.760	138	100.578		
Total	14476.058	145			
Between Groups	168.416	7	24.059	.230	.978
BO Within Groups	14446.799	138	104.687		
Total	14615.215	145			
Between Groups	339.221	7	48.460	.490	.841
STS Within Groups	13659.491	138	98.982		
Total	13998.713	145			

Midwives' Roster Pattern

The roster patterns were categorized into five groups of shifts (Table 4.2) in accordance to their responses. Then, the relationships between mean scores for the shift work patterns of

participants and the scores for CS or BO or STS was explored. Relationships were determined through one way ANOVA, the findings suggested that the difference mean scores between and within groups of midwives' roster pattern had no statistical significance with either scores for CS, BO or STS (Table 4.20); CS $F_{(4,147)} = 1.31, p = 0.270$, BO $F_{(4,147)} = 0.586, p = 0.67$ and STS $F_{(4,147)} = 0.48, p = 0.749$.

Table 4.20: Midwives' Roster Patterns and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
CS	Between Groups	4	129.784	1.308	.270
	Within Groups	147	99.190		
	Total	151			
BO	Between Groups	4	59.252	.586	.673
	Within Groups	147	101.109		
	Total	151			
STS	Between Groups	4	48.883	.482	.749
	Within Groups	147	101.391		
	Total	151			

Area Working Regularly

The nature of midwifery work allows midwives to work into different wards/locations. There was a need to identify any association of significance between the area that midwives regularly work and their scores for CS, BO and STS. Midwives were asked to select multiple locations that they regularly work. The choices were then categorised and 22 combinations of working areas were obtained. The similarities between groups were observed and the groups were collapsed into six main groups which had major representation and the seventh group was for others. The "others" group comprised of working areas that had minority representation. Hence, ANOVA was performed to find the mean difference between midwives' regular work areas and their corresponding scores for CS, BO and STS. However, there was no statistical significance in

groups mean differences (Table 4.21); CS $F_{(20,131)}=0.73$, $p=0.793$, BO $F_{(20,131)}=1.465$, $p=0.104$ and STS $F_{(20,131)}=0.83$, $p=0.677$.

Table 4.21: Area Working Regularly and CS, BO and STS

Subscale	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1507.607	20	75.380	.726	.793
CS Within Groups	13592.393	131	103.759		
Total	15100.000	151			
Between Groups	2760.620	20	138.031	1.465	.104
BO Within Groups	12339.380	131	94.194		
Total	15100.000	151			
Between Groups	1692.758	20	84.638	.827	.677
STS Within Groups	13407.242	131	102.345		
Total	15100.000	151			

Summary of the Findings

From the research question of this study; “As measured by the professional quality of life scale, what is the prevalence of CS and/or CF in midwives at one of the Melbourne metropolitan health services?” there are several categories that has been taken into consideration. The categories are derived from theoretical framework of the ProQOL v5. Results have been presented in consideration of the demographic variables that might influence the prevalence of either CS and/or CF. In regard to CF the results have been presented on its elements of BO and STS since the ProQOL v5 measures BO and STS in reference to CF. The questionnaire for demographic variables were derived by considering the work, personal and client’s environment.

In this study, there was association of significance between employment status and both positive aspects of caring (CS) and the negative aspect of caring (STS). The negative aspect of caring; BO had no significant association with any of the demographic variables. The study reliability was very good since this study's Cronbach's alpha coefficient (α) for the ProQOL v5 subscales was above recommended value of $\alpha = 0.7$: CS ($\alpha = 0.884$), BO ($\alpha = 0.815$) and STS ($\alpha = 0.810$).

In the discussion chapter, the results and implication of the findings will be discussed in detail. Further association between different variables will be examined. Also, the CS, BO and STS scores and their subsequent levels will be analysed particularly in areas of prevailing literature interests. In spite of the fact that the scores of professional quality of life construct range in average level their actual numbers differ significantly. The significant difference in terms of the number and direction of relationship will be discussed in the next chapter.

Chapter Five: Discussion

This chapter provides an in-depth discussion of the results and in relation to Australian and other international studies. The research question of this study identified in previous chapters will be answered and the aims of the study are addressed accordingly. The discussion provides some association of this study to other studies performed in either similar or a different contexts. However, the similarity is greatly linked with the nature of work that caring professionals do, that is patient care in a clinical environment. This study adds to knowledge pool of the studies in both Australian and international contexts. As midwives who were full time employed CS were high levels whilst there was high levels of STS in part time midwives. We need to do more studies on the influence of CS and CF to midwifery profession.

This study has investigated the prevalence of CS and/or CF among midwives at a Melbourne metropolitan health service in Victoria, Australia. Professional quality of life constructs; CS and CF are discussed in detail in relation to their prevalence among midwives. Moreover, the significant association of either CS or CF and demographic variables is delineated. The discussion is supported by other literature which have evidenced either similar or different findings to this study. The arguments are presented in this order; overall results in relation to the research aims and prevalence of CS and CF in relation to midwives' demographic characteristics. Also, summative conclusion of the chapter is presented.

What was Found in Relation to the Research Aim?

Regarding compassion satisfaction, more than a quarter of midwives who participated in the study had high levels of CS. This is an important finding for midwives as professional group and for organisations that employ midwives. It is recognised in other professional literature (Hegney et al., 2014; Mizuno et al., 2013; Rickard et al., 2012) that health workers with high levels of CS are probably likely to provide better care, more likely to remain in employment, and less likely to experience negative effects of stress. The finding from this study is the first time the prevalence of CS of midwives in an Australian setting has been measured. Is a high level of CS in 25% of employed midwives a reasonable level for the profession? Around 50% of the midwives had average levels of CS. What work and personal situations would influence these midwives to gain more CS? Also what situations could influence these midwives to experience less CS? These questions are beyond the scope of this study, but they are generated by the findings. Another very important finding from this study in relation to CS was that approximately 25% of midwives had low CS. This study was not powerful enough to discover what factors might be associated with low CS. However, the health professional literature (Foureur et al., 2010; Knezevic et al., 2011; Leinweber & Rowe, 2010; Mollart et al., 2013) is suggestive of risks associated with low levels of compassion satisfaction.

Regarding compassion fatigue, this phenomenon is made up of two components STS and BO. This study's findings in relation to the prevalence of STS and BO in this cohort of midwives are important. Approximately 75% of the midwives had average to high levels of STS. Similarly, it was revealed that of the midwives who participated in this study, 75% of them had average or high levels of BO. Less than a quarter of the midwives have low levels in both STS and BO subscale.

Together these are very important findings. The findings arise from one snapshot, at one time in one health service, but they do make an important statement about the prevalence of CS and CF in a group of midwives. These statistics prompted further analysis, which investigate whether the possibility of CS, BO and STS co-exist or not.

Further analysis revealed that midwives who experienced average and high BO level had experienced similar levels to STS. Since BO and STS are both negative aspects of caring; such results were expected. However, to overcome the aversive aspect of caring (BO) emphasis is placed on the prevalence of STS in this population of midwives. As STS is exposure to traumatic events, repeated exposure lead to exhaustion, anger and frustration the characteristic of BO (Stamm, 2010). As BO has a gradual onset, organisations structures should provide support to employees to minimize the risks of STS maturing to BO. Suggestively, peer support through debriefing after exposure to stressful events, manager's support through maintaining favourable working environments (Li et al., 2014; Rickard et al., 2012) have proved to work in increasing satisfaction and reducing BO and STS. Co-existence of BO and STS reflect the characteristics that are common to both subscales of CF.

Exploration of average to low CS and the risk for BO coexistence affirmed that some midwives who have average to low levels of CS are as well at risk of BO. BO is associated with heavy workload and non-supportive environments (Stamm, 2010; Yoshida & Sandall, 2013). An assumption made is that, midwives in this study who were not satisfied with their work experienced low to average levels of BO. This study reports the lack of association of significance between findings of the average to low levels of CS and at risk of STS. It is concluded that in this study midwives at risk of STS were still balancing their work load and have good CS, they are not at BO yet.

In this small population of midwives with a wide scope of practice support of the notion that caring professions are likely to experience positive (rewarding) or negative (stressing) aspects of the services they provide is confirmed. In this study, the findings suggest that both CS and CF are experienced by the health service midwives. Since these are the general findings of the population studied, the following subsections discuss the independent demographic variables that correspond to the levels of either CS or CF mentioned in the former paragraphs. The demographic variables explored were; age groups, country of birth, ethnicity, midwives' first qualification, maternity unit setting, working roles and roster, highest qualification achieved and their employment status.

These variables are discussed in a manner that fit in the theoretical framework of this study. The central parameters of either CS or CF are: first, work environment, which incorporate roles performed by midwives. Second, the personal environment which exposes a midwife to be affected by either positive or negative aspects of caring. Lastly, a client environment that plays similar contribution to midwife's exposure to CS and CF.

Compassion Satisfaction

In this study approximately one quarter of midwives experienced high levels of CS. Similar percentage experienced low levels of CS meanwhile average CS was experienced by almost half of the studied population. Based on these findings, the demographic variables that correlate to low, average and high levels of CS were determined. Amongst the demographic variables explored aiming at determining their association with CS; only full time as an employment status has a statistical significant of association with CS.

Similarly, there was a lack of significance between CS and number of years of professional experience of midwives (Mizuno et al., 2013; Oncel et al., 2007). In contrast, years of professional experience was reported to have positive relationship of significance with CS (Hegney et al., 2014).

The results indicate that midwives who worked in a full time employment presented higher levels of CS compared to midwives who worked part time. Midwives being satisfied with their job in a full time employment might have influenced the CS result. The high CS finding is consistent with a previous article on Turkish midwives job satisfaction (Oncel et al., 2007). In the article authors asserted that clear job description, potential to work independently and the unaffected conditions associated with midwifery improve job satisfaction. Moreover, organisational initiatives to provide employees support through supervision or peer support is reported by an Australian study on nurses to increase the levels of job satisfaction through reducing underpinning features for stressful work (Rickard et al., 2012). Based on a study of nurses from United States of America (USA); organisational commitments and protection over their employees influence their reported levels of job satisfaction, CS, BO and CF (Li et al., 2014). Hence, full time employment might have subjected midwives to the factors that have led to higher CS than their counterparts employed part time.

In this study, full time employed midwives indicated good job satisfaction due to the high levels of CS. Potentially, they may have received supports from the organization and colleagues that influenced the achieved levels of CS by buffering CF which is a negative aspects of caring.

Compassion Fatigue

In this study's findings; a discussion on CF is presented under BO and STS subheadings. Since CF is the main construct and BO and STS are the subscales. As previously described in Chapter One, CF is a negative feeling associated with helping others in the caring professions. At least one quarter of midwives in this study are identified with high levels of both BO and STS. In spite of the overall study findings for midwives' at risk of BO to mutually relate with midwives' at risk of STS there was lack of statistical significance between demographic variable and the levels of both BO and STS. There was one exception. There is a significant association between STS and employment status but not with BO. Hence, midwives who were employed part time by the health service experienced higher STS.

The association between these elements BO and STS are discussed below in relation to this study's findings of significance. The discussion reports this study's findings and builds argument against or for with other studies that explored similar concepts.

Secondary traumatic stress

The overall study findings suggest that less than one fifth of midwives have low STS. Average and high levels are predominant in approximately four out of five midwives. In this study, part time midwives employed by the health service reported significantly more STS than full time employees. STS relates with nature of work and is fear oriented (Stamm, 2010). In caring professions STS is considered to have similar effect as BO. They both represent the negative effects of caring of CF and this study's overall results have confirmed their co-existence to midwives. The risks of high levels of STS is reported to increase if healthcare professionals

present with high levels of empathy, repeated exposure to trauma and lack of social support after trauma exposure increase the risk of STS (Leinweber & Rowe, 2010) followed by BO.

The lack of significant association between STS and either midwives' qualification or midwives' years of clinical experience is congruent with Mizuno et al. (2013) study to Japanese midwives. Also, the fact established by this study that STS is independent of the roster pattern is contrary to Knezevic et al., (2011) who reported STS to be associated with night duty. This study has found no association between either types of shift or areas that midwives regularly work with the levels of either BO or STS. An Australian study by Foureur et al. (2010) that found unsupportive practice environment to be associated with STS could not be substantiated in this study. Since the area midwives' regularly work which is considered as the work environment had no effect on their levels of STS.

Burnout

Overall findings from the three maternity settings indicated that one quarter of midwives have high levels of BO. However, there was lack of statistical significant between these findings and midwives' demographic characteristics. The BO levels in this study were not significant in relation to midwives age, clinical experience and clinical roles that determine their occupational autonomy. In contrast to this study, Jordan et al. (2013) found that high BO levels correlated with midwives' age or being young in the profession and clinical experience of less than ten year as well as part time employment and nature of roles performed by midwives.

This study explored factors that could possibly determine the level of BO on professional autonomy such as the clinical roles of midwives and working hours. Tertiary consultancy is the most autonomous job within the hospital structure because they see women in daily basis and

they form relationships. Whilst only two lactation consultants replied, this study indicated that midwives who are lactation consultants had high CS. Certainly these results should be interpreted with caution but this result suggests that midwives undertaking highly autonomous roles may have less BO. Yoshida and Sandall (2013) explored a group of community and hospital based midwives reported that high BO levels associated negatively with occupational autonomy and positively with working hours. The portrayed levels of midwives' BO in this study lack significance contrary to Jordan et al (2013) findings on the levels of BO which were average in the outlined domains.

This study confirms that 83.9% of midwives at risk of STS are at risk of BO too. These findings support the assumption that prevalence of STS to part time midwives exposes them to a greater risk of the BO levels identified. Whilst there is no distinct BO, these findings are supported by Jordan et al. (2013) who reported upon the relationship between employment status and BO of a small population of Australian midwives. Using the CBI, they found that being a full time and part time employee influence the BO levels. For part time employed midwives' the level of BO was high in all three CBI domains; client-related, personal-related and work-related BO. Potentially, part time midwives with high STS will experience high BO levels if left unmanaged.

Furthermore, the study findings portray lack of significance association between BO and years of experience. The findings are inconsistent with Oncel et al. (2013) study that reported on decrease of emotional exhaustion type of BO with an increase in years of professional experience. The levels of BO of midwives in this study are independent of the length they have stayed in the profession. This suggest that midwives are compassionate within their jobs thus

buffering the chances for them to be exposed to significant high BO levels a negative aspect of caring.

However, lack of direct statistical significance of the levels of BO with demographic variables affirms the assumption that midwives have good job control. This finding is consistent with Yoshida and Sandall (2013) who reported a negative association between BO and job control. Hence, absence of statistically significant levels of BO across the demographic variables in this study could confirm midwives job control.

Study Limitations

This study has collected information from participants at one point and time (cross-sectional) for the previous thirty days. Therefore, the occurrence of any event at that particular time could have influenced the response given by participants. Hence, there is a need for the study to be done at different intervals in order to draw suitable conclusions pertaining CS and CF (BO and STS) of the midwives involved in this study. As cross sectional study is practically restrictive to determine the prevalence of the concepts of interest that is CS and CF (BO and STS).

The study findings cannot be generalized due to different populations of midwives despite the fact that the response rate was good. The generalisability is restrictive due to small sample size of one health service. The health service organizational structure differences and features of its employees are restrictive to assuming that similar findings are expected from same or different organisations at a different time. Also, the time constraint for data collection was limited due to university rules (minor thesis). If there was ample time through repetitive study reminders, the study may have received higher response rate hence a great variability in participant responses could have been anticipated.

The inclusion of more demographic questions in the study may have supported the exploration of more factors. For example, since majority of participants in this study were employed in a part time basis, more demographic information about the employment status of these part time midwives may have yielded a wider array of findings.

The study was prone to midwives response bias. Potentially, midwives failed to participate in the study had either experienced issues or not in regard to CS and CF. Voluntary participation could have influenced the characteristics of participants who participated in the study. There is a likelihood that midwives who responded to the survey acknowledged more the positive aspects of their caring duty and those who did not participate had been influenced on the negative perspectives of their work, client and personal environment.

The missing data in some questionnaires reduced the response rate and likelihood of the study to gather more findings from those participants. The eight participants who submitted incomplete surveys could have made a difference in response. Also, the institution requested that not to include casual workers but given that part time workers had higher STS and higher BO has been reported previously this should be reconsidered in the future studies.

Conclusion

This chapter has examined in details the results presented in Chapter Four. The discussed results highlight the prevalence of CS and CF among Australian midwives in a health service surveyed. Despite broad context or practice or professional regulations, this study highlights prevalence of both positive aspects of caring (CS) and/or the negative aspect of caring (CF)

among midwives. The discussion is based on the findings of this study that are new in comparison with other literature that found similar or different findings in nursing or midwifery fields.

In this study, midwives presented both CS and CF. In some midwives who experienced high CS had also experienced BO. Similarly, for midwives who were at risk of STS were concurrently at risk of BO. The BO and STS as elements of CF co-existed in some midwives. This gives hint on the emotional struggles that midwives might have experienced while being sandwiched in high CS, at risk of STS and at risk of BO. Therefore, the new knowledge generated on midwives' CS and CF informs midwives on their lived professional quality of life. These results portrayed midwife's CS and CF in the last 30 days to participating in this study, and highlights the uncompromised personal, client and environmental care that might have been delivered when midwives experienced these emotional uncertainties.

Chapter Six: Conclusion and Recommendations

In this chapter the thesis and the research is concluded. The chapter is commenced by revisiting the research aim. Implications arising from the study are identified. These incorporate suggestions for further research, and for midwifery practice, policy and education.

Recommendations arising from the study are also stated.

Summary

This study aimed at investigating the prevalence of CS and or CF among Australian midwives in one of the health service. The study focused on midwives who are employed by the health service and who are not in a casual employment or employed with an agency. The midwives in this study worked in three different maternity unit settings which were geographically dispersed in the health service namely; sites A, B and C. A quantitative descriptive cross-sectional online survey as an approach to this study was undertaken. The study results were analysed and discussed in relation to the core concepts findings of significance and overall findings, which generated and reported new facts and increased understanding of CS and CF among midwives.

In Australia, there was limited literature in regard to midwives' CS and CF. This study's findings add to literature pool around midwives professional quality of life. Most articles explored separately the concepts of CS and CF (Chapter Two), some referred CS as job satisfaction whilst others addressed CF as either BO or STS. This study, by the use of ProQOL v5 tool has achieved

new knowledge about the prevalence of CS and CF on sample of midwives who worked in one Australian health service.

Previously there was an assumption on midwives' relative immunity to the negative aspects of caring (Chapter Two). As reported in Chapters Four and Five this study has generated important new findings. Overall findings on the levels of CS and CF were; a quarter of midwives had high levels of CS and three quarters had average to high levels of STS and BO. Midwives who experienced average to low levels of STS were as well at risk of similar levels of BO. Midwives with STS still had high CS meanwhile midwives with BO had average to low CS. These findings have implications for further research and for ongoing practice, education and policy. The implications and recommendations that arise from these findings follow.

Implications Arising from This Study

Overall the findings have revealed that in the studied midwifery population both CS and CF prevail. There is a range of intensities for CS and CF (as either BO or STS). These statistically significant findings highlight midwives lived professional quality of life and they have implications for further research and for policy, education and practice.

Implications for Future Research

The study was undertaken at one time in one health service, with one cohort of midwives from three maternity settings. It should be recalled that the ProQOL v5 tool measures CS and CF as experienced by the midwives, but only in relation to their experience of the previous 30 days. The study really needs to be replicated in the same institution to see if the results are consistent, or if they change at different times or with different samples of respondents. Study

replication will assist the development of a clearer picture of the prevalence of CS and CF at different times in the midwives professional lives while working in the organisation.

A larger sample size would more likely yield stronger results. To achieve higher numbers, a wider number of health services probably need to be involved in a new study or a standardised study with the same variables could be used at different institutions in different studies and the results could be combined in one database. This would facilitate gathering sufficient responses from midwives and increase the power of the study. Research studies need to be expanded to other states and possibly countries so that enough evidence on midwives' professional quality of life can be gathered about the state of CS and CF in midwives before generalisation can be made.

Moreover, demographic information should be standardised to be more uniform across future studies so that further research are more consistent in noting relationships between variables. This will enhance researchers to ask similar questions in regard to midwives' demographic information so that the same comparison can be made when the validated tool (ProQOL v5) is used. A standardised demographic questionnaire could be used in similar local and international studies to midwives.

A limitation of the study was that no qualitative questions were added into the survey. Thinking about future research studies it may be useful for qualitative open ended questions to be incorporated into the survey. Additional qualitative data would supplement the current information by adding more insight into "why and how" questions in respect of CS and CF. Different psychometric tools can also be used to widen body of evidence that will be useful to midwifery profession. This raises the possibility that additional and related studies could be undertaken using qualitative research methods and / or mixed methods research designs.

Future studies need to be done to investigate further on the factors that have led to STS on part time employees and not their counterparts full time employees since both work in the same health service. Also, there is a need for the future studies to do further exploration on other factors that trend towards significance.

Implications for Policy, Education and Practice

Some of the identified findings were; midwives who experienced STS were at risk of similar levels of BO and lower levels of CS subjected midwives to BO. Also other identified findings were the higher prevalence of CS among midwives working in full time employment and the higher prevalence of CF (in the aspect of STS) among midwives who are working in part time employment. There are indirect implications arising from this finding.

The ProQOL v5 questionnaire has a self-assessment form. Midwives working in clinical areas could be encouraged to undertake self-testing of their CS and CF levels. Mechanisms within teams could be developed for identifying what the midwives find supports their CS and these factors could be encouraged within the cultural practices of midwifery. Similarly, if particular events or activities are likely to increase CF as BO or STS, these could be discussed and practices that reduce these threats could be developed.

Midwives who work full time were generally identified to have CS. Perhaps they could be empowered with mentoring programs to facilitate peer support for part time midwives who are more likely to experience STS. Mentoring programs and peer support have been found in to enhance favourable coping strategies and to facilitate debriefing (Goldbort et al., 2011) after an exposure to stressful personal, work or client environment. These two methods could provide more opportunities to share information hence facilitate healing from stressful traumatic

events, and possibly increase job satisfaction. These interventions may support increase the prevalence of the positive aspects of caring (CS) in midwifery profession.

These and other suitable devised or identified measures such as organisational work-life support could be undertaken to facilitate well-being of part time midwives, who have significantly high levels of STS. The supportive intervention may help buffer the traumatic experiences that has led to STS hence increase clients safety and midwives personal wellbeing. Repeated exposure to traumatic events related to client and work environment can be dealt with at the organisational administrative levels such as MUM and midwives immediate supervisors (Goldbort et al., 2011). However, the underlying causes to such particular events need to be identified for the proper interventions to be employed. It is evident that midwives who experienced repeated exposure to stressful events when receiving enough support and continuous supervision are facilitated to embrace healthier coping strategies that shield them from STS (Halperin et al., 2011; Oncel et al., 2007).

Educational interventions need to be implemented to a group of midwives that is affected by negative aspects of caring (STS). Hospitals education programs such as seminars on coping strategies upon exposure to negative aspects of caring (CF) could be made available for midwives. Also educational materials for instance a ProQOL pocket card (Appendix 13) suggested by Stamm, Higson-Smith, Hudnall, and Stamm (2010). The guide outlines coping strategies when exposed to CF subscales, since the latter are detrimental to the midwife woman relationship hence need to be managed appropriately. However, further midwifery research is recommended. Generally staff development sessions related to CS and CF may help midwives awareness levels, and the support the development of strategies to generate healthy workplace cultures and personal practices that support work-life balance.

A midwife is a person who is considered to be with the woman throughout pregnancy labour, birth and postnatal period (Raynor, Mander, & Marshall, 2014). The woman who is central to midwife-woman partnership may be positively or negatively affected by the lived professional quality of life of her care giver. Therefore, vulnerability of a midwife to the negative aspects of caring needs to be explored by the health service leading causes to either STS or BO should be addressed so that compassionate care is achieved.

There is a need for health services to increase awareness of the professional quality of life that is expected to be lived by their employees. When the work, client and personal environment renders the midwife unsatisfied with the job, further support by the institution is required. Health service can manage and reduce factors that lead to BO and STS through creating work, client and midwives' personal environment that increases job satisfaction. Improvement in these aspects can elevate CS for the betterment of an improved outcome for midwives' personal and work environments as well as clients which coincide with quality of care delivered. As the job satisfaction is a rewarding aspect of caring and can lead to development of CS.

Recommendations

This study has highlighted prevalence of CS and CF (STS and BO) among midwives. It was found that low CS aligns with average to high levels of BO, midwives with average to high levels of STS are at risk of similar levels of BO. Midwives with average to high levels of STS still had CS. The recommendations arise from this research they are stated in the list below.

1. Replication of this study with midwives needs to be undertaken in the same institution.

2. Replication of this study with midwives is needed on a larger scale; a larger and wider scope of Australian and/or International health services is needed to provide stronger datasets.
3. Additional and related studies could be undertaken using qualitative research methods and / or mixed methods research designs.
4. Consideration should be given to exploring whether studies need to be designed to investigate the finding that STS in part time employed midwives is more likely than in full time employees. Similarly there is a need for the future studies to undertake further exploration on factors that in this study trended towards significance.
5. Midwives working in clinical areas may use CS and CF resource materials in groups or individuals. For instance Midwives in clinical groups could monitor their levels of CS and CF by using the ProQOL v5 self-administered questionnaire. Alternatively midwives may use the ProQOL pocket card as a reference guide while working in practice.
6. Some staff development activities could provide more information about the phenomena of CS and CF, and assist midwives with strategies to support their awareness and creative responses in managing workplace culture and work-life balance.
7. Administratively it may be possible for mentoring programmes between midwives with high CS to work with midwives who are experiencing low levels of CS or higher levels of CF as BO or STS.
8. Managers may need to consider work management practice and protocols, and be aware that part time staff may be more vulnerable to BO or STS.

Conclusion

The scope of this study investigated prevalence of CS and CF among midwives in one Australian health service based in Melbourne metropolitan. The study found that a quarter of midwives

had high levels of CS and three quarters had average to high levels of STS and BO. Midwives who experienced average to low levels of STS were at risk of similar levels of BO. Midwives with STS still had high CS meanwhile midwives with BO had average to low CS. There is also a prevalence of CS and CF in the aspect of STS among midwives who worked in full time and part time respectively. This study affirms that there is a probability of midwives being exposed to rewarding and traumatizing aspects of caring. The main factor that was statistically significant and has led to high levels of CS and STS is employment status.

A midwife is a key player in delivering maternity services to women thus a midwife's well-being in the aspects of her professional quality of life is essential. A supportive environment can assist midwives to have to render compassionate care to clients. However, the most important fact is that midwife's personal life, the client and work environment are not negatively affected by either rewarding (CS) or traumatizing (BO and STS) moments of their job.

This study's findings contributes to the literature on midwifery - a caring profession, it highlights midwives' professional quality of life. In midwifery practice midwives experience joyous moments of supporting women during their pregnancy and birth to welcome newborns. However, there can be moment of great despair when their practice is not always in accordance with their women centred philosophy. This study asserts that midwives are subjected to both positive (CS) and negative (STS) aspects of caring as the nature of roles played by midwives expose them to stressful as well as rewarding events in their professional lives.

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Appendices

Appendix 1: Search Terms

Keywords used in the search strategy

Compassion fatigue	Midwives	Labour ward
Synonyms: Burnout Secondary traumatic stress	MeSH, truncation and phrases: Midwi* Nurse-midwi* Nurse midwi*	MeSH, truncation, wildcard and phrases Labo?r ward* Labo?r room* Birth suite* Delivery suite*

Appendix 2: Summary of the Literature Search

Search summary

Databases	Articles retrieved	Abstract reviewed	Relevant articles
CINAHL	55	9	2
Ovid MEDLINE	3 one duplicate	2	2
Cochrane database of systematic review	52	5	1
Maternity and infant care	194 two duplicate	11	9
ProQuest Nursing and allied health science	19	11	2
Total number of articles retrieved			16
Total number of articles obtained from hand-search of reference list of retrieved articles			7
Grand total number of articles used in this proposal			23

Appendix 3: Included Papers - Quality Assessment and Data Extraction

Citation of paper: Li, A., Early, S. F., Mahrer, N. E., Klaristenfeld, J. L., & Gold, J. I. (2014). Group cohesion and organizational commitment: protective factors for nurse residents' job satisfaction, compassion fatigue, compassion satisfaction, and burnout. *Journal of Professional Nursing*, 30(1), 89-99. doi: 10.1016/j.profnurs.2013.04.004

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i> – H index 1, academician psychology department University of Colorado, expert in medicine and nursing. Two documents; cited by 2.</p> <p><i>Author 2</i> - H index 3, business analyst Redwood City, subject areas; nursing, medicine & business. Six documents cited by 52.</p> <p><i>Author 5</i> – H index 14, academician; Keck school of medicine, subject areas; medicine, nursing, psychology. Fifty documents cited by 542.</p>	<p>2014</p> <p>Journal of Professional Nursing</p> <p>Impact factor – 0.88</p> <p>Rank - 59/107</p> <p>Quartile 3.</p>	<p>Country- United States of America</p> <p>Different healthcare context – study was done at children's hospital with nurses who are less than one year experience.</p>	<p>Nurse residents</p> <p>Paediatric hospital</p>	<p>Original study</p>

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Quantitative descriptive longitudinal study</p> <p><i>Research question</i></p> <p>What is the relationship between nurse residents' perceptions of group cohesion and organizational commitment and their relations job satisfaction, BO, CF and CS?</p>	<p><i>Sample size:</i> 251 nurses self-recruited through snowball method</p> <p><i>DC method:</i> Self-report pencil and paper questionnaire</p> <p><i>DA method:</i> descriptive statistical tests, linear regression for job satisfaction, BO, CS and CF/STS. Organization commitments and group cohesion interaction with stress/PTSD was determined.</p>	<p><i>Relevant results:</i> Pre-existing stress exposure and PTSD, current stress exposure and PTSD, Association between stress exposure and PTSD symptoms with nurse outcomes, group cohesion and organizational commitment as protective factors, BO, CS, CF/STSD.</p> <p><i>Conclusion:</i> Group cohesion was effective protective factor in reducing effects of current stress, PTSD, BO, CF/STS and reduced CS. Organizational commitment promoted job satisfaction.</p>	<p>Good quality CASP tool for descriptive/cross sectional research</p> <p>9/10 "YES"</p>	<p>Highly relevant.</p>

Data Extraction

CS	CF and STS	BO	Comments
CS was increased with an increase of group cohesion.	Group cohesion buffered the negative effect of stress exposure.	Group cohesion protected nurse residents from BO.	Job/CS positively associated with supportive work environment.

Citation of paper: Jordan, K., Fenwick, J., Slavin, V., Sidebotham, M., & Gamble, J. (2013). Level of burnout in a small population of Australian midwives. *Women and Birth*, 26(2), 125-132. doi: <http://dx.doi.org/10.1016/j.wombi.2013.01.002>

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
Author 1 – H index 2, clinician Goldcoast hospital, subject areas; medicine and nursing. Two documents; cited by 4. Author 2 – H index 18, Goldcoast university hospital, subject area; medicine, nursing & psychology. 86 documents; cited by 733. Author 5 – H index 15, Griffith University, subject area; medicine, nursing & psychology. 58 documents cited by 604.	2013 Women and birth Impact factor 1.696 Rank 17/105 Quartile 1	Country- Australia Same healthcare context	Midwives Setting: Maternity unit	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<i>Research design</i> Quantitative descriptive study <i>Research question</i> What is the Level of emotional-exhaustion-BO in midwives at one maternity unit in South East Queensland Australia?	Sample size: Recruited 110 midwives, 58 participated. <i>DC method:</i> Self-administered Copenhagen BO Inventory questionnaire. <i>DA method:</i> Descriptive and explorative of participants characteristics, used SPSS database; mean, ranges and frequencies were determined.	<i>Relevant Results:</i> Personal, Work and Client related BO. <i>Conclusion:</i> Age, years of experience, employment position and work area were associated to high levels of midwives' BO.	Good quality. CASP tool for descriptive/cross sectional research 9/10 "YES"	Highly relevant.

Data Extraction

BO	Comments
Personal and work related BO was highest to <35 years of age and < 10 years of experience. BO level related to working with clients was highest to midwives >35 years of age in spite of the fact that it was low in overall highest BO ranking	High levels of BO portrayed by midwives are threat to provision of high quality maternity care to their clients.

Citation of paper: Yoshida, Y. & Sandall, J. (2013). Occupational burnout and work factors in community and hospital midwives: A survey analysis. *Midwifery*, 29(8), 921-926. doi: <http://dx.doi.org/10.1016/j.midw.2012.11.002>

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 1, International Organisation for Migration (Haiti office), subject area; medicine & nursing, 1 document cited by 5</p> <p><i>Author 2</i>-H index 19, Kings College London, subject area; medicine, nursing, psychology, 112 documents cited by 970</p>	<p>2013</p> <p>Midwifery</p> <p>Impact factor 1.7</p> <p>Rank 17/107</p> <p>Quartile 1</p>	<p><i>Country:</i> England</p> <p><i>Context:</i> Different healthcare context as community and hospital midwives were both participants in this study.</p>	<p>Midwives</p> <p><i>Setting:</i> Working at one hospital trust (community and hospital based midwives).</p>	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i> Quantitative descriptive cross-sectional study.</p> <p><i>Research question</i> What are the work factors associated with occupational BO by comparing community and hospital midwives?</p>	<p><i>Sample size:</i> 238 recruited and 128 participated.</p> <p><i>DC method:</i> Self-administered Maslach Burnout Inventory (MBI) & Safety Attitudes Questionnaire (SAQ) questionnaires sent through individual midwives mail box.</p> <p><i>DA method:</i> Descriptive statistics; mean, Z-scores and t-scores were determined. Multiple linear regressions to determine relationship between variables.</p>	<p><i>Relevant Results:</i> Demographics, workload/work pattern, job control, team-work, safety climate/management perceptions & job satisfaction</p> <p><i>Conclusion:</i> High level of professional autonomy was means of BO protection. BO has a positive association with working hours. Community midwives were more likely to have high levels of stress recognition. Work-life balance support from the Trust significantly protected midwives from BO levels.</p>	Good quality. CASP tool for descriptive/cross sectional research 9/10 "YES"	Relevant

Data Extraction

BO	Stress	Comments
Job control particularly involvement in decision making had negative association with BO levels. Emotional Exhaustion was significantly associated with inability to meet conflicting work demands. Low BO levels were positively associated with high satisfaction derived from being able to use their abilities.	Stress was positively associated with BO	Higher levels of Emotional Exhaustion a BO subscale was associated with; working long hours, inability to meet conflicting demands, managers' approachability. This has high contribution to midwives wanting to leave their jobs at the Trust.

Citation of paper: Rickard, G., Lenthall, S., Dollard, M., Opie, T., Knight, S., Dunn, S., . . . Brewster-Webb, D. (2012). Organizational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia. *Collegian*, 19(4), 211-221.doi: 10.1016/j.colegn.2012.07.001

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>—H index 3, healthcare Australia subject area; nursing, medicine & psychology, 6 documents cited by 42.</p> <p><i>Author 2</i>—H index 5, centre for remote health, subject area; medicine, nursing, psychology and business, 17 documents cited by 79.</p> <p><i>Author 10</i>—H index, Alice Springs hospital, subject area; Nursing, 1 document cited by 2.</p>	<p>2012</p> <p>Collegian</p> <p>Impact factor 0.843</p> <p>Rank 66/105</p> <p>Quartile 3</p>	<p><i>Country</i>- Australia</p> <p>Different healthcare context</p>	<p>Nurses</p> <p><i>Setting</i>: Two public hospitals in the Northern territory</p>	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p>Research design</p> <p>Quantitative descriptive</p> <p>Research question</p> <p>What is the impact of organization intervention aimed to reduce occupational stress and turnover rates?</p>	<p>Sample size: 484 nurses</p> <p>DC method: Triangulating data from survey and archival information. Pre and post interventional validated questionnaires were used</p> <p>DA method: t-test to analyse differences between cohorts</p>	<p>Relevant Results: Adverse psychological health outcomes, positive work outcome, job demands, job resources & system capacity</p> <p>Conclusion: There was significant reduction of stress in both groups. Job demands significantly decreased. Levels of supervisor and co-worker support improved. Psychosocial safety climate increased in both hospitals</p>	<p>Fairly good quality. CASP tool for descriptive/cross sectional research 7/10 “YES”.</p>	Relevant

Data Extraction

CS	Comments
Significantly increased between two hospitals.	Occupational stress interventions are significant at organizational level to reduce/eliminate stressful job characteristics and address the cause of unhealthy work environment. This intervention reduced job turnover too.

Citation of paper: Sheen, K., Spiby, H., & Slade, P. (2015). Exposure to traumatic perinatal experiences and posttraumatic stress symptoms in midwives: Prevalence and association with burnout. *International Journal of Nursing Studies*, 52(2), 578-587.doi: 10.1016/j.ijnurstu.2014.11.006

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 1, subject areas; medicine, nursing 7 psychology, 3 documents cited by 1.</p> <p><i>Author 2</i>-H index 14, subject areas; nursing, medicine & psychology, 54 documents cited by 571.</p> <p><i>Author 3</i>-H index 24, subject area; medicine, psychology, nursing & social sciences, 96 documents cited by 1732.</p> <p><i>Key Affiliation:</i> 1st and 3rd author work with institute of psychology, Health and society, University of Liverpool. 2nd author University of Nottingham.</p>	<p>2015</p> <p>International Journal of Nursing Studies.</p> <p>Impact factor 2.248</p> <p>Rank 3/107</p> <p>Quartile 1</p>	<p><i>Country</i>-United Kingdom (UK)</p> <p>Same healthcare context</p>	<p>Midwives</p> <p><i>Setting:</i> Perinatal midwives</p>	<p>Original study</p>

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Quantitative descriptive study</p> <p><i>Research question</i></p> <p>What is the psychological impact of midwives' exposure to traumatic perinatal events?</p>	<p><i>Sample size:</i> 10 midwives self-recruited through snowball method</p> <p><i>DC method:</i> Postal survey; tools used were Impact of Events Scale-Revised (IES-R), World Assumption Scale (WAS), Maslach Burnout Inventory (MBI) & Interpersonal Reactivity Index (IRI).</p> <p><i>DA method:</i> Descriptive statistics using SPSS, correlation coefficients for association between scores, Multiple regression analysis for association between variables and between IES-R&WAS scores with MBI subscales.</p>	<p><i>Relevant Results:</i> Experiences of traumatic perinatal events, perceived impact of traumatic perinatal event exposure and worldwide view & BO.</p> <p><i>Conclusion:</i> Midwives in this study had either witnessed or listened to accounts of events perceived as traumatic. Witnessing traumatic events had influenced midwives change of profession or leaving midwifery.</p>	<p>Fairly good quality.</p> <p>CASP tool for descriptive/cross sectional research</p> <p>7/10 "YES".</p>	<p>Just relevant.</p>

Data Extraction

BO association to posttraumatic stress	Comments
<p>High emotional exhaustion was associated with high levels of PTS. Greater levels of depersonalisation had smaller association with more severe symptoms of PTS. PTS symptomatology had no association with perceptions of personal accomplishment</p>	<p>Primary or secondary exposure to traumatic events has a positive association with secondary traumatic stress.</p>

Citation of paper: Leinweber, J., & Rowe, H. J. (2010). The costs of 'being with the woman': secondary traumatic stress in midwifery. *Midwifery*, 26(1), 76-87. doi: <http://dx.doi.org/10.1016/j.midw.2008.04.003>

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i> – H index 1, Melbourne University, subject area; medicine and nursing, 1 document cited by 18.</p> <p><i>Author 2</i>-H index 10, Monash University, subject area; medicine, nursing, psychology & social sciences. 43 documents cited by 465.</p>	<p>2010 Midwifery Impact factor 1.7 Rank 17/107 Quartile 1</p>	<p><i>Country</i>- Australia Studies from USA, Canada and Sweden. Different healthcare context</p>	<p>Studies done to nurses, fathers witnessing birth & ambulance personnel. <i>Setting</i>: "hospice", "paediatrics", "emergency department".</p>	<p>Review of literature</p>

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i> Review, type not clearly defined.</p> <p><i>Research question</i> What is the evidence for traumatic stress in health professionals? Is there any particular features in midwifery practice that make 'cost of caring' pertinent to midwifery profession?</p>	<p><i>Included papers</i>: 6 studies. Two quantitative (one used ProQOL III and the other used Post-traumatic stress Diagnostic Scale (PDS)). Four qualitative studies (three used interview method and the other was narrative)</p>	<p><i>Relevant Results</i>: "The role of empathy in traumatic stress", "prevention, management and consequences of traumatic stress reactions" & "Secondary trauma in midwifery". <i>Conclusion</i>: Too much empathy has increased nurses' vulnerability to STS. Traumatic stress is a result of repeated exposure to duty related traumatic events. STS might contribute to midwives leaving the profession. Factors during and after trauma for instance severity of trauma, lack of social support and life stress increases risk of developing PTSD</p>	<p>Fairly quality as the concepts and analysis of the papers presented is not very clear. CASP review 6/10 "YES"</p>	<p>Highly relevant.</p>

Data Extraction

Comments
<p>Midwives working environment and the empathetic care they provide to childbearing women exposes are potential for emotional consequences.</p> <p>Prevention of trauma: Reflect on secondary trauma experience and share with peers. Development of supportive honest professional relationship</p> <p>Development of stress: Shift work demands</p>

Citation of paper: Rice, H., & Warland, J. (2013). Bearing witness: Midwives experiences of witnessing traumatic birth. *Midwifery*, 29(9), 1056-1063.doi: 10.1016/j.midw.2012.12.003

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<i>Author 1</i> -H index 1; subject area; nursing and medicine. <i>Author 2</i> -H index 5, subject area; nursing, medicine & psychology, 27 documents cited by 73 documents. Both authors are affiliated to University of South Australia,	2013 Midwifery Impact factor 1.7 Rank Q1; 17/107	<i>Country</i> -Australia Similar healthcare context	Past and current registered midwives who had worked with birthing women <i>Setting</i> : No specific settings	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<i>Research design</i> Descriptive qualitative study <i>Research question</i> What are midwives' experiences of witnessing traumatic birth?	<i>Sample size</i> : 10 midwives self-selected through snowball method <i>DC method</i> : Individual interviews using semi-structured questionnaire <i>DA method</i> : Data was independently thematically analysed by two researchers. Common themes were identified.	<i>Relevant Themes</i> : "Stuck between two philosophies" "What could I have done differently?" "Feeling for the woman" <i>Conclusion</i> : Midwives' feeling of being stuck between two philosophies is a new knowledge into what affect midwives when working with birthing women.	Good quality CASP tool for qualitative research 9/10 "YES"	Highly relevant

Data Extraction

Secondary Traumatic Stress (STS)	Comments
Midwives have reported symptoms of STS which is aggravated from witnessing medical interventions which they considered that the woman did not want.	Midwives' empathy, traumatic experiences and being stuck between two philosophies affects their potential to work with birthing women. These midwives struggle to analyse these challenges when caring for traumatic birth events.

Citation of paper: Halperin, O., Goldblatt, H., Noble, A., Raz, I., Zvulunov, I., & Liebergall-Wischnitzer, M. (2011). Stressful childbirth situations: A qualitative study of midwives. *Journal of Midwifery & Women's Health*, 56(4), 388-394. doi: 10.1111/j.1542-2011.2011.00030.x

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 2, The Max Stern Academic College Emek-Yezreel, subject area: medicine, nursing & social sciences, 5 documents cited by 9.</p> <p><i>Author 2</i>-H index 11, University of Haifa, subject area; social sciences, medicine, nursing and psychology, 28 documents cited by 285.</p> <p><i>Author 6</i>-H index 4, Hadassah University Medical Centre, subject areas; medicine & nursing, 11 documents cited by 50.</p>	<p>2011</p> <p>Journal of Midwifery and Womens Health</p> <p>Impact factor 1.039</p> <p>Rank Q2; 44/107</p>	<p>Country- Israeli</p> <p>Similar healthcare context</p>	<p>Midwives</p> <p>Setting: Labour and delivery units</p>	<p>Original study</p>

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Qualitative descriptive study</p> <p><i>Research question</i></p> <p>What is the experience of midwives dealing with life-threatening situations in hospital based labour and delivery units and their reactions to those situations?</p>	<p><i>Sample size:</i> 18 midwives self-recruited through purposive convenient sampling.</p> <p><i>DC method:</i> Individual semi-structured in-depth interviews</p> <p><i>DA method:</i> Thematic content analysis by three researchers</p>	<p><i>Relevant Themes:</i> Reaction to stressful situations-subtheme long time effect. Coping with stressful situations-subthemes marks you for the rest of your life & midwives feelings about supervisory staff.</p> <p><i>Conclusion:</i> Midwives facing stressful childbirth impacts need to receive appropriate support and ongoing supervision</p>	<p>The research has contributed to the process of promoting good midwifery practice in Israeli.</p> <p>Good quality CASP tool for qualitative research 10/10 "YES"</p>	<p>The topic is highly relevant as has addressed not only stressful situations encountered by midwives but also the support from management/supervisors in dealing with those challenges.</p>

Data Extraction

Stress	Comments
<p>Have been associated with main life-threatening situations such as infant death, maternal death, 3rd and 4th perineal tears, hysterectomy and other obstetric complications.</p>	<p>The mentioned conditions that lead to midwives stress if continuous exposure persists is potential to development of secondary traumatic stress.</p>

Citation of paper: Foureur, M., Davis, D., Fenwick, J., Leap, N., Iedema, R., Forbes, I., & Homer, C. S. (2010). The relationship between birth unit design and safe, satisfying birth: Developing a hypothetical model. *Midwifery*, 26(5), 520-525. doi: 10.1016/j.midw.2010.05.015

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 10, subject area; medicine, nursing & psychology, 65 documents cited by 280.</p> <p><i>Author 2</i>-H index 7, University of Canberra, subject area; medicine, nursing & social sciences. 33 documents cited by 117.</p> <p><i>Author 7</i>-H index 20, subject area; medicine, nursing, mathematics & social sciences, 149 documents cited by 1018</p> <p><i>Key Affiliation:</i> 1st and 7th author University of Technology Sydney</p>	<p>2010</p> <p>Midwifery</p> <p>Impact factor 1.7</p> <p>Rank Q1; 17/107</p>	<p><i>Country-</i> Australia</p> <p>Same healthcare context</p>	<p>Studies done to midwives and other healthcare professions.</p> <p><i>Setting:</i> Maternity units environments</p>	Review

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Literature review not specified conceptual model was developed as an outcome.</p> <p><i>Research question</i></p> <p>What is the conceptual model from a range of maternity and other healthcare environment and other possible influencing factors to patient safety, including communication, relationships and model of care?</p>	<p><i>DC method:</i></p> <p>Review of original studies that studied concepts of interest.</p>	<p>Relevant Results: Design, stress & safety, design of birth units, design & communication.</p> <p>Conclusion: Environmental satisfaction is the predictor of job satisfaction, birth units have been designed to accommodate the focus of childbirth as a medical condition. Communication failure is contribute to adverse effects in maternity services.</p>	<p>Average quality as the description of articles included was not given as well as analysis performed. CASP review 4/10 "YES"</p>	<p>Just relevant in some concepts.</p>

Data Extraction

Job Satisfaction	Stress	Comments
Is predictable if the environment satisfies	Stress in this review was a result of unsupportive physical birthing environment that hinders communication, model of care and poor communication levels.	Taking into account the birth unit environment is unchanged, repeated exposure to such situation can result to midwives' development of secondary traumatic stress.

Citation of paper: Knezevic, B., Milosevic, M., Golubic, R., Belosevic, L., Russo, A., & Mustajbegovic, J. (2011). Work-related stress and work ability among Croatian university hospital midwives. *Midwifery*, 27(2), 146-153.doi: 10.1016/j.midw.2009.04.002

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 5, University of Windsor, subject area; medicine, nursing, social sciences & psychology, 24 documents cited by 121.</p> <p><i>Author 2</i>-H index 8, University of Zagreb, subject area; medicine, nursing & psychology, 69 documents cited by 265.</p> <p><i>Author 6</i>-H index 16, University of Zagreb, subject area; medicine, nursing & psychology, 158 documents cited by 613.</p>	<p>2011</p> <p>Midwifery</p> <p>Impact factor1.7</p> <p>Rank Q1; 17/107</p>	<p><i>Country</i>- Croatia</p> <p>Different healthcare context</p>	<p>Midwives and paediatric nurses</p> <p><i>Setting</i>: Two university hospitals in three hospital departments (Gynaecology, obstetrics and Paediatrics)</p>	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Quantitative cross-sectional survey</p> <p><i>Research question</i></p> <p>What are midwives' perceptions of work-related stress and their work ability in hospitals in Croatia?</p>	<p><i>Sample size</i>: 300 (105 midwives and 195 paediatric nurses) recruited and 158 participated.</p> <p><i>DC method</i>: Occupational Stress Assessment Questionnaire (OSAQ) and Work Ability Index (WAI) questionnaire.</p> <p><i>DA method</i>: Descriptive statistics were used, t-test and chi-square to analyse differences between variables and relationship was determined by Pearson's correlation coefficient.</p>	<p><i>Relevant Results</i>: Insufficient number of co-workers was reported stressful to 60% of midwives. Shift work was stressful to more than half of midwives. Dissatisfaction of the organization was reported by more than half on midwives.</p> <p><i>Conclusion</i>: Work ability decreased with increase in age. However, the hospitals need to improve organization factors and resources to improve quality of working conditions.</p>	Good quality. CASP tool for descriptive/cross sectional research 8/10 "YES".	Relevant particularly on the aspect of midwives findings.

Data Extraction

Stress	Comments
Stress was caused by insufficient work resources to 76.7% (46/60) of midwives. Midwives associated high levels of stress with; shortage, inadequate income, night duty, incurable patients and poor organization.	Poor organization and insufficient resources were stressful to midwives than paediatric nurses.

Citation of paper: Hegney, D. G., Craigie, M., Hemsworth, D., Osseiran-Moisson, R., Aoun, S., Francis, K., & Drury, V. (2014). Compassion satisfaction, compassion fatigue, anxiety, depression and stress in registered nurses in Australia: study 1 results. *Journal of Nursing Management*, 22(4), 506-518.doi: 10.1111/jonm.12160

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 22, Curtin University, subject area; medicine, nursing & psychology, 120 documents cited by 1107.</p> <p><i>Author 2</i>-H index 14, Curtin University, subject area; nursing and psychology, 9 documents cited by 89.</p> <p><i>Author 7</i>-H index 4, Yong Loo Lin School of Medicine (Singapore), subject area; nursing, medicine & social sciences, 22 documents cited by 50.</p>	<p>2014</p> <p>Journal of Nursing Management</p> <p>Impact factor 1.4</p> <p>Rank 36/107</p> <p>Quartile 3</p>	<p>Country- Australia</p> <p>Different healthcare context</p>	<p>Acute care enrolled and registered nurses</p> <p><i>Setting:</i> Tertiary hospital</p>	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design:</i> Self-report exploratory cross-sectional survey</p> <p><i>Research questions;</i></p> <p>1. Are Stamm's (2010) risk profiles, as delineated by different levels of CS, STS and BO, associated with specific pattern of depression, anxiety and stress levels?</p> <p>2. Are higher levels of CF associated with higher levels of anxiety, depression and stress and lower CS?</p> <p>3. Are higher CS associated with lower levels of anxiety, depression and stress?</p>	<p><i>Sample size:</i> Recruited 374 nurses and 132 participated</p> <p><i>DC method:</i> Demographic, ProQOLv5 and Depression anxiety Stress Scale (DASS 21-short form) questionnaires.</p> <p><i>DA method:</i> SPSS v19 was used for statistical analysis. Bivariate correlations, t-Test, ANOVA, Non parametrical tests Kruskal-Wallis K & Mann-Witney U were done.</p>	<p><i>Relevant Results:</i> "CF and CS summary statistics", "CF and CS risk profile analysis" and "Relationship among ProQOL constructs"</p> <p><i>Conclusion:</i> Identifying at risk employees help managers to devise appropriate treatment.</p>	<p>Good quality. CASP tool for descriptive/cross sectional research 9/10 "YES".</p>	<p>Highly relevant in terms of the investigating prevalence of CS, CF (BO & STS) concepts.</p>

Data Extraction

CS	BO	STS	Comments
20.4% had high CS and moderate to low BO and STS (positive reinforcement from work profile). CS low to less experienced nurses.	10.6% high BO and moderate to low CS and STS (at risk profile).	No one had high STS and low BO & CS (overwhelmed profile).	Improved retention rate and more empathetic care are believed to be enhanced by increased CF knowledge hence building resilience against it. Since BO is detrimental to quality care and STS which contributes to BO is harder to treat through brief psychological intervention. However, there was no relationship between BO and intentions to leave.

Citation of paper: Oncel, S., Ozer, Z.C., &Efe, E. (2007). Work-related stress, burnout and job satisfaction in Turkish midwives. *Social Behavior And Personality*, 35(3), 317-328. Retrieved from <http://ezproxy.lib.monash.edu.au/login?url=http://search.ebscohost.com>
Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 4, subject area; medicine, nursing & psychology. 20 documents cited by 48.</p> <p><i>Author 2</i>-H index 4, subject area; medicine, nursing & psychology, 13 documents cited by 69.</p> <p><i>Author 3</i>-H index 3, subject area; medicine, nursing & psychology, 15 documents cited by 66.</p> <p>All authors are affiliated with University of Akdeniz (Turkey).</p>	<p>2007</p> <p>Social Behaviour and Personality</p> <p>SJR (2013)-0.252</p> <p>IPP (2013)-0.500</p> <p>SNIP (2013)-0.459</p>	<p><i>Country</i>- Turkey</p> <p>Different healthcare context</p>	<p>Midwives</p> <p><i>Setting</i>: 35 public health clinics</p>	<p>Original study</p>

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Descriptive cross-sectional</p> <p><i>Research question</i></p> <p>What are the levels of work-related stress, BO and job satisfaction of midwives who work in preventive healthcare?</p>	<p><i>Sample size</i>: Recruited 450, 325 midwives participated</p> <p><i>DC method</i>: Questionnaire with four sections; work perceptions, Work Related Strain Inventory (WRSI), Minnesota Work Satisfaction Questionnaire (MWSQ) & Maslach Burnout Inventory (MBI).</p> <p><i>DA method</i>: Descriptive statistics using SPSS v10, mean. Variables relationship was determined by One way-ANOVA, Kruskal Wallis, t-test, Mann Whitney U and Pearson correlation</p>	<p><i>Relevant Results</i>: Midwives socio-demographic characteristics.</p> <p><i>Conclusion</i>: Midwives had moderate levels of BO and work-related stress. These were suggestively to be overcome by continuing education on stress coping strategies.</p>	<p>Good quality. CASP tool for descriptive/cross sectional research 9/10 "YES".</p>	<p>Highly relevant.</p>

Data Extraction

Job Satisfaction	BO	Stress	Comments
<p>High levels of job satisfaction in all general work, internal and external subscales. There was no association between job satisfaction and increased years of experience.</p>	<p>Moderate for Emotional Exhaustion (EE) and personal accomplishment and low for depersonalization subscale. EE decreases with increase in years of work experience.</p>	<p>Work related stress was moderate.</p>	<p>Midwives experience BO in emotional exhaustion subscale when work assignment has a limited possibility of changing. Negative personal accomplishment is experienced when there is lack of opportunities for personal developments</p>

Citation of paper: Mizuno, M., Kinefuchi, E., Kimura, R., & Tsuda, A. (2013). Professional quality of life of Japanese nurses/midwives providing abortion/childbirth care. *Nursing Ethics*, 20(5), 539-550. doi: 10.1177/0969733012463723

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 2, subject area; medicine, nursing & social sciences, 4 documents cited by 5</p> <p><i>Author 2</i>-H index 1, Kanagawa University, subject area; medicine & nursing, 1 document cited by 2</p> <p><i>Author 4</i>-H index 1, subject area; medicine & nursing, 1 document cited by 2.</p> <p>Key Affiliation for both author 1 and 4: University of Kanazawa.</p>	2013 Nursing Ethics Impact factor 1.093 Rank Q2; 40/107	Country- Japan Similar healthcare context	Midwives and nurses <i>Setting:</i> Japanese hospitals' maternity units	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i> Quantitative descriptive study</p> <p><i>Research question</i> What is the relationship between ProQOL and emotional work and stress factors related to abortion care in nursing and healthcare professionals?</p>	<p><i>Sample size:</i> 255 nurses and midwives</p> <p><i>DC method:</i> Self-reported questionnaires sent back by mail to researchers.</p> <p><i>DA method:</i> Descriptive statistics, correlation and reliability tests, bivariate statistical associations were determined.</p>	<p><i>Relevant results:</i> Relationship between ProQOL scores and stress factors.</p> <p><i>Conclusion:</i> No statistical significant correlation of age, qualifications, religion, work experience, number of 2nd trimester abortion cases handled in the previous year with ProQOL and the Japanese version of Frankfurt Emotional Work Stress (FEWS).</p> <p>No relationship between ProQOL scores and qualification and work experience. Providing abortion care was highly distressing.</p>	Good quality. CASP tool for descriptive/cross sectional research 8/10 "YES".	Highly relevant.

Data Extraction

CS	CF	BO	Comments
Had significant relationship with FEWS-J scores for positive emotions. Positively correlated with number of childbirth cases handled in the previous year.	No high risk cases. Statistical significant with all stress factors and FEWS-J scores. Associated with stress factors of "aborted foetus deserves to live" & "difficulty in controlling emotions during abortion"	No high risk cases. Positively correlated with number of 1 st trimester abortions handled in the previous year.	The negative aspects of caring (thoughts of "aborted foetus deserves to live" "difficulty in controlling emotions during abortion") positively predicted BO and negatively predicted CS. There was roles conflict as they were providing childbirth and abortion services simultaneously.

Citation of paper: Mollart, L., Skinner, V. M., Newing, C., & Foureur, M. (2013). Factors that may influence midwives work-related stress and burnout. *Women and Birth*, 26(1), 26-32. doi: <http://dx.doi.org/10.1016/j.wombi.2011.08.002>

Author and Journal Credibility, Type of paper

Author Credibility	Journal & year of publication	Context	Population	Type of paper
<p><i>Author 1</i>-H index 5, Maternity Services (Gosford), Subject area; medicine, nursing & health professions. 9 documents cited by 89.</p> <p><i>Author 2</i>-H index 4, Newcastle University, subject area; nursing & medicine, 7 documents cited by 25.</p> <p><i>Author 4</i>-H index 10, University of Technology Sydney, subject area; nursing, medicine, health professions & psychology, 65 documents cited by 280.</p>	<p>2013</p> <p>Women and Birth</p> <p>Impact factor 1.693</p> <p>Rank Q1; 18/107</p>	<p>Country- Australia</p> <p>Same healthcare context</p>	<p>Registered Midwives</p> <p>Setting: Two public hospitals maternity</p>	Original study

Research Summary

Research Summary	Data collection & analysis	Research findings	Quality Research Assessment	Topic Relevance
<p><i>Research design</i></p> <p>Quantitative descriptive study</p> <p><i>Research question</i></p> <p>What are the incidences of work-related stress and BO in midwives and contributing and protective demographic factors that may influence those levels?</p>	<p><i>Sample size:</i> Recruited 152 and 56 midwives participated</p> <p><i>DC method:</i> Self-administered questionnaires (Maslach Burnout Inventory and demographic survey) through internal mail with return addressed envelope.</p> <p><i>DA method:</i> Microsoft excel and SPSS, normality was assessed for each group of question, ANOVA and Kruskal-Wallis tests were performed, Scale Cronbach's alpha was performed for each subscale.</p>	<p><i>Relevant Results:</i> Years in profession, type of shifts worked, care for women with multiple psychosocial issues and exercising.</p> <p><i>Conclusion:</i> Feeling of exhilaration working with clients was high to midwives who spent 21 years or more in the professional experience. Mixed day and night shifts had association with low midwives' personal accomplishment and highest scores of depersonalisation (high level of not really caring for what happens with some clients). Midwives involved in regular physical exercises experienced less strain working with people in strain.</p>	Good quality. CASP tool for descriptive/cross sectional research 9/10 "YES".	Highly relevant.

Data Extraction

CS	BO	Stress	Comments
Midwives who spent 11-20 years in the profession experienced less exhilaration working with clients.	Low personal accomplishment was; highest scores to midwives who mixed day and night shifts, lowest scores to night shift only midwives.	Increase in the number of clients (five to six women) with multiple psychosocial issues cared in most work days had positive relationship with job frustrations.	Physical exercised facilitated stress coping strategies. Midwives had experienced moderate BO levels according to emotional exhaustion and personal accomplishment and low BO for depersonalisation scales.

Appendix 4: Demographic Questionnaire

Project: To Investigate the Prevalence of Compassion Satisfaction and/or Compassion Fatigue among midwives in health service in Victoria, Australia.

Socio-demographic information

This information will be used by the researcher to interpret which demographic groups are more susceptible to compassion fatigue or compassion satisfaction as question by the PROQOLS survey (Stamm, 2010).

Please mark the correct answer and fill in the blanks accordingly

- 1 Gender: Male _____
Female _____
- 2 Age (years). _____
- 3 Country of birth _____
- 4 Ethnicity/cultural heritage _____
- 5 If born outside Australia how many years have you lived in Australia? _____
- 6 Where did you obtain your first nursing/midwifery qualification? _____
- 7 Do you have: Nursing qualification _____
Midwifery qualification _____
Both nursing and midwifery _____
- 8 What is the highest qualification held in your profession?: Certificate _____
Diploma _____
Bachelor _____
Masters _____
PhD _____
Other _____
- 9 If you have another academic qualification other than nursing and midwifery please state _____
- 10 Employment status: Work full time _____
Work part time _____
If part time; how many days per week _____
- 11 How many years of clinical experience (full time equivalent) _____
Less than 12 months _____
More than 12 months _____
Please specify; how many months/years? _____
- 12 What is your role including grade and year? _____
- 13 Roster pattern: Designated AM only _____
Designated PM only _____
Rotating AM and PM _____
Combination of night, AM and PM _____
Other; please state _____
- 14 Which Health service hospital are you working at/with? (Tick all that apply): A _____
B _____
C _____
- 15 Area working regularly (Tick all that apply): Birth suite _____
Antenatal _____
Postnatal _____
Childbirth education _____
Antenatal Clinic _____
Others (please specify) _____

Appendix 5: Professional Quality of Life Scale (ProQOLv5)

Compassion Satisfaction and Compassion Fatigue (ProQOL) Version 5 (2009)


When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

- ___ 1 I am happy.
- ___ 2 I am preoccupied with more than one person I *[help]*.
- ___ 3 I get satisfaction from being able to *[help]* people.
- ___ 4 I feel connected to others.
- ___ 5 I jump or am startled by unexpected sounds.
- ___ 6 I feel invigorated after working with those I *[help]*.
- ___ 7 I find it difficult to separate my personal life from my life as a *[helper]*.
- ___ 8 I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
- ___ 9 I think that I might have been affected by the traumatic stress of those I *[help]*.
- ___ 10 I feel trapped by my job as a *[helper]*.
- ___ 11 Because of my *[helping]*, I have felt "on edge" about various things.
- ___ 12 I like my work as a *[helper]*.
- ___ 13 I feel depressed because of the traumatic experiences of the people I *[help]*.
- ___ 14 I feel as though I am experiencing the trauma of someone I have *[helped]*.
- ___ 15 I have beliefs that sustain me.
- ___ 16 I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
- ___ 17 I am the person I always wanted to be.
- ___ 18 My work makes me feel satisfied.
- ___ 19 I feel worn out because of my work as a *[helper]*.
- ___ 20 I have happy thoughts and feelings about those I *[help]* and how I could help them
- ___ 21 I feel overwhelmed because my case [work] load seems endless.
- ___ 22 I believe I can make a difference through my work.
- ___ 23 I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
- ___ 24 I am proud of what I can do to *[help]*.
- ___ 25 As a result of my *[helping]*, I have intrusive, frightening thoughts.
- ___ 26 I feel "bogged down" by the system.
- ___ 27 I have thoughts that I am a "success" as a *[helper]*.
- ___ 28 I can't recall important parts of my work with trauma victims.
- ___ 29 I am a very caring person.
- ___ 30 I am happy that I chose to do this work

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Appendix 6: Participants Information Sheet



Participant Information

Title:

An Investigation of the Prevalence of Compassion Satisfaction and Compassion Fatigue among Midwives in Victoria, Australia.

Short Title:

Compassion Satisfaction and Compassion Fatigue among Midwives

Protocol Number:

15134L

**Coordinating Principal Investigator/
Principal Investigator**

Associate Professor Cheryle Moss
Mugara Joseph Mahungururo

Associate Investigator(s)

Gayle McLelland

Location (where CPI/PI will recruit)

Statement of purpose

You are invited to take part in this research project, which is titled 'An Investigation of the Prevalence of Compassion Satisfaction and Compassion Fatigue among Midwives in Victoria, Australia'. Midwives from Hospital Maternity Units are being asked to participate in this study. Your recent experiences as a midwife are important to the outcomes of this study.

In this project the researchers are seeking to investigate the prevalence of compassion satisfaction and/or compassion fatigue among midwives working at a health service in the State of Victoria.

Please read this Participant Information Sheet fully prior to deciding to participate in this study.

This Participant Information Sheet tells you about the research project. It explains the processes involved with taking part. Knowing what is involved will help you decide if you want to take part in the research. Before deciding whether or not to take part, you might want to talk about it with a relative or friend. Please ask questions about anything that you don't understand or want to know more about. The researchers can provide further clarification about the project; if you would like this, please contact them (see contact details in Section 15).

1 Introduction

Little is known about midwives' professional quality of life related to either compassion satisfaction or compassion fatigue. This study will provide aggregated findings about the prevalence of compassion satisfaction and compassion fatigue in midwives generally.

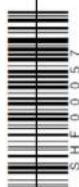
Once the research has been completed, a summary of results or a scientific poster will be provided to the midwifery groups in each of the three hospitals/settings. The findings will be useful for midwives working at , and relevant to midwives nationally and internationally.

Aim of the project

To investigate prevalence of compassion satisfaction and/or compassion fatigue among midwives working at a health service in the State of Victoria

Participant Information Sheet 04 May, 2015 – Version 4

Page 1 of 5



Project significance

The project is designed to generate new knowledge that will:

- inform midwives about their professional quality of life, particularly the extent of compassion satisfaction and compassion fatigue in their profession;
- describe the prevalence of compassion satisfaction in midwives; and
- describe the prevalence of compassion fatigue in midwives.

This project is important because professional quality of life of a midwife might be positively or negatively influenced by caring for clients. For example, the professional quality of life of midwives can be affected positively or negatively by witnessing beginning of life (birth) and end of life (death), and other experiences of clients in their clinical settings. There is limited knowledge about the prevalence of compassion satisfaction (CS) and compassion fatigue (CF) in the midwifery profession.

The results of this research will be used by the researcher Mugara Joseph Mahungururo to complete the thesis component of a Master in Clinical Midwifery degree.

2 What is the purpose of this research?

This information sheet highlights the main commitments of your participation in this research. The purpose and ethical considerations undertaken to protect participants are explained. Participation in this study is voluntary. If you don't wish to take part, you don't have to. If you decide you want to take part in the research project, consent is implied when you hit the 'send' button on the survey link.

By returning the survey you are telling us that you:

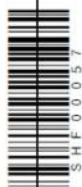
- understand what you have read;
- consent to take part in the research project;
- consent to the use of your anonymous responses to demographic questions; and
- consent to the use of your anonymous responses to the quality of professional life questionnaire.

You will be able to print given a copy of this participant Information sheet to keep.

3 What does participation in this research involve?

Procedures for participants

- Involvement for each person will require the completion of an anonymous on-line survey (using 'SurveyMonkey').
- The survey will take approximately 15 minutes of your time. The survey consists of some demographic questions, and some questions about your professional quality of life (ProQOL 5 survey tool - Stamm, 2010).
- All individual responses are recorded anonymously and the results will be reported in aggregate.



Information about the general research processes and the project timelines

- Principal investigator will contact Midwifery Unit Managers in [REDACTED] three hospitals, [REDACTED]; through the Professor of Midwifery / Co Director of Maternity Services [REDACTED]
- Advertisement of the information session for each hospital will be displayed on the maternity unit notice board.
- Information session will be conducted in each of the units during May 2015 on agreed dates for each hospital.
- Midwifery Unit Managers will forward an invitation to participate in the survey by email when survey is active. The email will have been prepared by the principal investigator.
- The survey will be open for participants from 1st June to 31st July 2015.
- Participants will voluntarily participate in the survey.
- There will be no payment or reward offered for participation in this study.
- Consent is implied when a participant completes and submits the online survey.
- A reminder to participate in the survey will be sent three weekly.
- This research investigators will close the survey by disabling the survey link in due course.
- This research project has been designed to use validated tool that will help to minimize scientific bias.
- The research project is expected to be completed by 30th January 2016.
- A summary of the results of the project will be provided to [REDACTED] midwives after February 2016.
- There will be no reimbursement offered in this project.

4 Other relevant information about the research project

This project aim at to recruiting approximately 150 [REDACTED] midwives. The survey is open to all midwives who work full and part time. The project will only involve [REDACTED] midwives.

5 Do I have to take part in this research project?

Participation in any research project is voluntary. If you do not wish to take part, do not complete the survey. Please note that withdrawal from the study after submission of online survey is not possible.

Your decision whether to take part or not to take part, will not affect your relationship with other professional staff or your relationship with [REDACTED]

6 What are the possible benefits of taking part?

We cannot guarantee or promise that you personally will receive any benefits from participating in this research. However, your participation is likely to benefit the midwifery profession. This is likely to come from gaining new knowledge about the extent of midwives' specifically and their professional quality of life generally.

7 What are the possible risks and disadvantages of taking part?

We do not anticipate that there will be any personal or professional disadvantages to you related to your participation in this research project.

Psychological distress

We do not anticipate that completing the survey will be stressful.

If you do become upset or distressed as a result of your participation in the research project you may stop immediately. In addition, the research team will be able to refer you for counselling or other appropriate support.

8 What if I withdraw from this research project?

Withdrawal from the research project can be achieved while completing the survey online, by simply not submitting the survey.

After the survey has been submitted withdrawal from the research is not possible (as the anonymous data that you provide is automatically collated by the software program).

9 Could this research project be stopped unexpectedly?

Cessation of this project for any reason is unforeseeable.

10 What happens when the research project ends?

- A summary of the findings will be shared with the midwives at [REDACTED] when the project is completed.
- The study findings will be reported in a thesis, which will be lodged in the Monash University library.
- The study findings will be disseminated in papers for publication in scientific journals.
- The study findings will be presented at future national and international professional conferences and symposia.

PART 2 HOW IS THE RESEARCH PROJECT BEING CONDUCTED?

11 What will happen to information about me?

- Each participant's identity will remain anonymous throughout the study and only aggregate results will be reported.
- 'SurveyMonkey' software will be used for data collection in this study. The survey link will be emailed to midwives working in [REDACTED]. If a midwife decides to participate she/he completes the survey online in her/his own time and then submit the completed survey; it will take approximately 15 minutes to complete the survey.
- 'SurveyMonkey' software creates anonymous numeric records of each survey submitted, and lists and sums the anonymous raw data responses.
- The downloaded data from 'SurveyMonkey' will be stored in a Monash University password protected computer in the chief investigator's office (Associate Professor Cheryle Moss) at Monash University. Copies of the anonymous aggregated data will then be stored in each investigator's computer, these will also be password protected.
- As the survey is anonymous once the submit button at the end of the survey is pressed, participants will not be able to access their own data.
- Aggregated data from this research may be used for future research regarding compassion satisfaction and compassion fatigue of midwives.
- Aggregated data from this research may be added into a 'databank' regarding compassion satisfaction and compassion fatigue of health professionals. This will aid

future analysis/research into these phenomena. If a data bank is not used, the survey information will be destroyed a minimum of 7 years after completion of this or related studies.

- It is anticipated that the results of this research project will be published and/or presented in a variety of forums. As the data is anonymous it is not possible that any participant will be identified.

12 Complaints and compensation

- Complaints about the project can be made directly to the research team and/or to independent third parties. This contact information is located in Section 15 of this document.
- If you suffer any distress or psychological injury as a result of this research project, you should contact the research team as soon as possible. You will be assisted with arranging appropriate treatment and support.

13 Who is organising and funding the research?

This research project is being conducted and self-funded by the Master's student Mugara Joseph Mahungururo from the School of Nursing and Midwifery at Monash University.

14 Who has reviewed the research project?

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 [REDACTED]. This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human research studies.

15 Further information and who to contact

The person you may need to contact will depend on the nature of your query. If you want any further information concerning this project or if you have any problems that may be related to your involvement in the project, you can contact the researcher on telephone number: 0410231123 or any of the following people:

Research contact person

Name	Cheryle Moss
Position	Coordinating Principal Investigator
Telephone	(03) 9905 3469
Email	Cheryle.Moss@monash.edu

For matters relating to research at the site at which you are participating, the details of the local site complaints person are:

Complaints contact person

Name	[REDACTED]
Position	Manager, Human Research Ethics Committees
Telephone	[REDACTED]
Email	N/A

Appendix 7: Code Book

SN	Variable	SPSS Variable	Coding instructions
	Identification number	ID	Number
1	Gender	Gender	1=Male 2=Female 99=Missing data
2	Age (years)	Age	99=Missing data
	Age group	AgeGroup	1= less than26 2=26-30 3=31-35 4=36-40 5=41-45 6=46-50 7=51-55 8=56 and above 99=Missing data
	Age 35 years group	Age35YearsGroup	1=</= 35yrs 2=> 35yrs 99=Missing data
3	Country of birth	CountryBirth	99=Missing data
	Country of birth combined	CountryBirthCombined	1= Australia 2=UK 3=Germany 4=Canada 5= Chile 6=Cook Islands 7=Croatia 8=Hong Kong 9=India 10=Ireland 11=Japan 12=Kenya 13=Mauritius 14=New Zealand 15=Philippines 16=Poland 17=Serbia 18=Seychelles 19=South Africa 20=Vietnam 21=Zimbabwe 99=Missing data
	Australia or other country of birth	AustraliaOrOtherCountry ofBirth	1=Australia 2=Others 99=Missing data
4	Ethnicity	Ethnicity	99=Missing data

	Ethnicity combined	EthnicityCombined	1=Australian 2=Anglo-saxon 3=British 4=Caucasian 5=Chinese 6=Cook Island 7=Danish 8=Dutch 9=Filipino 10=German 11=Greek 12=Hispanic 13=Irish 14=Italian 15=Latvian 16=Lebanese 17=Mauritian 18=Middle Eastern 19=Polish 20=Serbian 21=Seychellois 22=South African 23=Sri Lankan 24=Vietnamese 99=Missing data
	Australia or other ethnicity	AustraliaOrOtherEthnicity	1=Australian 2=Others 99=Missing data
5	Years lived in Australia	YearsAustralia	99=Missing data
	Years in Australia number	YearsAustraliaNumber	99=Missing data
	Years in Australia combined	YearsInAustraliaCombined	1=1-10 2=11-20 3=21-30 4=31-40 5=41-50 6=51 and above
6	First qualification country	FirstQualification	99=Missing data
	Country of first qualification combined	CountryFirstQualification Combined	1=Australia 2=UK 3=New Zealand 4=South Africa 5=Ireland 99=Missing data
	Australia or other countries	AustraliaOrOtherCountries	1=Australia 2=Other countries 99=Missing data

7	Qualification	Qualification	1=Nursing 2=Midwifery 3=Both 99=Missing data
8	Highest qualification	HighestQualification	1=Certificate 2=Diploma 3=Bachelor 4=Graduate certificate 5=Graduate diploma 6=Masters 7=PhD 99=Missing data
8	Other	OtherHighestQualification	99=Missing data
9	Qualification other than nursing and midwifery	OtherQualification	99=Missing data
10	Employment status	EmploymentStatus	1=Full time 2=Part time 99=Missing data
		OtherEmploymentStatus	99=Missing data
11	Clinical experience (months)	ClinicalExperience	1=Less than twelve 2=More than twelve 99=Missing data
	How many years?	ClinicalExperienceInYears	99=Missing data
	Clinical experience 10 years	ClinicalExperience10Years	1=</= 10 years 2=> 10 years 99=Missing data
12	Roles	WorkRoles	1=Unit Manager 2=Associate Unit Manager (AUM) 3=Midwifery educators 4=Clinical Midwifery Specialist (CMS/CNMS/clinical midwife consultant) 5=Registered Midwife (RM) 6=Graduate Midwife 7=Lactation consultant 8=Extended postnatal care coordinator 99=Missing data

	Midwives managers and others	MidwivesManagersAndOthers	1=Midwives managers 2=Others 99=Missing data
13	Roster pattern	RosterPattern	1=AM 2=PM 3=AM and PM 4=Night, AM and PM(varied) 5=Night 6=Caseload 99=Missing data
	Shift work according to roster	ShiftWorkAccordingToRoster	1=Permanent shift 2=Rotating shift 99=Missing data
14	Health service Hospital	HealthServiceHospital	1=A 2=B 3=C 99=Missing data
	Health service location	HealthServiceLocation	1=A 2=B 3=C 4=A and B 5=A and C 6=B and C 7=All three 99=Missing data
15	Working area	WorkingArea	1=Birth suite 2=Antenatal 3=Postnatal 4=Childbirth education 5=Antenatal clinic 99=Missing data

	Working area location	WorkingAreaLocation	1=Birth suite 2=Antenatal 3=Postnatal 4=Childbirth education 5=Antenatal clinic 6=Birth suite and antenatal 7=Birth suite and postnatal 8=antenatal and postnatal 9=Birth suite, antenatal, postnatal, childbirth education and antenatal
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			clinic 10=Birth suite, antenatal, postnatal and childbirth education 11= Birth suite, antenatal, postnatal and antenatal clinic 12=Birth suite, postnatal and antenatal clinic 13=Birth suite and antenatal clinic 14=Postnatal and antenatal clinic 15= Birth suite, postnatal, childbirth education and antenatal clinic 16=Antenatal, postnatal and antenatal clinic 17= Birth suite, antenatal and postnatal 18=Birth suite and antenatal clinic 19=Birth suite, antenatal and antenatal clinic 20=Antenatal, postnatal and childbirth education 21=Postnatal and childbirth education 22=Education 99=Missing data
16	I am happy (Recoded).	HappyRecoded	1=Very Often 2=Often 3=sometimes 4=Rarely 5=Never 99=Missing data
17	I am preoccupied with more than one person.	PreoccupiedMoreOnePerson	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
18	I get satisfied from being able to help people.	SatisfiedAbleToHelpPeople	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
19	I feel connected to others (Recoded)	ConnectedToOthersRecoded	1=Very Often 2=Often 3=sometimes 4=Rarely 5=Never

			99=Missing data
20	I jump or I am startled by unexpected sounds.	StartledByUnexpectedSounds	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
21	I feel invigorated after working with those I help.	InvigoratedWhenHelping	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
22	I find it difficult to separate my personal life from my life as a helper.	DifficultSeparatePeronalWorkLife	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
23	I am not productive at work because I am losing sleep over traumatic experiences of a person I help.	LosingSleepTraumaticExperiences	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
24	I think that I might be affected by the traumatic stress of those I help.	AffectedByClientTraumaticStress	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
25	I feel trapped by my job as a helper.	FeelJobTrapped	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
26	Because of my helping, I have left "on edge" about various things.	LeftOnEdge	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
27	I like my work as a helper	LikeMyWork	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
28	I feel depressed because of the traumatic experiences of the	TraumaticExperiencesDepression	1= Never 2= Rarely 3=Sometimes 4= Often

	people I help.		5= Very Often 99=Missing data
29	I feel as though I am experiencing the trauma of someone I have helped.	ExperiencingTrauma	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
30	I have beliefs that sustain me(Recoded)	BeliefsThatSustainRecoded.	1=Very Often 2=Often 3=sometimes 4=Rarely 5=Never 99=Missing data
31	I am pleased with how I am able to keep up with helping techniques and protocol.	PleasedHelpingTechniquesProtol	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
32	I am the person I always wanted to be (Recoded)	PersonAlwaysWantedToBeRecoded.	1=Very Often 2=Often 3=sometimes 4=Rarely 5=Never 99=Missing data
33	My work makes me feel satisfied.	SatisfiedByWork	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
34	I feel worn out because of my work as a helper.	WornOutByWork	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
35	I have happy thoughts and feelings about those I help and how I could help them.	HappyHelpingThoughtFeelings	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
36	I feel overwhelmed because my case work load seems endless.	OverwhelmedByWorkload	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
37	I believe I can make a difference through my work.	CanMakeDifferenceThroughWork	1= Never 2= Rarely 3=Sometimes

			4= Often 5= Very Often 99=Missing data
38	I avoid certain activities or situations because they remind me of frightening experiences of the people I help.	AvoidCertainActivities	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
39	I am proud of what I can do to help.	ProudHelping	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
40	As a result of my helping, I have intrusive, frightening experiences of the people I help.	IntrusiveFrighteningExperiences	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
41	I feel “bogged down” by the system.	BoggedBySystem	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
42	I have thoughts that I am a “success” as a helper.	SuccessAsHelper	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
43	I can’t recall important parts of my work with trauma victims.	CannotRecallImportantTraumatic Work	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data
44	I am a very caring person (Recoded)	VeryCaringRecoded	1=Very Often 2=Often 3=sometimes 4=Rarely 5=Never 99=Missing data
45	I am happy that I choose to do this work.	HappyToWork	1= Never 2= Rarely 3=Sometimes 4= Often 5= Very Often 99=Missing data

Total CS scores	Compassion Satisfaction Scale levels	CompSatisScaleLevels	1=<43 = Low 2=44-56 =Average 3=>56 = High 99= Missing data
Total BO scores	Burnout scale levels	BurnoutScaleLevels	1=<43 = Low 2=44-56 =Average 3=>56 = High 99= Missing data
Total STS scores	Secondary Trauma scale levels	SecondaryTraumaScaleLevels	1=<43 = Low 2=44-56 =Average 3=>56 = High 99= Missing data
	Compassion Scale Raw Score	CompassionScaleRawScore	
	Burnout Scale Raw Score	BurnoutScaleRawScore	
	Secondary Traumatic Scale Raw Score	SecondaryTraumaticScaleRawScore	
	CS t-score	CSt-score	
	BO t-scores	BOt-scores	
	STS t-scores	STSt-scores	
	High CS	HighCS	1=Yes 2=No
	STS at risk	STSAtrisk	1=Yes 2=No
	BO at risk	BOAtrisk	1=Yes 2=No

Appendix 8: ProQOL Missing Items' and Replacing Mean

Item number	Number of missing response	Replacing mean
19	1	2
21	1	3
22	3	3
23	2	2
27	1	4
28	1	2
29	1	2
32	2	4
33	3	4
34	2	4
35	1	4
36	1	3
37	1	4
38	1	2
39	1	4
40	2	2
41	1	4
43	1	2

Appendix 9: Study Advertisement



Research Project

Compassion satisfaction and/or compassion fatigue among [REDACTED] midwives

Are you **interested** in participating in this study of **prevalence** of compassion satisfaction and/or compassion fatigue among midwives?

Interested **registered midwives** employed part-time or full-time **are invited** to take part in this study.

What will involve?



Reading the **explanatory statement** and participate in **information sessions** in **August**.

What's next?

Receive an email from your **Midwifery Unit Manager** with the **survey link** and **voluntary** take part in a survey that will take approximately 15 minutes of your time to complete.

If you are interested and would like to know more please contact:

Mugara Joseph Mahungururo, mobile: +61410231123.

This project has been approved by Human Research Ethics Committees



MONASH University

Appendix 10: Institution's Study Approval

	Research Support Services	Level 2 I Block Australia	

12 May 2015

A/Prof Cheryle Moss
School of Nursing and Midwifery
RM: 1.80, Building 13C,
Monash University
Clayton Vic 3800

Dear A/Prof Moss

Study title: An Investigation of the Prevalence of Compassion Satisfaction and Compassion Fatigue among Midwives in Victoria, Australia.

HREC Ref: 15134L

The HREC Low Risk Review Panel reviewed the above application and are also satisfied that the responses to our correspondence of 7 April 2015 have been sufficiently addressed.

The HREC approved the above application on the basis of the information provided in the application form, protocol and supporting documentation.

This reviewing HREC is accredited by the Consultative Council for Human Research Ethics under the single ethical review system.

Approval

The HREC and Site Specific Authorisation approval is 12 May 2015.

Approval is given in accordance with the research conforming to the *National Health and Medical Research Council Act 1992* and the *National Statement on Ethical Conduct in Human Research (2007)*. The HREC has ethically approved this research according to the Memorandum of Understanding between the Consultative Council and the participating organisations conducting the research.

Approval is given for this research project to be conducted at the following sites and campuses:

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

You must comply with the following conditions:

The Principal Investigator is required to notify the Research Support Services, [Redacted] of the following:

1. Any change in protocol and the reason for that change together with an indication of ethical implications (if any)
2. Serious or unexpected adverse effects of project on subjects and steps taken to deal with them
3. Any unforeseen events that might affect continued ethical acceptability of the project

-
4. Any expiry of the insurance coverage provided in respect of sponsored trials
 5. Discontinuation of the project before the expected date of completion, giving reasons
 6. Any change in personnel involved in the research project including any study member resigning from [REDACTED] &/or the study team.

At the conclusion of the project or every twelve months if the project continues, the Principal Investigator is required to complete and forward an annual progress report to the Committee.

Annual progress report reminder letters will be forwarded to the researcher.

Approved documents

Documents reviewed and approved by the Low Risk Review Panel were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Low/Negligible Risk Application Form		Received 7 April 2015
Low/Negligible Risk Site Specific Application Form		Received 7 April 2015
Study Protocol		Received 7 April 2015
Participant Information – [REDACTED]	4	4 May 2015
Advertisement	2	22 April 2015
Questionnaire	2	12 April 2015
Invitation letter		24/5/2015

If you should have any queries about your project please contact [REDACTED] by email
[REDACTED]

The HREC wishes you and your colleagues every success in your research.

Yours sincerely

[REDACTED]

Cc: Prof [REDACTED] Director of Midwifery Women's & Children's Program [REDACTED]
[REDACTED]

Appendix 11: Monash University Study Approval



MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

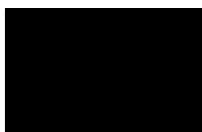
Confirmation of Registration

This is to certify that the project below is now registered with the Monash University Human Research Ethics Committee under the Memorandum of Agreement with [REDACTED]

Project Number	CF15/1706 - 2015000860
Project Title	An investigation of the prevalence of compassion satisfaction or compassion fatigue among midwives in Victoria
Chief Investigator	Assoc Prof Cheryle Moss
Valid until	26 May 2020

Notes:

1. Registration is valid whilst you hold a position at Monash University and approval at the primary HREC is current.
2. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
3. **End of project:** Notification should be provided at the conclusion of the project. MUHREC should also be notified if the project is discontinued before the expected date of completion.
4. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to the project in accordance with *The Australian Code for the Responsible Conduct of Research*.



Professor Nip Thomson
Chair, MUHREC

Cc: Ms Mugara Mahunguro; Ms Gayle McLelland; Prof Christine East

Human Ethics Office
Monash University
Room 111, Chancellery Building E
24 Sports Walk, Clayton Campus, Wellington Rd, Clayton VIC 3800, Australia
Telephone +61 3 9905 5490 Facsimile +61 3 9905 3831
Email muhrec@monash.edu <http://intranet.monash.edu.au/researchadmin/human/index.php>
ABN 12 377 614 012 CRICOS Provider #00008C

Appendix 12: Figures of Normal Distribution Curves for CS, BO and STS

items

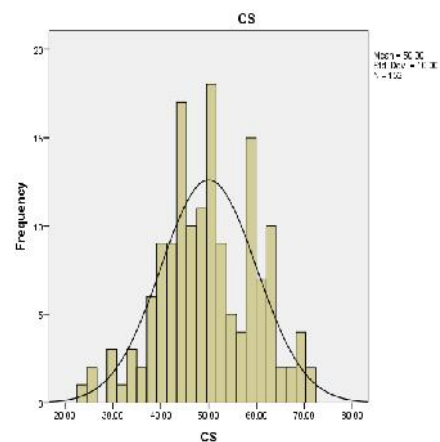


Figure 1: CS scale's items

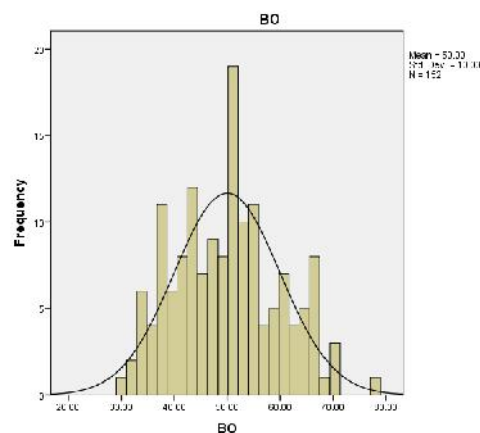


Figure 2: BO scale's items

Fig

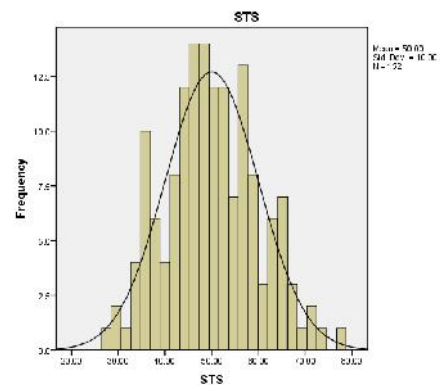


Figure 2: Secondary Trauma scale items

Appendix 13. ProQOL Pocket Card

<p>CARING FOR YOURSELF IN THE FACE OF DIFFICULT WORK</p> <p>Our work can be overwhelming. Our challenge is to maintain our resilience so that we can keep doing the work with care, energy, and compassion.</p> <p>10 things to do for each day</p> <table><tr><td>1. Get enough sleep.</td><td>6. Focus on what you did well.</td></tr><tr><td>2. Get enough to eat.</td><td>7. Learn from your mistakes.</td></tr><tr><td>3. Do some light exercise.</td><td>8. Share a private joke.</td></tr><tr><td>4. Vary the work that you do.</td><td>9. Pray, meditate or relax.</td></tr><tr><td>5. Do something pleasurable.</td><td>10. Support a colleague.</td></tr></table> <p>For more information see your supervisor and visit www.psychosocial.org or www.proqol.org</p> <p>Beth Hudnall Stamm, Ph.D., <i>ProQOL.org</i> and <i>Idaho State University</i> Craig Higson-Smith, M.A., <i>South African Institute of Traumatic Stress</i> Amy C. Hudnall, M.A., <i>ProQOL.org</i> and <i>Appalachian State University</i> Henry E. Stamm, Ph.D., <i>ProQOL.org</i></p>		1. Get enough sleep.	6. Focus on what you did well.	2. Get enough to eat.	7. Learn from your mistakes.	3. Do some light exercise.	8. Share a private joke.	4. Vary the work that you do.	9. Pray, meditate or relax.	5. Do something pleasurable.	10. Support a colleague.
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4. Vary the work that you do.	9. Pray, meditate or relax.										
5. Do something pleasurable.	10. Support a colleague.										
<p>SWITCHING ON AND OFF</p> <p>It is your empathy for others helps you do this work. It is vital to take good care of your thoughts and feelings by monitoring how you use them. Resilient workers know how to turn their feelings off when they go on duty, but on again when they go off duty. This is not denial; it is a coping strategy. It is a way they get maximum protection while working (switched off) and maximum support while resting (switched on).</p> <p>How to become better at switching on and off</p> <table><tr><td>1. Switching is a conscious process. Talk to yourself as you switch.</td></tr><tr><td>2. Use images that make you feel safe and protected (switch off) or connected and cared for (switch on) to help you switch.</td></tr><tr><td>3. Find rituals that help you switch as you start and stop work.</td></tr><tr><td>4. Breathe slowly and deeply to calm yourself when starting a tough job.</td></tr></table>		1. Switching is a conscious process. Talk to yourself as you switch.	2. Use images that make you feel safe and protected (switch off) or connected and cared for (switch on) to help you switch.	3. Find rituals that help you switch as you start and stop work.	4. Breathe slowly and deeply to calm yourself when starting a tough job.						
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We encourage you to copy and share this card. This is a template for making the pocket cards. You may make as many copies as you like. We have heard from some organizations that they have made thousands of copies. Some people find that it is helpful to laminate the cards for long-term use. The ProQOL helper card may be freely copied as long as (a) author is credited, (b) no changes are made other than those authorized below, and (c) it is not sold.

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