

Running head: INTRAPARTUM EXPERIENCES AND SATISFACTION

**Experiences and Satisfaction with Intrapartum Care:
A Comparison of Normal Weight Women and Obese Women**

by

Christine Finnbogason

A thesis submitted to the Faculty of Graduate Studies of

The University of Manitoba

In partial fulfilment of the requirements of the degree of

MASTER OF NURSING

College of Nursing

University of Manitoba

Winnipeg, Manitoba, Canada

Copyright © by Christine Finnbogason 2016

Abstract

Obesity is a steadily growing problem, and has both physiological and psychological consequences during pregnancy. Obese women may face discrimination which could shape their perceptions of maternity care. To date, few studies have studied the influence of body weight on patient satisfaction with care. The objectives of this study were: (1) to compare childbirth experiences and satisfaction with intrapartum care of normal weight (BMI between 18.5 and 24.9 kg/m²) and obese (BMI greater than or equal to 30.0 kg/m²) women and (2) to determine factors associated with satisfaction with intrapartum care. Guided by Barker's (1997) pragmatic model of patient satisfaction, a descriptive comparative and correlational design was used to examine the relationship between childbirth experiences, weight discrimination, and satisfaction with intrapartum care among normal weight and obese women. Postpartum primiparous women (N = 138) in two Winnipeg hospitals completed a questionnaire package and had their chart reviewed (70 normal weight, 68 obese weight). Results: Using independent t-test, no significant differences in satisfaction with intrapartum care or childbirth experiences were found in the two weight groups. In the linear multiple regression model, perceived weight discrimination during labour and delivery was negatively associated ($\beta = -5.78$, $p = 0.032$), while professional support ($\beta = 13.11$, $p < .001$) and perceived control and safety ($\beta = 3.25$, $p = 0.032$) were positively associated with satisfaction with intrapartum care. Understanding factors that influence satisfaction with intrapartum care will assist healthcare providers and administrators to improve satisfaction in all women regardless of their weight.

Acknowledgements

I would like to acknowledge all those who have supported me in the process of conducting my master's thesis research. I would like to thank my committee members. Thank you to my Master's advisor and Thesis Chair, Dr. Maureen Heaman, for her patience, for sharing her extensive research expertise and for keeping me going just when I needed that extra push. Thank you to Dr. Christine Ateah, Internal Member, for her guidance and support during the project, and for helping me keep my research ideas within my reach. Finally, thank you to my External Chair, Dr. Margaret Morris, for her clinical expertise and for supporting me throughout my thesis work.

To my family, thank you for your endless support and love during my Master's journey: my husband, Thor, and my two children Alexandra and Logan. Also to my parents, James and Gwen, and my in-laws, Ken and Gloria, thank you for always encouraging me and being there whenever needed. Without your support I could not have made it through this process.

I would like to thank my research nurse, Nancy Kosie, for all her hard work and excitement helping me recruit participants for this study. I appreciate not only all of her help during this project but also her friendship and encouragement. Without her assistance I would not have been able to have completed this thesis.

I would like to thank all of the funding agencies that have provided support during my graduate studies and those that have supported my thesis project. Thank you to the Manitoba Nurses Union Local 10 for the Health Sciences Centre Education Fund Bursary; without this support I would not have been able to pursue my graduate

studies. Thank you to the Health Sciences Centre Foundation for the Dolly Gembey Research Award and to the Manitoba Centre for Nursing and Health Research (MCNHR) for the Kathleen and Winnifred Ruane Graduate Student Research Grant. As well, I am thankful for being selected for a Graduate Nursing Student Scholarship by the Graduate Nursing Students Association.

I would like to thank James Plohman, from the MCHNR, for his support and advice in setting up the database for this project. Thank you to Dr. Rashid Amhed, Associate Professor at the College of Nursing, for his assistance with statistical analysis and for advice and support related to my analysis questions.

Thank you to all of my coworkers. Those of you who have gone before me have provided me with more advice and support than you'll ever know. A special thanks to Lisa, Betty, Heather, Gail, Susan, Joanna and Mary for all of your encouragement. You have all helped me balance my life in many ways; thank you all so much

Thank you to all of the postpartum nurses at St. Boniface Hospital and Women's Hospital for assisting me with recruitment.

Finally, I would like to thank all the women who took precious time during the first few days of their new babies' lives to participate in this study.

Dedication

This journey we entered together; you all supported me and cheered me on through the good times and the hard times. With your love and support I have been able to grow and learn. I am so lucky to have such a wonderful family and I am eternally grateful to have you in my life.

This thesis is dedicated to my husband, Thor, and my children, Alexandra and Logan.

Table of Contents

Abstract	ii
Acknowledgements.	iii
Dedication	v
Table of Contents	vi
List of Figures	x
List of Tables	xi
Chapter I: Introduction	1
Definition of Terms	6
Significance of the Study	8
Chapter II: Literature Review	10
Obesity	10
Obesity and Discrimination	12
Satisfaction	20
Theoretical Framework.	23
Satisfaction with Intrapartum Care.	26
Childbirth Experiences	31
Determinants of Intrapartum Satisfaction.	34
Measuring Satisfaction with Intrapartum Care	38
Chapter III: Design and Methods	41
Design	41
Setting.	41

Sample.	42
Sample Size	43
Inclusion and Exclusion Criteria	44
Procedures for Data Collection	46
Measurement Methods (Instruments)	47
Care in Obstetrics: Measure FOR Testing Satisfaction (COMFORTS) scale.	48
Childbirth Experiences Questionnaire	53
Discrimination Questionnaire.	57
Maternal Demographics and Intrapartum Care Characteristics. . .	58
Health Record Data Collection Form	58
Data Analysis.	59
Ethical Considerations.	60
Chapter IV: Results	63
Descriptive Analysis of Demographic Characteristics	63
Descriptive Analysis of Normal Weight and Obese Weight Groups	65
Demographic Characteristics	70
Satisfaction with Intrapartum Care	71
Childbirth Experiences	73
Weight Discrimination	73
Research Questions	76
Chapter V: Discussion	85
Demographic and Childbirth Characteristics	86

Satisfaction with Intrapartum Care	91
Childbirth Experiences	100
Theoretical framework.	102
Study Limitations	103
Implications for Nursing Practice	107
Recommendations for Future Research	111
Conclusion	113
References	114
Appendices	
Appendix A: Intrapartum Measurement tools.	140
Appendix B: Comforts in Obstetrics: Measure FOR Testing Satisfaction (COMFORTS) Scale	146
Appendix C: Permission to use COMFORTS Scale	148
Appendix D: The Childbirth Experiences Questionnaire	149
Appendix E: Permission to use the CEQ	155
Appendix F: Adapted Weight Discrimination Questionnaire	157
Appendix G: Permission to adapt the Experiences of Discrimination Questionnaire	159
Appendix H: Maternal Demographic and Intrapartum Care Characteristics Questionnaire	160
Appendix I: Health Record Data Collection Form	163
Appendix J: Estimation of Effect Size	165
Appendix K: Antepartum High Risk Pregnancy Scoring	166

Appendix L: Education/Nursing Research Ethics Board (ENREB) certificate	167
Appendix M: HSC Research Impact Committee approval letter	168
Appendix N: St. Boniface Hospital Research Review Committee Approval Form	169
Appendix O: ENREB amendment approval	171
Appendix P: Research Participant Information and Consent Form	172
Appendix Q: Request for a Summary Request Form	175
Appendix R: Copyright Permission for Figure 1. Revised model of patient satisfaction in general practice (Baker, 1997).	176

List of Figures

Figure 1. Revised model of patient satisfaction in general practice (Baker,
1997) 26

List of Tables

Table 1. COMFORTS Scale: assessment with the determinants of satisfaction with intrapartum care	52
Table 2. Rotated factor matrix with factors loading from exploratory factor analysis of CEQ items	56
Table 3. Demographic and childbirth characteristics: normal weight group and obese weight group	67
Table 4. Comparison of demographic and childbirth characteristics between normal weight and obese weight group, using independent t-test	68
Table 5. Comparisons of Demographic and Childbirth Characteristics between Normal Weight Group and Obese Weight Group, using Chi-Square	69
Table 6. Comparisons of Discrimination Questions between Normal Weight Group and Obese Weight Group, using Chi-Square	75
Table 7. Comparison of COMFORTS score between childbirth characteristics, using independent t-test	78
Table 8. Comparison of COMFORTS score between childbirth characteristics, using one-way ANOVA	79
Table 9. Pearson r correlations: childbirth and demographic characteristics, childbirth experiences, weight discrimination with satisfaction with intrapartum care.	81
Table 10. Base linear multiple regression model of factors associated with COMFORTS scale.	83

Table 11. Final Linear Multiple Regression Model of factors associated with
intrapartum satisfaction (COMFORT Scores). 83

Chapter I: Introduction

Obesity has been classified as a growing epidemic in Canada (Starky, 2005) and worldwide (World Health Organization [WHO], 2012). The Body Mass Index (BMI) is used as a measurement tool to classify weight of both men and women. It is calculated by using an individual's weight in kilograms and dividing it by the square of their height in meters (Health Canada, 2011). Health Canada (2003) has identified the following weight categories based on BMI: normal weight: BMI between 18.5 and 24.9 kg/m², overweight: BMI between 25.0 and 29.9 kg/m², obese: BMI greater than or equal to 30.0 kg/m². Reports released from the WHO (2012) indicate that in 2008 there were more than 500 million obese adults worldwide, with obese women making up almost 300 million. The Public Health Agency of Canada (2009) *Canadian Maternity Experiences Survey* reported that 13.6% of the postpartum women surveyed had a pre-pregnancy BMI in the obese category. Yogev and Catalano (2009) suggest that as the obesity epidemic continues to grow, more women of reproductive age will be affected.

Obesity has been associated with stigma (Drury & Louis, 2002; Merrill & Grassley, 2008; Puhl & Brownell, 2006; Puhl, Moss-Racusin, Schwatz, & Brownell, 2008; Rogge, Greenwald & Golden, 2004; Wray & Deery, 2008) and discrimination (Carr & Friedman, 2005; Kaminsky & Gadaleta, 2002; Puhl, Andreyeva & Brownell, 2008; Rogge et al., 2004), including discrimination related to health care (Carr & Friedman, 2005; Hansson, Nasslund, & Kasussen, 2010). Hansson et al. (2010) suggest that obese women are more likely to face health care discrimination compared to men of the same weight. Weight stigma has been identified as a form of

discrimination (Puhl, Andreyva, & Brownell, 2008). Furness et al. (2011) identified stigmatizing behaviour among midwives demonstrated by awkwardness and anxiety around discussing obesity issues and an assumption that obese women lack motivation. Furthermore, Mulherin, Miller, Barlow, Diedrichs, and Thompson (2013) found that maternity care providers “hold less positive perceptions of patient self-care of, and attitudes towards caring for, overweight and obese women compared to normal-weight” (p.9). These behaviours were identified in all care providers regardless of the weight stigmatizing levels leading the authors to suggest that weight stigma exists within maternity care. Additionally, Furber and McGowan (2011) found that obese pregnant women in the United Kingdom identified situations with healthcare providers that “highlighted the stigma associated with being pregnant when obese” (p. 439). In the non-pregnant population, it has been found that women living with obesity may delay or avoid accessing the healthcare system due to perceived stigma or discrimination (Amy, Aalborg, Lyons, & Keranen, 2006; Drury & Louis, 2002). Other investigators have found that weight is not a barrier to women accessing and attaining adequate prenatal care (Levine, Landsberger, Bernstein, Chazotte, & Srinvas, 2013). However, this body of research is very limited.

In addition to potentially facing discrimination and stigma, obese pregnant women are more likely than normal weight women to experience an increased number of health risks. Some of these health concerns include a higher incidence of: gestational hypertension, gestational diabetes, caesarean delivery, induction or augmentation of labour, and macrosomic newborns (Bodnar, Siega-Riz, Simhan, Himes, & Abrams, 2006; Crane, White, Murphy, Burrage, & Hutchens, 2009; Graves,

DeJoy, Heath, & Pekow, 2006; Magriples, Kershaw, Rising, Westdahl, & Ickovics, 2008; Mission, Marshall, & Caughey, 2013; Morin & Reilly, 2007; Piotr et al., 2009; Sebrie et al., 2001). Additionally, women whose pregnancies are complicated by obesity are more likely than normal weight women to have a preterm birth (Khatibi et al., 2012), fetal metabolic abnormalities (Davies, Maxwell, & McLeod, 2010; Marshall, Guild, Cheng, Caughey, & Halloran, 2012), and postpartum depression (LaCorsiere, Baksh, Bloebaum, & Varner, 2006). While that research focused on the physical health outcomes of maternal obesity, there appears to be a gap in understanding how obesity impacts childbirth experiences and satisfaction with intrapartum care.

Childbirth experiences have been identified as a complex and multidimensional concept (Larkin, Bergley, & Devane, 2009). Experiences of care are defined as an individual's perception of care they have received (Green, Coupland, & Kitzinger, 1990). Some researchers suggest that childbirth experiences and satisfaction with intrapartum care are related concepts (Larkin et al., 2009). Bramadat and Driedger (1993) argue that satisfaction, a feeling of care provided, is different than the individual's perception of care provided, which could be considered the experience of care. Qualitative methodology makes up a large portion of the research conducted on maternal childbirth experiences. Authors examining childbirth experience using quantitative methods often fail to provide a definition for childbirth experiences and often use that term interchangeably with the related concept of satisfaction.

Satisfaction has been defined as a positive attitude, or a reaction to care received (Baker, 1997). Moreover satisfaction has been identified as “an important indicator of the quality of hospital care” (Milutinovic, Brestovacki, & Martinov-Cvejin, 2009). It is therefore proposed by some researchers that measuring patient satisfaction will assist healthcare providers to change services in order to improve women’s experiences as well as their quality of care (Shafiei, Small, & McLachlan, 2012). Studies on intrapartum or childbirth satisfaction have been conducted in various countries including Australia (Brown & Lumley, 1994; Haines, Hildingsson, Pallant, & Rubertsson, 2013); Canada (Janssen, Dennis, & Reime, 2006; Seguin, Therrien, Champagne, & Larouch, 1989); Sweden (Haines et al., 2013; Hildingsson, & Thomas, 2012); and the United States (Stevens, Wallston, & Hamilton, 2011). In addition, researchers have studied intrapartum satisfaction among specific groups such as women over the age of 35 (Windridge & Berryman, 1999); those with a birth plan (Kuo et al., 2009); immigrants (Small, Yeland, Lumly, Brown, & Liamputtong, 2002); and lesbians (Wilton & Kaufmann, 2001). Only one study identified examined the impact of maternal weight on satisfaction with perinatal care (Hildingsson & Thomas, 2012). This study was done in Sweden where midwives act as the primary caregiver for all normal births in the hospital setting. The authors found no difference in satisfaction of care between obese and normal weight women, and therefore concluded that midwives most likely provide the same care to all women regardless of their weight. This phenomenon has yet to be examined in a setting where women receive care from a variety of healthcare providers. Therefore,

this lack of research represents a gap in the literature regarding the effects of maternal obesity on satisfaction with intrapartum care.

Recently a small number of authors have investigated obese women's experiences with prenatal, intrapartum, and postpartum care. The majority of these studies have been qualitative and have examined maternal obesity and healthcare providers' perceptions of perinatal services (Furness et al, 2011; Heslehurst et al., 2011; Schmied, Duff, Dahlen, Mills, & Kolt, 2011; Smith, Cooke, & Lavender, 2012). All of these studies found that healthcare providers felt they lacked adequate knowledge of how to support obese pregnant women. In regards to intrapartum care, some authors found that healthcare providers were concerned with the lack of adequate equipment needed to sensitively and safely provide care to obese women (Schmied et al., 2011; Smith et al., 2012). The lack of appropriately sized equipment was also identified in a study by Nyman, Prebensen, and Flensner (2010) examining obese women's experience with healthcare providers during pregnancy and childbirth in Sweden. Other studies found obese pregnant women felt humiliated (Furber & McGowan, 2011; Nyman et al., 2010), ignored (Furber & McGowan, 2011), and had negative emotion and experiences of discomfort (Mulherin et al., 2013; Nyman et al., 2010). Most of these studies focused on prenatal care and only one study compared obese women and normal weight women (Mulherin et al., 2013). Further research is needed to examine and compare obese women's experiences of childbirth to those of normal weight women. This will assist obstetrical healthcare providers in providing safe and sensitive care to this growing population of pregnant women.

The purpose of this study is twofold: (1) to compare childbirth experiences and satisfaction with intrapartum care in normal weight and obese women, and (2) to determine factors associated with satisfaction with intrapartum care.

The following research questions will be examined.

1. Is there a difference in satisfaction with intrapartum care in women of normal weight and obese weight?
2. Is there a difference in the childbirth experience in women of normal weight and obese weight?
3. Are any of the following factors associated with satisfaction with intrapartum care: maternal demographic and childbirth characteristics, childbirth experience, maternal weight, and weight-related discrimination?

Definition of Terms

Intrapartum period. The intrapartum period is defined as the time starting from the onset of labour and ending with the third stage of labour, or the delivery of the placenta (intrapartum period, n.d.). The intrapartum period has been termed ‘childbirth’, which is “the act or process of giving birth to children” (childbirth, n.d.). In this study the terms will be used interchangeably.

Obesity. Obesity will be defined as a pre-pregnancy BMI greater than or equal to 30.0 kg/m². Data on BMI were gathered from examination of the participants’ prenatal record. The BMI was based on the woman’s height and weight documented at the first prenatal visit within the first trimester.

Intrapartum satisfaction. Patient satisfaction in general is defined as an evaluation of services experienced (Ware, 1983) or a positive attitude or reaction to

care provided (Baker, 1997; Linder-Pelz, 1982a). Linder-Pelz (1982a) defines satisfaction as an emotional response where the patient evaluates attributes of an event as positive or negative. Satisfaction with intrapartum care was defined as a positive reaction to services or care provided to women in the intrapartum period. Intrapartum satisfaction was measured using four of the six subscales developed by Janssen, Dennis and Reime (2006) for the Care in Obstetrics: Measure for Testing Satisfaction Scale (COMFORTS): (i) provision of choice, information and support; (ii) your physical environment; (iii) nursing care in labour; and (iv) privacy (Appendix B).

Childbirth experiences. Experiences have been defined as the process of doing and seeing things and having things happen to you (Experiences, n.d.). Childbirth experiences involve the women's perception of her childbirth and the care she received (Bramadat & Driedger, 1993; Green et al., 1990; Windridge & Berryman, 1999). Larkin et al. (2009) found childbirth experiences to be multidimensional, subjective and related to both outcomes (such as a safe delivery) and the process of childbirth. The multidimensional aspect of childbirth experiences include: a maternal perception of security and control, the woman's level of pain control, personal support; healthcare provider care, prior experiences, and information received and participation in decision making (Dencker, Taft, Bergqvist, Lilja, & Berg, 2010). Childbirth experiences were measured using the Childbirth Experiences Questionnaire (CEQ) developed by Dencker et al. (2011). This instrument was designed to cover the multidimensional nature of childbirth experiences. The instrument consists of four subscales: (i) own capacity (e.g., level of labour pain,

sense of control); (ii) perceived safety (e.g., sense of security, negative or positive memories of labor process); (iii) professional support (e.g., being well taken care of; receiving information); and (iv) participation (e.g., having choices of delivery position and pain relief). (Appendix D).

Weight discrimination. Discrimination is defined as “prejudiced or prejudicial outlook, action or treatment” (Frederick, 2003, p. 358). The focus of this study was on self-reported weight discrimination. Weight discrimination was examined in this study using a weight discrimination question adapted from the discrimination question in the Experiences of Discrimination (EOD) scale (which measures self-reported experiences of discrimination related to race, ethnicity or color) (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005) (Appendix F).

Significance of the Study

With the increasing obesity epidemic, maternity care providers are seeing more obese women giving birth. Nurses have an important role in supporting obese patients and ensuring that healthcare settings meet their needs (Brown, 2006; Merrill & Grassley, 2008). A comparison of childbirth experiences and satisfaction with intrapartum care in women of normal weight and obese weight can provide useful information for health care providers regarding any disparities in the provision of such care. In addition, identification of factors related to satisfaction with intrapartum care can provide healthcare providers and administrators with information that can be used to improve obese women’s satisfaction with intrapartum care and their childbirth experiences. Understanding these factors can also assist healthcare providers, administrators, and policy makers in allocating resources and equipment, developing

appropriate programs for obese perinatal women, and developing evidence-based policies to ensure that all women, regardless of their weight, are cared for in a respectful and satisfying environment.

Chapter II: Literature Review

A literature review was conducted using on-line PubMed, CINAHL and SCOPUS databases. Parameters for this search included articles published in English between the years 1998 to September 2013. For the on-line search a combination of terms were used: obesity, Body Mass Index, pregnancy, intrapartum, childbirth, “labour and delivery”, “labor and delivery”, satisfaction, and experiences. Reference lists of selected articles were also examined and articles of significant interest not already found in the above search were examined. In this chapter the concepts of obesity, obesity and discrimination, childbirth experiences, and satisfaction with intrapartum care will be examined using quantitative and qualitative studies, and the need for future research related to intrapartum satisfaction and obesity will be identified. Knowledge on determinants of satisfaction with intrapartum care will be presented and theoretical underpinnings of the study will be discussed.

Obesity

Obesity has been identified by the WHO (2012) as a growing epidemic. In 2008 they estimated that 14 billion adults were classified as overweight with nearly 500 million classified as obese, 200 million men and 300 million women. In Canada we continue to see the rates of obesity climb in the adult population. Approximately 4.6 million adults report heights and weights that classify them as obese (Statistics Canada, 2011). Although these rates have not changed from 2009 to 2011, Statistics Canada (2011) indicates that they have seen obesity rates increase between 2003 and 2011 from 16.0 to 19.8% and 14.5 to 16.8% in Canadian men and women respectively. Of particular interest for maternity care providers are the obesity rates

of women between the ages of 20 and 39 as this group would most likely access obstetrical care. Sheilds et al. (2010) reported that 44% of women between the ages of 20 and 39 had a BMI that classified them as either overweight or obese; 21% of this sample was classified as obese. These results came from the 2007-2009 Canadian Health Measures Survey which is a national survey that collects information on the health and lifestyles of Canadians (Statistics Canada, 2013). Furthermore, based on data from the 2004 Canadian Community Health Survey, obesity rates in Manitoba (28%) have been reported as higher than the national average (23%) (Shield & Tjepkema, 2006).

There is great concern that as the obesity epidemic continues to grow, obstetrical providers will undoubtedly encounter more obese pregnant women (Yogev & Catalano, 2009). Data obtained from the *Canadian Maternity Experiences Survey* (The Public Health Agency of Canada, 2009) found 21.0% of women reported a pre-pregnancy BMI in the overweight category and 13.6% in the obese category; therefore “more than one-third of women had a high pre-pregnancy BMI” (p.13). It is possible that these numbers are even higher based on response bias that has been identified when self-reported heights and weights are used. Sheilds, Connor, Gober, and Tremblay (2008) reported a difference between self-reported weight and measured weight in women and indicated that self-reported weight was most often underestimated. The largest of these discrepancies were found in the higher BMI categories. These authors found that obesity rates were 7.4% higher when height and weight were measured compared to self-reported data (Sheilds et al., 2008). First Nations people living on-reserves were not included in the Canadian Maternity

Experiences Survey; therefore generalization of the results to this group is not possible. Aboriginal and First Nations people make up 3.8 and 2.2% of the Canadian population respectively and only 45-54% of them live in an urban center (Statistics Canada, 2008). Statistics Canada (2008) also reports that in Manitoba 15.5% of the population have identified themselves as Aboriginal, and 8.9% of those people identified themselves as First Nations. Researchers have found that Aboriginal people living off-reserves were 2.5 times more likely to be obese than non-Aboriginal people (Garriguet, 2008). Additionally a study conducted in Quebec found that 80% of the female First Nations population in that province was overweight or obese (Brennand, Dannenbaum, & Willows, 2005).

Obesity and Discrimination

Authors have suggested that people living with obesity often face stigmatization (Drury & Louis, 2002; Merrill & Grassley, 2008; Puhl & Brownell, 2006; Puhl, Moss-Racusin, et al., 2008; Rogge, Greenwald, & Golden, 2004; Wray & Deery, 2008). Stigma has been defined as a negative attitude (Puhl & Brownell, 2006). Furthermore, social stigma has been defined by Wikipedia as “the extreme disapproval of (or discontent with) a person or group on socially characteristic grounds that are perceived, and serve to distinguish them, from other members of a society” (social stigma, n.d.). DeJoy and Bittner (2015) suggest that the stress that can be associated with weight stigma may increase people’s participation in unhealthy behaviours. Discrimination has been identified as a critical component of stigma (Carr & Friedman, 2005; Link & Phelan, 2001). Link and Phelan (2001) suggest people experiencing stigmatization face both discrimination and status loss. Drury

and Louis (2002) suggest that “stigma produces prejudice and discrimination” (p.554). A large study (N=3304) conducted in the United States by Puhl and Brownell (2006) found that as BMI increased, so did reports of participants experiencing stigma. These experiences involved negative assumptions, receiving nasty comments from children, equipment that did not fit, as well as negative comments from healthcare providers and family (Puhl & Brownell, 2006). Adults living with obesity face discrimination in many aspects of their lives (Carr, & Friedman, 2005; Kaminsky & Gadaleta, 2002; Latner, Barlie, Durso, & O’Brien, 2014; Puhl, Andreyeva, & Brownell, 2008; Rogge et al., 2004). Hansson et al. (2010) suggest that there are data available that “suggests that discrimination is an important weight-related stressor that may adversely affect people’s health and opportunities in life” (p.587).

Carr and Friedman (2005) found that prejudicial attitudes have been associated with obesity; however they questioned whether people living with obesity faced discrimination. Using data from the Midlife Development in the United States (MIDUS) study, the authors investigated perceived discrimination and day-to-day interpersonal discrimination in relation to weight as well as any relationship to selected demographic characteristics and self-acceptance (Carr & Friedman, 2005). A sample of 3,437 English speaking adults, between the ages of 25 to 74, living across the United States were examined in the MIDUS study. The MIDUS study incorporated several questions on discrimination. The authors found obese adults were more likely to report major discrimination, work-related discrimination, and day-to-day discrimination compared to normal weight adults even after controlling

for demographic and socioeconomic variables. They also found that more obese adults, specifically those with a BMI of 35 or greater, reported healthcare-related discrimination (Carr & Friedman, 2005). While that study had a large sample, some limitations still exist. First the height and weight of participants were possibly underestimated as they were self-reported. In addition, Carr and Friedman (2005) caution it may be difficult to generalize study results to the entire United States population due to a moderate sample response rate of 70%.

Weight/height discrimination was found to be the third most reported form of discrimination among U.S. women following gender and age discrimination (Puhl, Andreyeva, & Brownell, 2008). Puhl, Andreyeva, and Brownell (2008) conducted a study to understand how weight discrimination compares to race and gender discrimination. Different forms of perceived discrimination were examined in 2290 adults from the MIDUS random core sample meeting their study criteria. Puhl, Andreyeva, and Brownell (2008) found that “the most important indicator of weight/height discrimination was increase in body weight” (p. 997). Results indicated that women were more likely to face weight/height discrimination than men (10.3% of women compared to 4.9% of men). When comparing only obese women and men the difference was even greater (20.6% of women vs. 6.1% of men). Additionally, participants faced weight/height discrimination both in their work place (60%) and among interpersonal relationships (18 – 31%). “No difference was found in the relationship between obesity and weight/height discrimination by race, education and marital status” (Puhl, Andreyeva, & Brownell, 2008, p. 997).

Similar results were found in a large (N=2788) study conducted in Sweden (Hansson et al., 2010). The authors found that obese participants were more likely to report workplace, healthcare, and interpersonal discrimination compared to those of normal weight. Women in this study were twice as likely to face healthcare discrimination compared to men of the same weight (Hansson et al., 2010). Although the sample size of Puhl, Andreyeva, and Brownell's (2008) study was fairly large, some limitations remain with the self-reported heights and weights. Furthermore, the authors indicate that measuring lifetime discrimination does not reflect how changes in body weight affect perceptions of discrimination. Finally, it may be difficult to generalize the results of their study to other countries where adult obesity rates differ. The findings may be important to healthcare providers who aim to provide safe and patient centered care to women throughout their life span as it would be important for them to acknowledge that compared to men women may be more vulnerable to weight discrimination. Puhl and Brownell (2006) suggest that healthcare providers need to be "sensitive to the considerable amount and range of stigmatizing experiences faced by obese individuals" (p. 1813).

Weight discrimination has an effect on the healthcare providers' perceptions of overweight and obese people (Heslehurst, Lang, Rankin, Wilkinson, & Summerbell, 2006). With the medicalization of obesity, society has come to view obesity as a disease or chronic illness (Drury & Louis, 2008; Wray & Deery, 2008). Link and Phenlan (2001) suggested that with a greater preoccupation of weight in maternity care, there is an increased likelihood that obese pregnant women will experience weight stigma. Heslehurst et al. (2006) found that care delivered to obese

women was significantly impacted by their perceptions of obesity. Furthermore, they found that when caring for obese pregnant women, healthcare providers did not always have access to appropriate sized equipment, they had limited control over delivery site, and they found it was more likely that obese women's pregnancy would be complicated by co-morbidities (Heslehurst et al., 2006)

A qualitative study by Rooge et al. (2004) used interpretive phenomenology to examine individuals' and family's experience of living with obesity. The authors used this methodology to help them gain a deeper understanding of experiences in this population. The convenience sample for this study included 18 women between the ages of 24 and 57 years in the United States. All participants were employed in a healthcare setting and the majority were Caucasian. Five family members were interviewed; 3 husbands, 1 father of a subject, and 1 mother of a subject. Rooge et al. (2004) found that obese women faced stigmatization and discrimination and indicated that there was evidence that they also faced civilized oppression. Rooge et al. (2004) found the following themes to be consistent with civilized oppression: non-peer, power-laden relationship; diminishing and controlling the obese person; cumulative acts of omission and commission; no malicious intent; harm or disadvantage accrue. Furthermore Rooge et al. (2004) suggested that healthcare providers need "to develop self-awareness of the overt and covert messages conveyed to obese patients about their weight, their weight loss efforts, and especially their weight control failures" (p. 313).

Discrimination or stigmatization of individuals living with obesity by healthcare providers has been identified by many authors (Carr & Friedman, 2006;

Hansson et al., 2010; Puhl. & Brownell, 2006) including within maternity care (Mulherin et al., 2013). An Australian study examined self-reported pre-pregnancy BMI and perceived quality of treatments as well as hypothetical pre-pregnancy BMI on the attitude of healthcare providers' attitudes. Mulherin et al. (2006) found that women with higher pre-pregnancy BMI perceived more negative treatment during pregnancy and less positive treatment after birth. It was also found that "...pre-service care providers hold less positive perceptions of patient self-care of, and attitudes towards caring for, overweight and obese compared to normal weight, pregnant women" (Mulherin et al., 2006, p. 9). These effects were seen regardless of stigmatizing behaviours. Mulherin et al. (2006) suggest these results indicate weight stigma is present in maternity services.

Studies suggest that due to perceived stigma or discrimination people living with obesity may delay or avoid accessing the healthcare system (Amy, Aalborg, Lyons, & Keranen, 2006; Drury & Louis, 2002). Some authors have suggested that this avoidance may occur when an individual feels that their healthcare provider has discriminated against them based on their weight (Olson, Schumaker, & Yawn; Packer, 1990). Drury and Louis (2002) conducted a study in the United States to examine the association of weight ideology, actual body weight, self-esteem, and satisfaction with healthcare utilization in women whose weight ranged from normal to obese. Two hundred and sixteen women completed a questionnaire that consisted of a number of previously adapted tools and scales, including the satisfaction with medical care scale and the Rosenberg Self-Esteem scale. The study found women delayed or avoided healthcare more often as their BMI increased. Additionally, if a

woman perceived herself as being overweight she had a higher rate of delaying or avoiding healthcare. Drury and Louis (2002) felt this identified how the stigma of obesity influences women's utilization of the healthcare system, even those within normal BMI categories. However the sample size was relatively small and results are difficult to generalize as most of the women in this study were Caucasian.

Furthermore the authors used self-reported height and weights.

To examine how individuals living with obesity may or may not access healthcare, Levine et al. (2013) conducted a study to "determine if obesity is an independent barrier to accessing early and adequate prenatal care" (p. 401). The authors examined a convenient sample of 410 women in the U.S. Measurements of weight at the first prenatal visit and self-reported heights were used to obtain more accurate BMIs. The Krolechuck index was used to evaluate the adequacy of prenatal visits. Levine et al. (2013) found that 64% of participants had adequate prenatal care and that there was no difference between obese and normal weight women in their mean gestational age at first prenatal visit, accessing prenatal care in the first trimester, the number of total visits, and the adequate number of visits.

Some researchers have found an improvement in the body image of obese women during pregnancy. Fox and Yamaguchi (1997) examined the body image changes occurring during pregnancy between normal weight and overweight women. Seventy-six women from London, England were interviewed and it was found that normal weight women were more likely to experience a negative change in body image, while overweight women were more likely to experience a positive body image change. Some of the reasons associated with these positive changes were

“feeling less self-conscious and more positive about public scrutiny” and “a feeling of freedom from the stigma of being over-weight” (Fox & Yamaguchi, 1997, p. 38). In addition to potential positive body image effects that have been seen in overweight pregnant women, some healthcare providers have indicated that larger body sizes are now becoming more socially acceptable than in the past (Schmied, Duff, Dahlen, Mills, & Kolt, 2011).

To better understand the experience of women living with obesity, Merrill and Grassley (2008) interviewed eight American women between the ages of 20-61. Using phenomenology the authors found four themes emerged from their data; struggling to fit in, feeling not quite human, being dismissed, and refusing to give up. Women in this study felt there was often inadequately sized equipment to meet their needs; this included equipment such as blood pressure cuff and gowns (Merrill & Grassley, 2008). These results were consistent with results obtained by Kaminsky and Gadaleta (2002) who found that morbidly obese patients having recently undergone bariatric surgery felt that they did not have the proper sized gowns, blood pressure cuffs, examination tables and chairs for their body size. Women in Merrill and Grassley’s (2008) study also identified feelings of being stigmatized due to being different from what was considered the cultural norm or ideal. These women indicated feeling dismissed by healthcare providers and were concerned by how they felt people looked at them. The sample size of this study was very small (n=8) and only included Caucasian women; this would make it difficult to generalize the results of this study to other populations. However, this study adds important information to

the growing body of literature looking at the experiences of people living with obesity.

As mentioned before many authors have suggested that nurses and healthcare providers should have an awareness of the psychosocial effects that stigmas, biases, and discrimination may have on people (Drury & Louis, 2002; Heslehurst et al., 2006; Merrill & Grassley, 2008; Rogge et al., 2004). These authors also indicate that healthcare providers should recognize their own biases toward obesity.

Satisfaction

Patient satisfaction has emerged as an indicator for quality of healthcare (Britton, 2012; Brown & Lumley, 1997; Cleary & McNeil, 1988; Gill & White, 2009; Gungor & Beji, 2012; Haines et al., 2013; McCrea & Wright, 1999; Rudman, El-Kouri, & Waldenstrom, 2006; Shafiei et al., 2012; Wilde-Larsson, Larsson, Kvist, & Sandi-Bojo, 2010). Maternal satisfaction has been identified as an important factor for healthcare providers, administrators, and policy makers (Hodnett, 2002) "...since childbearing is the most common reason for accessing health services" (p. 2). Many authors believe that identifying and understanding predictors of satisfaction can greatly improve healthcare environments and programs (Goodman, Mackey, & Tavakoli, 2004; Janssen et al., 2006; Murray, Wilcok, & Kobayashi, 1996). Some researchers have suggested that satisfaction "has become an endpoint in outcome research and the benchmarking of services" (Gill & White, 2009, p. 10). Others question the relationship between satisfaction and quality of care suggesting that "client satisfaction is only indirectly related to quality of the healthcare system, because it is strongly coloured by expectations and prior experiences" (Wiegers,

2009, p. 92). Therefore examining maternal satisfaction with intrapartum care as well as the determinants of maternal satisfaction may assist healthcare providers in identifying possible areas to focus on, thus potentially improving women's experiences. In order to do this an in-depth understanding of satisfaction is needed.

Satisfaction in healthcare has been extensively studied throughout the past couple of decades; the majority of theoretical work was published in the 1980's. Much of the theoretical work regarding patient satisfaction has been driven from consumer satisfaction work (Sitzia & Wood, 1997). However, authors have criticized the foundation of patient satisfaction research for its lack of theoretical and conceptual understandings prior to measurement development (Britton, 2012; Rudman et al., 2006; Sawyer et al., 2013; Stevens et al., 2011). Both Linder-Pelz (1982a) and Sitzia and Wood (1997) consider theoretical and conceptual knowledge as an essential first step to the development of measurement tools. Without theoretical and conceptual underpinnings Britton (2012) suggests that "the measure of satisfaction often lacks standardization, reliability and validity" (p.38). In order to gain a deeper understanding of satisfaction current and seminal literature focusing on the theoretical and conceptual underpinnings of satisfaction, the determinants of intrapartum satisfaction, and childbirth satisfaction measurement tools will be examined.

Much of the work on patient satisfaction has been completed in the 1980's and was built around the seminal work of Linder-Pelz (1982a; 1982b). Her work examined the sociological and social psychological work relevant to patient satisfaction. Two predominant models designed to predict patient satisfaction are the

fulfillment theory and the discrepancy theory. The fulfillment theory defines satisfaction as an emotional response where the patient evaluates attributes of an event as positive or negative (Linder-Pelz, 1982a). The discrepancy theory on the other hand considers the relationship of expectations and experiences and satisfaction is described as the patients' perception of the discrepancies between the two (Linder-Pelz, 1982a).

Others define satisfaction as a reaction to different aspects of healthcare (Pascoe, 1983). Cleary and McNeil (1988) argue that in this definition "satisfaction is assumed to consist of a cognitive evaluation and an emotional reaction to the structure, process, and outcome of services" (p.26). Patient satisfaction has been identified as a subjective concept (Linder-Pelz, 1982a) and a personal evaluation of both healthcare services and healthcare providers (Ware, Snyder, Wright, & Davis, 1983). Patients will evaluate individual dimensions of satisfaction as well as an overall evaluation of a healthcare event (Linder-Pelz, 1982a).

To better understand the linkage between expectations and satisfaction Thompson and Sunol (1995) developed the assimilation-contrast model of satisfaction. Three theoretical models of consumer satisfaction commonly used in consumer research (cognitive-affect model [Oliver, 1993], assimilation-contrast model [Anderson, 1973], the zone of tolerance model [Parasuraman, Berry, & Zeithaml, 1991]) were combined in the development of Thompson and Sunol's (1995) patient satisfaction model. Thompson and Sunol's (1995) model of patient satisfaction demonstrates the relationship between expectations and satisfaction and

has identified both personal and social variables that have been linked theoretically to satisfaction in healthcare.

Expectations have been identified as a component of patient satisfaction by many researchers (Linder-Pelz, 1982a; 1982b; Thompson & Sunol, 1995) and have, to varying levels, been identified as a determinant of patient satisfaction. Many of the studies that have included expectations in the examination of childbirth satisfaction have been longitudinal studies (Christiaens & Bracke, 2007; Christiaens, Verhaeghe, & Bracke, 2008; Green, Coupland, & Kitzinger, 1990; Haines et al., 2013; Hildingsson & Thomas, 2012; Rudman et al. 2007; Wiegers, 2009).

Theoretical Framework

A pragmatic model of patient satisfaction developed by Baker (1997) will be used to guide this study. Although expectations have been theorised as an important part of patient satisfaction, they will not be examined in this proposed study as the feasibility of conducting a longitudinal study both financially and within a reasonable time frame is beyond the capacities of this Master's student's resources. Furthermore, Murray et al. (1996) indicated that "the latest research in obstetrical care indicates that conducting both pre- and post-assessment neither provides significantly more valuable information nor confounds the results obtained" (p. 54) and therefore suggest this type of evaluation may not be worthwhile.

Due to the lack of an adequate theory to explain the meaning of patient satisfaction, the pragmatic model of patient satisfaction was created "to measure patient satisfaction with practices and consultations" (Baker, 1997, p. 201). The term pragmatic has been defined by Merriam-Webster (pragmatic, n.d.) as "dealing with

the problem in a specific situation in a reasonable and logical way instead of depending on ideas and theories.” Unlike satisfaction theories developed by Linder-Pelz (1982a) and Thompson and Sunol (1995) who used social and psychological theories, Baker’s (1997) patient satisfaction model links empirical evidence to patient satisfaction. Baker (1997) argued that “a model merely depicts the relation between a set of variables, rather than explains them on the basis of underlying principles” (p. 201). Four components of patient satisfaction were identified in this pragmatic model of patient satisfaction (Baker, 1997).

1. Patient satisfaction is defined as an attitude and as such may be evaluated by patients as a reaction to care they have received. Baker (1997) suggests that satisfaction is “learned from experience” (p. 202). Additionally it is implied that satisfaction may affect a patient’s behaviour. Researchers have found that patients reporting lower levels of satisfaction are more likely to be depressed (Britton, 2012), are less likely to comply with healthcare providers recommendations, or return to healthcare settings for care (Van Teijlingen, Hundley, Rennie, Graham, & Fitzmaurice, 2003). In contrast, patients reporting higher levels of satisfaction are more likely to have better outcomes (Van Teijling et al., 2003), improved self-esteem, demonstrate more assertiveness in relationships, and have better self-confidence (Watkins, 1998). These findings support Baker’s (1997) argument that satisfaction affects patient behaviour.
2. Satisfaction is a continuous rather than a dichotomous variable.

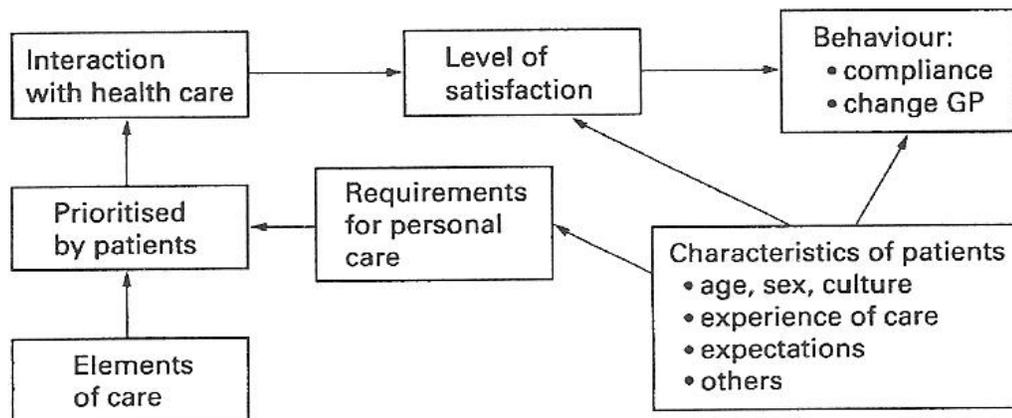
3. Satisfaction is multidimensional and because of this there may be differences in satisfaction levels for different aspects of care. Baker (1997) also suggests that patients' perceptions of the importance of different aspect of care may differ from one clinical setting to another. It is therefore important to consider the clinical group one is examining and focus measurement of satisfaction on those aspects of care that are important to that group.
4. Patient characteristics may influence patient attitudes and priorities. Baker (1997) identified a number of characteristics that could potentially influence patient satisfaction, some of these characteristics include: age and sex; past experience with care; expectations; health; cultural factors; moods.

Baker (1997) suggested that the patient's level of satisfaction may differ among different aspects of patient care. Baker (1997) indicated that studies have found that components of satisfaction differed among different groups. He argues that this demonstrates patients assign different levels of importance to these any aspects of care. As such it is recommended that "measures of satisfaction should assess all relevant elements of care and be designed for particular clinical settings" (Baker, 1997, p. 202).

This model will guide this study in a number of ways. First, as recommended by Baker (1997), selection of an appropriate measurement tool will be essential. When selecting a measurement tool for this study, the factors that may influence satisfaction with intrapartum care were considered. Additionally, the tool chosen to measure satisfaction with intrapartum care for this study was one designed for intrapartum patients. A variety of determinants of intrapartum satisfaction was

examined as each element of care is prioritised differently by different patient population. The prioritization of these elements may affect levels of satisfaction. By examining the determinants of intrapartum satisfaction one may be able to determine which areas are prioritized by obese women, thus assisting in understanding the needs of this growing population. Finally, Baker (1997) indicates that patient characteristics, such as age and sex, can influence patient satisfaction. Therefore demographic characteristics were collected and assessed.

Figure 1. Revised model of patient satisfaction in general practice (Baker, 1997)



Reproduced from “Pragmatic model of patient satisfaction in general practice: progress towards a theory” by R. Baker, *Quality in Health Care*, 6, 201-204. 1997.

Used with permission from BMJ Publishing Group Ltd.

Satisfaction with Intrapartum Care

“A woman’s satisfaction with her childbirth experience may have immediate and long term effects on her health and her relationship with her infant” (Goodman et al., 2004, p. 213). Simkin (2012) states “the difference between negative and positive memories of the birth experience depends not only on a healthy outcome but also on a

process in which a woman was respected, nurtured and aided” (p. 170). Control and informed decision making are two determinants of intrapartum care that could contribute to the memories of childbirth. In a longitudinal study in the Seattle area Simkin (1991) interviewed 20 women about 15-20 years after their birth to assess perceptions of the first birth experience. She found that women who were highly satisfied after their delivery were more positive about their birth experience, indicated more feelings of control and had more vivid and detailed memories of the birth compared to women who were less satisfied with their birth experience. In Simkin’s (1991) study one global satisfaction question was used therefore it would be difficult to determine if there were different perceptions of satisfaction among this multidimensional concept. Authors have shown that memories of a woman’s birth experience can be long term (Simkin, 1991; Waldenstrom & Irestedt, 2006). Some of the long term negative effects of childbirth identified in the literature include: posttraumatic stress disorder (Maggioni, Margola, & Filippi, 2006), impaired fertility (Gottvall & Waldenstrom, 2002), and depression (Rubertsson, Wickberg, Radestad, Hildingsson & Waldenstrom, 2005). Additionally, obesity in pregnancy has been associated with depression (LaCoursiere et al., 2006) and feelings of perceived discrimination (Drury & Louis, 2002; Friedman et al., 2005; Merrill & Grassley, 2008; Myers & Rosen, 1999; Olson & Yawn, 1994).

Only one study that examined satisfaction with intrapartum care and obesity was found. Hildingsson and Thomas (2012) compared satisfaction with labour and birth of women in two BMI groups (≥ 30 kg/m² and < 30 kg/m²). Of the 933 women in Sweden who participated, 15.2% of the women were identified as obese (< 30

kg/m²). They found that women with higher BMIs reported more negative attitudes towards being pregnant and reported more pregnancy complications than women with lower BMIs. Results showed that women with higher BMIs had increased rates of labour induction and emergency caesarean births. However, both intrapartum and postpartum satisfaction levels did not differ between BMI groups. Hildingsson and Thomas (2012) suggested this may be because midwives treat all women the same, regardless of weight. The maternity care system in Canada differs from the maternity care system in Sweden, as the majority of women in Canada receive care from a physician whereas in Sweden most women are delivered by a midwife. Therefore results from this study cannot be generalized to populations in Canada.

Studies on satisfaction with intrapartum care demonstrate that while satisfaction among subscales often differ, overall women generally report a high level of satisfaction (Christiaens & Bracke, 2007; Haines et al., 2013; Harvey, Rach, Sainton, Jarrell, & Brant, 2002; Sadler et al., 2001). Additionally, women may be satisfied with some aspects of care and dissatisfied with others (Goodman et al., 2004; Hodnett, 2002; Rudman et al., 2006). Satisfaction with care during childbirth has been studied extensively throughout the world and as such satisfaction with intrapartum care has been defined as a multidimensional concept (Bramadat & Driedger, 1993; Britton, 2012; Brown & Lumley, 1994; Goodman et al., 2004; Green et al., 1990; Gungor & Beji, 2012; Harvey et al., 2002; Hodnett, 2002; Oweis, 2009; Rudman et al., 2007; Sequin et al., 1989; Spaich et al., 2013). Many of the studies involving satisfaction with intrapartum care have been done to examine the

association between these different dimensions in order to understand how they influence intrapartum satisfaction. A few of these studies are examined below.

Studies examining satisfaction with intrapartum care have reinforced the idea that satisfaction is a multidimensional concept. Christiaens and Bracke (2007) studied 560 women giving birth in Belgium and the Netherlands in the aim to assess the influences of expectations about childbirth, labour pain, personal control, and self-efficacy. In their longitudinal study, the authors found that overall there were a high level of satisfaction with intrapartum care, yet differences were seen among the intrapartum satisfaction subscales (general satisfaction, satisfaction with self, satisfaction with baby, satisfaction with midwife, satisfaction with physician, and satisfaction with partner). Among these subscales Christiaens and Bracke (2007) found that satisfaction with self-scored lowest and satisfaction with partner scored highest. It was also found that total satisfaction was higher if women felt in control and if expectations of their care were met. Christiaens and Bracke (2007) also found that women were more satisfied with intrapartum care when delivering at home compared to delivering in a hospital. These results may not be generalizable to women delivering in Canada as maternity care is provided differently.

In a similar study done in Sweden, Rudman et al. (2007) focused on dimensions of interpersonal care, information and involvement in decision making, and physical birth environment. Results of that study indicated that women could be satisfied with some aspects of their intrapartum care and dissatisfied with others. Using a longitudinal design these authors collected data from 2563 Swedish speaking women. Overall 67% of participants were satisfied with their intrapartum care. In

regards to specific areas of intrapartum care, it was found that dissatisfaction was related to birth environment and information and decision making. Care should be taken when generalizing these results to populations outside of Sweden. Furthermore, Rudman et al. (2007) also suggest that the results may be skewed in a positive direction since the women who did not respond to the follow-up surveys tended to be of non-Swedish backgrounds, less educated, more often smokers, and had lower ratings of sense of coherence.

Goodman et al. (2004) conducted a study investigating different components of satisfaction with intrapartum care. In a convenience sample of 60 low-risk postpartum women from the United States they found total intrapartum satisfaction to be quite high. Goodman et al. (2004) found that regardless of the total intrapartum satisfaction level, women still demonstrated levels of dissatisfaction within the different subscales of satisfaction. Factors that were identified as influencing overall satisfaction were personal control, childbirth preparation, met expectations, level of education, and employment. However, generalizing the results of this study to other populations should be done with caution because of the small convenience sample size (n=60).

In summary, the association of important variables on intrapartum satisfaction described in these few studies represent the multidimensional component of satisfaction with intrapartum care and are consistent with Baker's (1997) pragmatic model of patient satisfaction. These determinants will be discussed further in the "determinants of intrapartum satisfaction" later in this chapter.

Childbirth Experiences

Like satisfaction with intrapartum care, childbirth experiences have been identified as a multidimensional concept (Dencker et al., 2010; Oweis, 2009). Experiences have been described as an individual's perceptions of the services in which they have encountered (Bramadat & Driedger, 1993; Green et al., 1990; Windridge & Berryman, 1999), while satisfaction has been referred to as one's evaluation of these services (Ware, 1983). The concept of childbirth experiences however have been poorly defined within the literature. Many authors have used the two concepts (childbirth experiences and satisfaction with intrapartum care) interchangeably, especially in quantitative research.

In a concept analysis of women's experiences of labour and birth, Larkin et al. (2009) defined experiences as "subjective, personal and particular" (p. e53), complex, and as a process starting with labour and proceeding through delivery to the postpartum period. As mentioned earlier, many times the concepts of childbirth experiences and satisfaction with intrapartum care are often interchanged, this was also identified by Larkin et al. (2009). Some researchers have even gone so far as to measure childbirth experiences using satisfaction measurement tools. In Jordan, Oweis (2009) used the Satisfaction with Childbirth Experiences questionnaire in their aim to "document women's perceptions of the different aspects of their childbirth experience" (p. 525).

Larkin et al. (2009) also identified a number of concepts that have been found to make up childbirth experiences. These concepts include control, support, relationship with care giver, and pain. Many of these same concepts were identified

in a mixed methods study investigating the maternity experiences of Afghan women in Australia (Shafiei et al., 2012). Shafiei et al. (2012) found that experiences were influenced by interactions with caregivers, organisation of care and the hospital environment (control is related to this), and reflections of care in Afghanistan.

Because this population was very specific it is difficult to generalize the results of this study to other populations globally. The quantitative component of this study reported satisfaction of care rather than experience with care, which adds to the confusion of the two concepts. Finally, the sample size (n=47) was fairly small for the quantitative part of this study.

In the last few years researchers have examined childbirth experiences in order to determine differences among models of patient care (Christiaens et al., 2008), different cultural groups (Oweis, 2009; Shafiei et al., 2012), as well as within first time mothers (Dencker et al., 2010). One study used a measurement tools specifically designed to measure experiences, the Wijma Delivery Expectancy/Experiences Questionnaire (Christiaens et al., 2008). This study was designed to determine the childbirth expectations and experiences between the Belgium and Dutch models of maternity care. A total of 611 women participated in this study (265 Belgium women and 346 Dutch women). The authors found that most women's childbirth experience were more positive than they had expected it to be. Results indicated that both Belgium and Dutch women planning to and giving birth at home had more positive expectations and experiences than those delivering in a hospital. Moreover, Christiaens et al. (2008) found that "Belgium women had more positive expectations and experiences regarding childbirth than Dutch women, regardless of place of birth"

(p. 319). This study is of importance here in Canada as it examines two different maternity care systems, the Dutch with their high percentage of midwife attended home births compared to the Belgium's medical model with predominantly hospital births attended by obstetricians.

Nyman et al. (2010) conducted a qualitative study looking at the experiences of obese women during pregnancy and childbirth in Sweden. The qualitative methodology of this study allowed obese women to put their feelings and perceptions of their care into their own words, providing researchers with a potentially better understanding of obese women's experiences during pregnancy and birth. Nyman et al. (2010) interviewed 10 women, 3 first time mothers and 7 multiparous women. The researchers found that some women felt they were treated badly because of their size, "sneered at" and judged when equipment did not fit or exams were difficult. Women described feeling fear around the safety of their baby and of increased confidence when they were able to give birth without complications. Data collected by Nyman et al. (2010) provide healthcare providers with information which could assist them with improving the caregiver-patient relationship. Some women felt that their caregivers would talk about them and their weight behind their back. It was also found that some women had feelings of anxiety surrounding "speaking up" describing fear of hurting their care provider's feelings or risking not receiving adequate care. The caregiver-patient relationship was a very important part of the pregnancy and childbirth experience. Women reported a reduction in discomfort when "caregivers were considerate and interested" (Nyman et al., 2010, p. 427).

Based on the findings in the literature, experiences in this study were examined using a multidimensional tool. The Childbirth Experiences Questionnaire (Dencker et al., 2010) focuses on many of the identified factors that make up childbirth experiences including: own capacity (control, personal feelings, and pain); professional support (information and caregivers); perceived safety (sense of security and memories of the childbirth); and participation (how one may influence their own birth).

Determinants of Intrapartum Satisfaction

As Baker (1997) indicated in his pragmatic model of patient satisfaction, satisfaction is a multidimensional concept. Each patient group will decide how important each aspect of care is. In regards to childbirth, research has been done to assess specific factors related to, or determinants, of satisfaction with childbirth (Christiaens & Bracke, 2007; Hudley et al., 2001). From previous research factors contributing to intrapartum satisfaction have been identified; these factors will be discussed here.

Perceived control has been identified as an important factor in intrapartum satisfaction (Callister, Holt, & Kuhre, 2010; Christiaens & Bracke, 2007; Gamble, Creedy, & Teakle, 2007; Goodman et al., 2003; Green et al., 1990; Haines et al., 2013; McCrea & Wright, 1999; Owesis, 2009; Rudmann et al., 2006; Waldenstrom, 1999). Control in childbirth is complex and multifaceted and includes feelings of self-control (Bramadat & Driedger, 1993; Haines et al., 2013) as well as control over one's environment and their relationships with caregivers (Bramadat & Driedger, 1993). Green et al. (1990) suggest that the concept of control in childbirth is "often

used in the sense of being in control over what is being done to one” (p. 16), this result was also found by other researchers (Christiaens & Bracke, 2007). In their study of expectations, experiences, and psychological outcomes of childbirth, Green et al. (1990) examined the importance of control for childbearing women. Eight hundred and twenty five women from England were involved in that prospective study and completed a set of questionnaires four weeks prior to and six weeks after their delivery. The authors found that women felt in control if they had an active role in decision making and that control could be influenced by the relationship between patients and staff members caring for them, for example, “whether they thought they had some potential control over events or whether things were simply done to them” (Green et al., 1990, p.22).

Active participation in decision making has been identified by some authors as a component of intrapartum satisfaction (Sequin et al., 1989; Spaich et al., 2013). Active participation has been linked to perceived personal control (Green et al. 1990) and can be influenced by the patient-caregiver relationship (Bramadat & Driedger, 1993; Shafiei et al., 2012). Additionally, active participation can influence whether the woman feels she has received adequate information (Haines et al. 2013; Sadler et al., 2001). The multidimensional aspect of satisfaction with intrapartum care is demonstrated as the concepts of active participation in decision making, perceived personal control, and patient-caregiver relationship all overlap. In a large Australian study (n=790), Brown and Lumley (1994) found that women who perceived they had been given adequate information and who felt their caregivers were helpful were more satisfied than women who felt they received a lack of information or whose

caregiver was unhelpful. Murray et al. (1996) suggest “because childbirth can be very unpredictable, information may offer women a sense of control and understanding of the incidents that can arise during labour and delivery” (p. 55).

Another important component of intrapartum satisfaction is pain (Goodman et al., 2004; Haines et al., 2013; Sequin et al., 1989). Goodman et al. (2004) found that the correlation between pain and satisfaction with self was higher compared to that of pain and satisfaction of the total experience. Additionally, it was determined that in childbirth women can experience pain and still be satisfied with their overall childbirth experience. Other researchers found that increased levels of pain lowered overall intrapartum satisfaction levels (Christiaens & Bracke, 2007; Sequin et al., 1989; Spaich et al., 2013). Perceptions on the adequacy of pain relief (Sadler et al., 2001) and whether they received the pain relief they wanted (Haines et al., 2013) has been found to influence satisfaction with intrapartum care.

As theorised by Linder-Pelz (1982a) and Thompson and Sunol (1995), expectations have been found to be a component of intrapartum satisfaction (Goodman et al., 2004). Researchers have found that when labour and delivery expectations are met women are more satisfied with their overall childbirth experience (Goodman et al., 2004; Christiaens et al., 2008) and with themselves (Goodman et al., 2004). Authors suggest the “congruency between expectations and the actual experience of childbirth leads to satisfaction with the experience” (Goodman et al., 2004, p. 217).

Patient demographics do not seem to influence satisfaction with intrapartum care to the same extent that they do in other healthcare areas. In his pragmatic model

of patient satisfaction, Baker (1997) indicated that characteristics such as age could potentially influence patient satisfaction. However, Hodnett (2002) found that childbirth satisfaction had little to no relationship to demographic characteristics.

Studies examining satisfaction during the intrapartum period have found that multiparous women were more satisfied than primiparous women (Brown & Lumley, 1994; Christiaens, & Bracke, 2007; Hodnett, 2002). Janssen et al. (2006) found no significant difference between satisfaction levels of multiparous and primiparous women except in relation to their confidence in newborn care. Level of education have been found to influence intrapartum satisfaction with higher satisfaction levels found in groups that have completed higher levels of education (Brown & Lumley, 2004). When place of birth was compared some authors found that women delivering in hospital were less satisfied than women delivering elsewhere (Christiaens & Bracke, 2007; Janssen, Carty, & Reime, 2006; Waldenstrom & Nilsson, 1993). Spaich et al. (2013) conducted a study in Germany to determine the extent to which mode of delivery effects intrapartum satisfaction. Of the 335 women studied, the authors found no difference in reported satisfaction levels between the different modes of delivery (normal birth, primary caesarean section, secondary caesarean section, emergent caesarean section, or operative vaginal delivery). Some of the demographic variables that were found not to influence intrapartum satisfaction include: age, marital status, country of birth, and total family income.

Through this review of the literature, factors found to be important determinants of satisfaction with intrapartum care include perceived control, active decision making, and pain. All of these determinants were examined in this study.

Table 1 (COMFORTS Scale coverage of the determinants of satisfaction with intrapartum care) identifies how the intrapartum satisfaction measurement tool addresses all of these factors. Finally, Baker's model of patient satisfaction, the theoretical framework guiding this study, suggests that individual patient characteristics may influence satisfaction. Therefore, demographic characteristics, such as age, marital status, income, country of birth, race/ethnicity and education, were collected and examined.

Measuring Satisfaction with Intrapartum Care

Differences in the conceptualization of intrapartum satisfaction have led to a variety of measurement approaches. Most often patient satisfaction is evaluated through the use of questionnaires; this is also true in the intrapartum satisfaction studies examined. The failure to use conceptual and theoretical underpinnings during the development of intrapartum satisfaction measurement tools have been identified as a limitation by several authors (Sawyer et al., 2013; Sitzia & Wood, 1997; Wilde-Larsson et al., 2010). Britton (2012) states that without conceptual and theoretical guidance there is often a lack of standardization, reliability and validity. Furthermore, authors argue that when developing a patient satisfaction measurement tool researchers should consider the measuring outcomes that are important to the patients themselves, not just the healthcare providers (Lomas, Dore, Enkin, & Mitchell, 1987; Sitzia & Wood, 1997; Wilde-Larsson et al., 2010). This is consistent with components of Baker's (1997) pragmatic model of patient satisfaction.

A number of measurement tools have been developed over the years to assess maternal satisfaction in the intrapartum period. The tools that have been identified

through this literature review include: Six Simple Questions (Harvey et al., 2002); The Labor and Delivery Satisfaction Index (Lomas et al., 1987); Satisfaction with Childbirth Scale (Stevens et al., 2012); the Scale for Measuring Maternal Satisfaction – normal birth and the Scale for Measuring Maternal Satisfaction – caesarean birth (Gungor, & Beji, 2012); the Mackey Childbirth Satisfaction Rating Scale (Goodman et al., 2004); the intrapartum specific Quality from the Patient's Perspective questionnaire (Wilde-Larsson et al., 2010); the Satisfaction with Childbirth Experience questionnaire (Oweis, 2009); the Women's Views of Birth and Labour Satisfaction Questionnaire (Smith, 2000); COMFORTS scale (Janssen, Dennis, & Reime, 2006). Refer to Appendix A for a detailed description of these instruments as well as their strengths and weaknesses. A discussion of the rationale for why the COMFORTS scale was selected for use in this study is provided in the methods section.

Timing of assessing intrapartum satisfaction has been questioned by researchers (Bramadat & Driedger, 1993). Intrapartum satisfaction has been measured in the immediate postpartum period while participants were still admitted to hospital (Goodwin et al., 2004), 2 weeks after birth (Christiaens & Bracken, 2007), 6-8 weeks after birth (Haines et al., 2013; Hildingsson & Thomas, 2012; Salder et al., 2001; Waldenstrom, & Nilsson, 1993; Wilde-Larsson et al., 2010), 4-7 months after delivery (Sequin et al., 1989), and 8-9 months after birth (Brown & Lumley, 1994). Some studies evaluated their intrapartum satisfaction tools over a period of time assessing satisfaction in at least two different time periods at least 4-6 weeks apart (Harvey et al., 2002; Lomas et al., 1987). Many authors suggest that measurements

of satisfaction in the immediate postpartum period may result in higher levels of intrapartum satisfaction (Bramadat & Driedger, 1993; Hodnett, 2002). Women may be more reluctant to criticise caregivers when they are still being cared for (Sullivan & Beeman, 1982). Additionally Hodnett (2002) suggests that women's satisfaction levels may be influenced in the immediate postpartum period by the halo effect, the "what is, must be best" phenomenon, and denial. It is felt that satisfaction may in fact be a consistent construct over time since Lomas et al. (1987) found there to be no difference in satisfaction score when conducted immediately after birth and again 4 to 6 weeks later. However further research is needed to fully understand the stability of satisfaction over time.

Summary

In Canada, nurses and other healthcare providers play a significant role in the care and potential satisfaction for intrapartum women. Knowledge of the determinants of patient satisfaction can help nurses and other healthcare providers in creating an environment that meets the needs of women during childbirth. As indicated in the above literature review, maternal satisfaction has been studied in a variety of settings. However, there has been limited research in relation to obesity and intrapartum satisfaction. With the growing obesity epidemic it is essential for healthcare providers to understand how intrapartum satisfaction might differ between women of normal weight and obese weight, and what factors are related to satisfaction. This information could help providers prevent possible long term consequences of an unsatisfactory birth and improve the quality of care for all women regardless of their weight.

Chapter III: Design and Methods

This chapter will outline the steps that were undertaken to address the three research question identified previously. The research design, setting, sample criteria, the inclusion and exclusion criteria, and data analysis will be discussed. Additionally, data collection procedures will be described and the measurement tools identified. Ethical considerations will also be described.

Design

The research design for this study was a descriptive comparative and correlational study. “The purpose of descriptive studies is to observe, describe, and document aspects of a situation as it naturally occurs” (Polit & Beck, 2008, p. 274). A non-experimental design was chosen for this study as randomizing women to different weight categories was not possible.

Setting

Women were recruited from both St. Boniface Hospital and Women’s Hospital, Health Sciences Centre in Winnipeg, Manitoba, Canada. These tertiary hospitals are the two sites in the Winnipeg Health Region where in-hospital births occur. In these two sites, care is provided to women residing within Winnipeg as well as women requiring high risk labour and delivery care living in Southern Manitoba, Northern Manitoba, and Northern Ontario. In the fiscal year of 2014/2015, a total of 11,350 deliveries occurred at St. Boniface Hospital and Women’s Hospital (WRHA, 2015).

An identical model of care is provided in these two sites, and women deliver in either a labour, delivery, recovery and postpartum unit (LDRP) (low risk

pregnancies only) or on a labour, delivery, and recovery unit (LDR) (both high and low risk pregnancies). Women who deliver on an LDR unit are then transferred to a postpartum unit for their recovery. The purpose of this study was to compare satisfaction with intrapartum care and childbirth experiences among women of normal weight and obese weight, not type of birthing unit. To control for differences in satisfaction and experiences that might be related to type of birthing unit, only women delivering in the LDR unit and then transferred to the postpartum unit were included in this study. Women delivering in the LDRP unit were excluded, because the BMI criteria for admission to the LDRP unit at St. Boniface is less than or equal to 45 kg/m² and at Women's Hospital is less than or equal to 42 kg/m² (Personal Communication, Gail Hazlitt, October 2013), thereby limiting access to obese women as participants on the LDRP units.

Sample

A nonprobability sample of postpartum women in each of the two weight categories (normal and obese) was recruited from the postpartum units of the two hospitals. Quota sampling was used to ensure equal representation of women from St. Boniface Hospital and Women's Hospital, as intrapartum care may have differed in the two settings. Polit and Beck (2008) argue that probability sampling, or random selection, is more likely to produce a more accurate representative sample than nonprobability sampling. However, for this study probability sampling was impractical due to time constraints. When using nonprobability sampling, Polit and Beck (2008) suggest that in order to obtain a better representation of the desired population the researcher should identify any extraneous variables and account "for

this source of variation in the sampling design” (p. 344). An example of how this was done for this study was through the inclusion of only primiparous women.

Researchers have found that multiparous women are often more satisfied with intrapartum care than primiparous women (Green et al., 1990; Hodnett, 2002; Waldenstrom, 1999) and therefore they were excluded from this study.

Sample Size

In order to achieve significant statistical conclusion validity, an adequate sample size is required. Statistical conclusion validity has been defined as “the degree to which inferences about relationships and differences from a statistical analysis of the data are accurate” (Polit & Beck, 2008, p. 767). Additionally it is important to consider sample size in order to increase the power, or the probability of rejecting a false null hypothesis (Polit & Beck, 2008). Polit and Beck (2008) argue that a sample size calculated by doing a power analysis will aid in reducing the risk of type II errors. The sample size for this study was estimated by considering both the ratio of predictor variables to total number of cases and a power analysis. Nunnally and Bernstein (1994) estimate there should be at least 10 subjects per predictor variable to achieve a stable regression model. It was anticipated that up to ten predictor variables would be used in this study. Using this method, it was estimated that a minimum sample size of 100 participants was required.

To reduce the probability of type II errors in answering the first two research questions, a power analysis based on an effect size for the difference of two means was estimated. When performing a power analysis the researcher is able to set the level of significance (α), the effect size and the power. The effect size was estimated

using the formula for Cohen's d as outlined in Polit and Beck (2008), "the effect size (d) is the difference between the two population means ($u_1 - u_2$), divided by the population standard deviation (σ)" (p.603). The mean COMFORTS scale score of 164 and SD of 19, determined by Janssen et al (2006), for women delivering in a traditional labour and delivery unit with transfer for postpartum care was used. The population mean for obese women (u_2) was estimated to be about 10 points lower than the mean score for normal weight women due to the hypothesis that obese women will be less satisfied with their intrapartum care due to feelings of discrimination. An effect size of 0.5 was calculated (Appendix J). Polit and Beck (2008) indicate a sample size of $N = 63$ participants per group was required with settings of $\alpha = 0.05$ (two-sided), power = 0.80 and an effect size 0.5. In order to account for attrition, or loss of participants throughout the study, the sample size was increased to 70 participants per group. The 140 participants planned for recruitment fulfilled the minimum sample size requirement of 100 participants determined by the ratio of predictor variables to cases. One hundred and forty participants were recruited.

Inclusion and Exclusion Criteria

Inclusion criteria for this study consisted of: primiparous postpartum women admitted to the Mother Baby Unit at St. Boniface Hospital or the Combined Mother Baby Unit at Women's Hospital; laboured and delivered on a LDR unit at St. Boniface Hospital or Women's Hospital; delivered a live singleton infant greater than or equal to 37 weeks gestation; 18 years of age or older; able to speak and read English; had her first prenatal visit in the first trimester (< 13 weeks gestation) with a

documented weight from that visit; and be either of normal weight or obese weight based on BMI. Initially the BMI was calculated using the women's weight documented in the prenatal record at her first prenatal visit and her height from either her first prenatal visit or on admission to the hospital. However, due to low enrollment in the study because of lack of documentation of weight at the first prenatal visit for many women, ethical approval was obtained to use BMI's that were determined by self-reported pre-pregnancy weights and measured height. Weights were classified into BMI categories defined by Health Canada (2003); normal weight, BMI between 18.5 and 24.9 kg/m²; and obese, BMI greater than 30.0 kg/m² (includes obese class I, II, and III).

Exclusion criteria included: women initiating prenatal care after the first trimester; women admitted to the LDRP unit of either selected hospital; having given birth to more than one infant (multiple gestation); delivery via elective caesarean section; a known psychiatric disorder that precluded giving informed consent; women receiving psychotropic medication, and/or women who were mentally challenged; incarcerated women; women with an infant in the NICU or Intermediate Care Unit or women with a neonatal loss, as it would have been inappropriate for ethical reasons to approach a woman worrying about an unhealthy newborn or grieving a loss. Because the researcher was a clinical nurse specialist at Women's Hospital there was a potential for occasions when the researcher would have had direct contact with women during the intrapartum period. Therefore, any woman that had direct contact with the researcher during the intrapartum period was excluded from participating in the study.

Multiparous women were not included in this study as other researchers have found that they have higher levels of satisfaction during the intrapartum period (Brown & Lumley, 1994; Christiaens & Bracke, 2007; Hodnett, 2002). Janssen et al. (2006) found that women delivering in an LDRP type maternity room were significantly more satisfied than women who delivered in a LDR room and were transferred to another room for their postpartum care. In order to control for this possible difference in satisfaction levels, only one type of labouring unit (LDR) was chosen for this study.

Procedures for Data Collection

Women who met the study's inclusion criteria were approached by a staff nurse working in the postpartum unit. Due to the Personal Health Information Act (Manitoba Health, 2012), potential participants must first be approached by a healthcare provider caring for them in the setting. The nurses approached eligible women requesting their permission to meet with the researcher or a research nurse to discuss study information. The researcher or research nurse provided interested women with both written and verbal information about the study and answered any questions the potential participant had regarding the study. Women expressing an interest in participating in the study completed a consent form indicating their agreement to participate in the study and granted permission for the researcher or research nurse to have access to their health records to collect additional data (Appendix P). A copy of the signed consent form was given to all participants. Finally, participants wishing to receive a copy of the final study results signed a form

provided to them in their study package and left it with the researcher or research nurse (Appendix Q).

A study package of self-administered questionnaires was given to all participants providing consent. Self-administered questionnaires were chosen for this study since it has been identified that researcher obtrusiveness could cause some respondents to change their behaviour (Polit & Beck, 2008); additionally self-administered questionnaires may help avoid researcher bias. Completed questionnaires were returned to the researcher or research nurse prior to discharge from the hospital. The researcher or research nurse used the health record data collection form to review the patient's chart.

Measurement Methods (Instruments)

In this study a self-administered questionnaire package consisting of a demographic questionnaire and 3 instruments were used. The three instruments included: a modified COMFORTS Scale (Janssen, Dennis, & Reime, 2006), the Childbirth Experiences Questionnaire (CEQ) (Dencker et al., 2011), and a modified weight discrimination questionnaire based on the Experiences of Discrimination (EOD) questionnaire (Krieger et al., 2005). These measurement tools were used to collect data on demographic characteristics, patient satisfaction, childbirth experiences, labour pain, perceived personal control, and weight discrimination. A health record data collection form was also used by the researcher or research nurse to collect data from the patient's health record and included intrapartum care characteristics such as delivery provider, type of delivery, type of pain relief used, and method of fetal surveillance. Information from the health record data collection

form and the demographic questionnaire was used to assign pregnancy risk using the antenatal high risk pregnancy scoring form (Appendix K) (Coopland et al., 1977).

This information was used to assist the researcher in describing various sample characteristics which assisted with controlling for extraneous variables and analyzing potential biases, or served as predictor variables for a multiple regression.

Reliability and validity are two important components in the psychometric testing of quality of quantitative measurement tools (Polit & Beck, 2008). Reliability indicates that a tool measures consistently and accurately, while validity indicates the measurement tool measures what it is supposed to measure (Polit & Beck, 2008).

The following section describes each measurement tool in more detail.

Care in Obstetrics: Measure FOR Testing Satisfaction (COMFORTS) scale. The COMFORTS Scale is a tool developed by Janssen, Dennis, and Reime (2006) to measure satisfaction with childbirth care received in hospital. Permission to use the COMFORTS Scale was obtained from Dr. Patricia Janssen (see Appendix C). A number of intrapartum satisfaction tools were identified and reviewed for use in this study (Appendix A). Reasons these other tools were not chosen for this study include: unavailable to obtain a copy for review (Goodman et al., 2004; Smith 2000); low internal consistency and recommendation to only use the tool's total score (Lomas et al. 1987); examined only global satisfaction (Stevens et al., 2012); not created or tested in English (Gungor & Beji, 2012; Oweis, 2009); examined quality of care not satisfaction (Larsson et al., 2010); and not covering all the identified dimensions of intrapartum satisfaction (Harvey et al., 2002).

The COMFORTS Scale consists of 6 subscales and a total of 40 items. The subscales in this measurement scale consist of: provision of choice, information and support; your physical environment; nursing care in labour; privacy; nursing care in postpartum; and confidence in newborn care. A 5 point format was used for all items and the authors indicated the scale was written at a grade 6 reading level. Two subscales (provision of choice, information and support; privacy) ask participants to report their degree of satisfaction on a 5 point Likert scale (1 - very dissatisfied to 5 - very satisfied) (See Appendix B). The physical environment and care of the newborn scales requested participants to indicate “how much do you agree with the following statements...” using a 5 point Likert scale (1 - strongly disagree to 5 – strongly agree). Finally the 5 point Likert scale for the two nursing care subscales (nursing care in labour and nursing care in postpartum) request responses based on time spent with 1 = not enough time and 5 = ample time. Janssen, Dennis, and Reime (2006) indicate that scores may be added together and will range from 40 to 200. This study was designed to examine satisfaction with intrapartum care; therefore two of the six subscales were not applicable to the study. The ‘confidence in newborn’ subscale and the ‘nursing care in postpartum’ subscale were not used for this study. The remaining 20 items in each of the four subscales were added together to determine the total satisfaction score, for this study possible scores ranged from 20 to 100, with higher scores indicating increased levels of satisfaction.

Janssen, Dennis, and Reime (2006) used literature reviews, focus groups of new mothers in the Vancouver area, surveys of new mothers at their postpartum home nursing visit, and evaluations from women who delivered in two different delivery

settings to establish content and face validity. Face validity looks at whether the instrument measures what it is supposed to measure while content validity represents “the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain” (Polit & Beck, 2006, p. 458). These data were examined by an interprofessional panel of obstetrical clinicians who generated 55 items to be included on this measurement scale. A panel of clinicians examined the items, in their respective subscales, independently for clarity and readability with final consensus occurring through discussion. Janssen, Dennis, and Reime (2006) conducted a pilot test of the tool with 12 postpartum women on an in-hospital unit. During the pilot testing any items that participants had trouble understanding were removed resulting in a 40 item, 5 point format tool. This tool took participants less than 10 minutes to complete (Janssen, Dennis, & Reime, 2006).

The COMFORTS Scale was tested by Janssen, Dennis, and Reime (2006) using 415 postpartum women who delivered on either the traditional labour and delivery unit or in a single room maternity care unit. Internal consistency or Cronbach’s alpha coefficient for the total scale was 0.95 and ranged between 0.82 and 0.91 for all subscales (Janssen, Dennis, & Reime, 2006). For the COMFORTS Scale corrected total score item-total correlations were positive (Janssen, Dennis, & Reime, 2006), meaning satisfaction was higher as participant’s indicated they were more satisfied with a particular item in the scale. Results of the exploratory factor analysis recommended a 6-factor solution. Limitations of this tool include that it has not been tested in a population (demographically and culturally) other than that of the original

testing population and that the tool has not been tested on women with higher risk pregnancies.

Each of the 20 items remaining in the COMFORTS scale were examined to understand how they fit with the determinants of satisfaction with intrapartum care as identified in a previous chapter. Perceived control (Callister et al., 2010; Christiaens & Bracke, 2007; Gamble et al., 2007; Goodman et al., 2003; Green et al., 1990; Haines et al., 2013; McCrea & Wright, 1999; Owesis, 2009; Rudmann et al., 2006; Waldenstrom, 1999), active participation in decision making (Sequin et al., 1989; Spaich et al., 2013), and Pain (Goodman et al., 2003; Haines et al., 2013; Sequin et al., 1989) have been identified as important determinants of satisfaction with intrapartum care. Results of this assessment are presented in Table 1.

Childbirth Experiences Questionnaire. The Childbirth Experiences Questionnaire (CEQ) (Dencker et al., 2010) was developed to measure different dimensions of childbirth experiences in first time mothers. Experiences with intrapartum security, pain, partner/healthcare provider support, and self-performance were identified by the authors as dimensions that contribute to a woman's experiences with childbirth. This instrument consists of 22 items with a 4-point Likert scale (1 = totally disagree, 2 = mostly disagree, 3 = mostly agree, 4 = totally agree) (see appendix D). A 0-100 visual analog scale (VAS) was used to assess three items on the CEQ, labour pain, sense of security, and control. The VAS scores were then transformed as follows: 1 = 0-40, 2 = 41-60, 3 = 61-80, and 4 = 81-100. 17 out of 22 items statements in the CEQ were positively worded and 5 out of the 22 items statements were negatively worded. The CEQ is made up of four subscales that have been supported by exploratory factor analysis; these subscales include own capacity, perceived safety, professional support, and participation. Reverse scores for the negatively worded statements and the pain item were added with the remaining items to provide a total score which is then divided by the total numbers of items in the scale. Dencker et al. (2010) identified a higher mean score reflects a more positive experience.

Content and face validity for the CEQ was assessed by Dencker et al. (2010) through literature reviews, input with midwives and an obstetrician, and a focus group of postpartum mothers. Additionally, a draft version of the CEQ was pilot tested with primiparous women, and comments from the pilot test were used to revise the questionnaire. The authors tested the instrument on 920 primiparous women who

participated in a study on labour progress and oxytocin augmentation in two Swedish hospitals by administering the CEQ one month postpartum (Dencker et al., 2010).

Item-scale correlations were identified as being greater than 0.40 for the majority of the scales. Internal consistency was greater than 0.70 for all subscales except participation: own capacity $\alpha = 0.82$, professional support $\alpha = 0.88$, perceived safety $\alpha = 0.78$ and participation $\alpha = 0.62$. Similar internal consistency of all subscales for the CEQ has been demonstrated by Bergqvist et al. (2012) with own capacity $\alpha = 0.81$, professional support $\alpha = 0.89$, perceived safety $\alpha = 0.72$, and participation $\alpha = 0.64$.

Finally, it was found that all four subscales were able to discriminate between “groups hypothesized to differ in experience of childbirth” (Dencker et al., 2010, p. 5), including length of labour, with versus without oxytocin augmentation, and spontaneous birth versus an operative delivery. This demonstrates construct validity. Dencker et al. (2010) suggest that the CEQ is a more generic measure of childbirth experiences; as such they suggest further testing of the CEQ is needed to examine weaknesses and benefits of the CEQ to other “domain-specific” measurement tools.

Upon examination of a “confirmatory” factor analysis (common factor analysis) utilizing data collected in this study, subscales were re-grouped into four new subscales. The 20 items of the CEQ were entered into the factor analysis, results of the rotated factor analysis are presented in table 2. The four new dimensions were found to have similarities to Dencker et al.’s (2010) original four subscales. Factor 1 – professional support contained all the same items in the professional support subscale with the addition of “my impression of the team’s medical skills made me feel secure”. Factor 2 – perceived safety and control contained four items related to

security and memories of child birth that made up to CEQ subscale of perceived safety. Additionally, three items regarding sense of control were included in this new subscale. Factor 3 - participation was made up of all three items in the CEQ subscale participation, with the addition of two items centered on confidence and control. Factor 4 – own capacity contained items related to personal feelings during childbirth, three out of the four items in this scale were also in the original own capacity subscale. The four new subscales of the CEQ were scored in the same manner described above, after reverse scoring negatively worded statements mean scores of each subscale were calculated. When at least half the items in a scale were answered the mean value of the answered items was calculated. Possible scores ranged between 1 and 4, with higher ratings reflected more positive experiences.

Permission was obtained to use and adapt the CEQ via email (personal communication with Anna Denker, September 2013) (Appendix E). In Sweden, where the CEQ was developed, midwives provide the majority of the obstetrical care. However, in Canada women can receive care from a variety of different healthcare providers; therefore the questionnaire was adapted with permission to change the word “midwife” to “healthcare provider”.

Table 2

Rotated Factor Matrix with factors loading from exploratory factor analysis of CEQ items

Item	Factor 1- professional support	Factor 2 – perceived safety and control	Factor 3 – participation	Factor 4 – own capacity
My healthcare providers devoted enough time to me	0.81	0.12	0.04	0.07
My healthcare providers devoted enough time to my partner	0.72	0.06	0.26	0.01
My healthcare providers kept me informed about what was happening during the labour and birth	0.75	0.22	- 0.09	0.02
My healthcare providers understood my needs	0.82	0.20	0.06	0.02
I felt well care for by my healthcare provider	0.81	0.18	0.10	0.04
My impression of the team's medical skills made me feel secure	0.65	0.40	0.12	-0.16
Labour and birth went as I expected	0.11	0.69	0.29	0.08
I felt strong during labour and birth	0.01	0.49	0.40	0.33
I have positive memories from childbirth	0.27	0.65	0.21	0.29
I have many negative memories from childbirth	0.27	0.51	0.15	0.34
Some of my memories from childbirth makes me feel depressed	0.27	0.71	-0.13	0.03
I felt that I handled the situation well	0.10	0.68	<0.01	-0.11
Experience level of sense of security (VAS [#])	0.22	0.38	0.32	0.34
I felt scared during my labour and birth	<0.01	0.05	-0.07	0.75
I was tired during labour and birth	-0.09	0.80	0.04	0.72
I felt happy during labour and birth	<0.01	0.48	0.34	0.56
Experienced level of pain during childbirth (VAS [#])	0.09	0.05	-0.07	0.49
I felt capable during labour and birth	0.09	0.50	0.51	0.32
I felt I had a say in whether I should be up and about or lie down	0.15	0.15	0.66	-0.18
I felt I had a say in deciding my birth position	0.13	-0.01	0.85	-0.08
I felt I could have a say in the choice of pain relief	0.58	-0.10	0.37	0.15
Experienced level of control (VAS [#])	0.12	0.46	0.53	0.20
Variance explained (%)	19.2	16.0	11.3	10.5
Cumulative variance explained (%)	19.2	35.2	46.5	57.1

Note. VAS[#] scales were changed to categorical values, 0-40 = 1, 41-60 = 2, 61-80 = 3, and 81-100 = 4. Pain scores were reversed

Discrimination questionnaire. The EOD questionnaire was developed by Krieger et al. (2005) in the U.S. as a self-report instrument used to measure exposure to racial discrimination. The tool was based on a prior instrument developed by Krieger (1990) and consisted of five close-ended questions assessing racial discrimination including: a response to unfair treatment question; a discrimination question; a worry question; a global question; and a filed complaint question. The EOD has been found to have good internal reliability with a Cronbach's alpha coefficient equal to 0.74 or higher. The inter item correlations ranged from 0.14 to 0.53 and were all positively correlated. For the purpose of this study the discrimination question from the EOD questionnaire was adapted, with permission (Appendix G), to assess weight discrimination.

The frequency version of the EOD discrimination questionnaire (Krieger et al., 2005) was used to develop the weight discrimination questionnaire (Appendix F). To assess exposure to weight discrimination the terms "race, ethnicity, or color" in the EOD discrimination question was replaced with "weight". For the purpose of determining the perception of weight discrimination during labour and delivery a question to assess this was added to the questionnaire. As in the EOD, total occurrences were assigned set value; 0 was assigned to "never", 1 to "once", 2.5 to "2-3 times", and 5 to "4 or more times". The scores for all items were summed, with a possible range between 0 and 50. High scores indicated an increase in self-reported experiences of weight discrimination.

Maternal demographic and intrapartum care characteristics

questionnaire. Maternal demographic characteristics were defined as socio-demographic variables and included: age, education, marital status, ethnicity, and level of income. Intrapartum care characteristics included the type of provider providing prenatal care, such as an obstetrician, family physician, or a midwife. Additionally the type of provider attending the delivery was obtained. Maternal demographic characteristics and intrapartum care characteristics were measured through closed ended questions by a demographic and intrapartum questionnaire (Appendix H), which was developed for this study. The data collected from this questionnaire were used to describe the sample and, along with data collected from the patient's health record, assisted the researcher in calculating pregnancy risk.

Health record data collection form. Additional pregnancy characteristics were obtained through a review of the patient's prenatal record and hospital chart. The health record data collection form, developed for this study, was used to gather data such as obstetrical history and medical conditions (Appendix I). The information collected through this form, combined with the information from the maternal demographic characteristic and intrapartum care characteristics questionnaire, was used to describe the sample.

Items on the maternal demographic characteristic and intrapartum care characteristics questionnaire and the health record data collection form related to biomedical characteristics were used to calculate and control for pregnancy risk. These items were adapted from the Antepartum High Risk Pregnancy Scoring Form (Coopland et al., 1977) (Appendix K). The Coopland et al. (1977) scoring form

consists of three categories: (1) baseline data and reproductive history; (2) associated medical, surgical, and gynecologic conditions; (3) data on the present pregnancy.

Total risk scores were evaluated retrospectively by examining antenatal factors with perinatal outcomes. Pregnancy risk was determined to be low risk for obstetrical complications if the total score on the scoring form was less than or equal to two, high risk if it was between three and six, and extremely high risk if it was greater than or equal to seven.

Data Analysis

Data obtained through the data collection processes described above were analyzed using the Statistical Package for the Social Sciences (SPSS), version 22. Descriptive statistics including central tendency (mode, median, and mean) and variability (range and deviation) were used to analyze the descriptive data gathered in this study and explore differences between the two groups. Chi-square tests were done to test for difference in proportions of categorical variables between the normal weight and obese weight groups. An independent t-test was used to test for differences in group means (e.g., maternal age) between continuous variables for the normal weight and obese weight groups (Polit & Beck, 2008).

Research questions 1 and 2 were answered by using the independent t-test to test for differences in mean satisfaction and mean childbirth experience scores between the normal weight and obese weight groups.

Research question 3 was answered in two phases. First, univariable analyses were used to explore which factors were significantly associated with satisfaction. Independent t-tests were performed to compare difference in mean satisfaction scores

between two groups (e.g., education less than high school vs. high school or better), and one-way analysis of variance (ANOVA) were used when there are three or more groups (e.g., marital status, income categories). The product-moment correlation coefficient (Pearson's r) was calculated to compare relationships between interval level demographic and intrapartum care characteristics (e.g., age, prenatal risk score), childbirth experiences score, weight-related discrimination score, and satisfaction with intrapartum care (total score and subscale scores). Polit and Beck (2008) indicate that when studying psychosocial variables r is usually between 0.20 and 0.40, whereas 0.70 would be considered a high correlation. Variables significantly associated with satisfaction in the univariable analyses were selected for entry into a linear multiple regression analysis to examine the association of a variety of factors on satisfaction with intrapartum care, after adjusting for other factors in the model. Polit and Beck (2008) define multiple regression as "a statistical procedure for understanding the degree of relationship between two or more independent variables" (p. 758); linear regression uses linear equations to determine these relationships. Variables were entered sequentially into the regression model to decrease tolerance. By adding variables based on deviance statistics, multicollinearity was not a concern. This analysis identified independent predictors of satisfaction with intrapartum care.

Ethical Considerations

Ethical approval was attained from the University of Manitoba Education/Nursing Research Ethics Board, as well as approval of an amendment to collect self-reported weights to determine participants' BMI (Appendix O). Additionally, access approvals were obtained from St. Boniface Hospital Research

Review Committee (Appendix N) and the Health Sciences Centre Research Impact Committee (Appendix M). Principles of beneficence, respect for human dignity and justice were considered throughout the development and implementation of this study. Potential study participants were informed that their participation was purely voluntary and they could choose to withdraw from the study at any time without negative consequences. Full disclosure of the study is important so that all potential participants have adequate information to determine if they would like to participate in the study (Polit & Beck, 2008). The benefits and risks of participating in the study were also explained to eligible women so they would have adequate information in order to decide if they wished to join the study. The risks in this study were minimal, meaning the risks anticipated were no greater than one would expect in their day to day life. As part of the consenting process participants were informed that due to the potential sensitive nature regarding personal body weight, there may be a risk of emotional distress; participants were given resources to connect with should they experience any emotional distress. Additionally, there was no direct benefit to individuals participating in this study; however there may have been a greater benefit for the target population as a result of evidenced-based practice changes that may be initiated from the findings. Study participants were provided with a small honorarium; a \$5.00 Wal-Mart gift card was given to all participants to thank them for their time.

Questionnaires were coded with a number and did not contain any personal identification information (e.g., name or address). This was done to assure participant anonymity. Consent forms were kept in a locket filing cabinet, separate from the

questionnaires so they could not be linked together. The only people that had access to the data were the investigator, her thesis advisor, and the statistical consultant.

During any presentation of the study results, the researcher ensured the privacy and confidentiality of all participants. All data obtained in this study will be kept for five years after the completion of the study and then destroyed.

Chapter IV: Results

The results of this study will be presented in this chapter. Demographic characteristics of participants (age, education, marital status, ethnicity, and level of income) and intrapartum care characteristics (type of healthcare provider, type of delivery, method of fetal monitoring, analgesia, inductions, augmentations, postpartum room accommodations) are described. Summaries of the descriptive statistical analyses are presented for the remaining variables including satisfaction of intrapartum care, CEQ subscales (own capacity, perceived safety, professional support, and participation), and weight-related discrimination. Participants in the normal weight group are compared to those in the obese weight group. Analyses of the data related to each of the 3 research questions are examined.

Descriptive Analysis of Demographic Characteristics

The sample for this study consisted of 138 participants, 70 in the normal weight category and 68 in the obese weight category. Participants ranged from 18 to 44 years (Mean [M] = 28.72, SD = 5.89). Total years of formal education ranged from 6 to 26 years (M = 14.44, SD = 3.09). Thirty-three (24.1%) of the participants had a total household income below \$40,000; 51 (37.2%) had income between \$40,000 and \$79,999, and 53 (38.7%) had income was greater than \$80,000. Current relationship status was regrouped due to low frequencies in some of the categories. More than half of the participants were married (n = 83, 60.6%), 40 (29.2%) reported they were in a common-law relationship, and 14 (10.2%) were single. Three quarters of the participants were born in Canada (73.9%). Due to the low frequencies in some of the racial background categories, the categories were regrouped. Over half of the

participants self-identified as Caucasian (n = 76, 55.5%), 22 (16.1%) as First Nations, 16 (11.7%) as Filipino, and 23 (16.8%) were grouped into “other” as their racial background.

An equal number of participants gave birth at each of the two sites (n = 69 per site). The distribution between the normal weight group and obese weight group was approximately equal at each site: St. Boniface Hospital had 33 (47.1%) participants in the normal weight group and Women’s Hospital had 37 (52.9%) participants; the obese weight group was similar (St. Boniface; n = 36, 52.9%, Women’s Hospital; n = 32, 47.1%).

Obstetricians delivered most of the women participating in this study (n = 118, 85.5%), while 20 (14.5%) were delivered by either a family practice physician (n = 18, 13.0%) or midwife (n = 2, 1.4%). Approximately two thirds of the participants (n = 87, 63%) had a vaginal delivery and 51 (37%) had an emergency caesarean delivery. Half the participants had an induction of labour (n = 72, 52.2%), while 29 (21%) required augmentation of their labour. Most participants had external fetal monitoring (n = 133, 96.4%), and 57 (41.3%) of the study participants required internal fetal monitoring. All participants laboured on the LDR unit, 98 (71.5%) of participants had a private postpartum room and 39 (28.5%) had a shared postpartum room.

A number of different pain relief options were utilized by the study participants including: supportive care in labour (n= 73, 52.9%), epidural (n = 89, 64.5%), morphine (n = 57, 41.3%), fentanyl (n = 44, 31.9%), nitrous oxide (n = 27, 19.6%), spinal analgesia (n = 13, 9.4%), and patient controlled analgesia (PCA)

fentanyl (n = 1, 0.7%). Many participants reported using more than one pain relief option as listed above; therefore pain options were regrouped into one of the following three categories: supportive care, narcotics, epidural/spinal analgesia. Patients who received supportive care or nitrous oxide were grouped into supportive care (n = 14, 10.1%); those who received morphine, fentanyl, or PCA fentanyl made up the narcotics category (n = 21, 15.2%); the final category of epidural/spinal analgesia (n = 102, 73.9%) consisted of all participants who received either an epidural or a spinal during their labour.

The Antepartum High Risk Pregnancy Screening Form (Coopland et al., 1977) was used to determine pregnancy risk. In this study, pregnancy risk scores ranged from 1 – 6. About two thirds of the participants (n = 96, 69.6%) had a low pregnancy risk with the remaining 42 participants (30.4%) grouped in the high risk category. No participants had a score indicative of extreme high risk for pregnancy complications.

Descriptive Analysis of Normal Weight and Obese Weight Groups

The purpose of this study was to compare childbirth experiences and satisfaction with intrapartum care between normal weight women to obese women. Table 3 illustrates the comparison of the demographic and intrapartum care characteristics of these groups. Independent t-tests of continuous variables were conducted to determine differences in mean scores for demographic characteristics, intrapartum care characteristics, and the remaining study variables (satisfaction with intrapartum care and childbirth experiences) between the normal weight and the obese weight groups. Results are presented in Table 4. To test for differences in proportions

between groups when the variables were categorical in nature, a Pearson Chi-square test was carried out. Results are presented in Table 5.

Table 3

Demographic and Childbirth Characteristics: Normal Weight Group and Obese Weight Group

Characteristics	All Participants	
	Normal weight <i>n</i> = 70 <i>n</i> (%)	Obese weight <i>n</i> = 68 <i>n</i> (%)
Education (<i>n</i> = 137)		
< High school	4 (5.7)	6 (9)
High school completed	24 (34.3)	22 (32.8)
At least Post-secondary education	42 (60.0)	39 (58.2)
Marital status (<i>n</i> = 138)		
Married	43 (61.4)	40 (58.8)
Common-law	18 (25.7)	22 (32.4)
Single	9 (12.9)	5 (7.4)
Total household income (<i>n</i> = 137)		
< \$40,000	18 (25.7)	15 (22.4)
\$40,000 – 79,999	25 (35.7)	26 (38.8)
≥ \$80,000	27 (38.6)	26 (28.8)
Racial background (<i>n</i> = 137)		
First Nations	7 (10.0)	15 (22.4)
Filipino	12 (17.1)	4 (6.0)
Caucasian	35 (50.0)	41 (61.2)
Other	16 (22.9)	7 (10.3)
Delivery provider (<i>n</i> = 138)		
Obstetrician	62 (88.6)	56 (82.4)
Family Practice Physician	6 (8.6)	12 (17.6)
Midwife	2 (2.9)	0
Delivery type (<i>n</i> = 138)		
Vaginal	48 (68.8)	39 (57.4)
Emergency Caesarean	22 (31.4)	29 (42.6)
Induction of labour (<i>n</i> = 138)	27 (38.6)	45 (66.2)
Augmentation of labour (<i>n</i> = 138)	15 (21.4)	14 (20.6)
External Fetal Monitoring (<i>n</i> = 138)	67 (95.7)	66 (97.1)
Internal Fetal Monitoring (<i>n</i> = 138)	20 (28.6)	37 (54.4)
Intermittent Auscultation (<i>n</i> = 138)	9 (12.9)	7 (10.3)
Type of postpartum room (<i>n</i> = 137)		
Private	49 (70.0)	49 (72.1)
Shared	21 (30.0)	18 (26.9)

Table 4

Comparisons of Demographic and Childbirth Characteristics between Normal Weight Group and Obese Weight Group, using independent t-test

Characteristic	All Participants				t-test	p value
	Normal weight n = 70		Obese weight n = 68			
	Range	M (SD)	Range	M (SD)		
Age in years (n = 167)	18-40	28.1 (5.9)	18-44	29.4 (6.2)	-1.25	.213
Total years of formal education (n = 167)	5-16	14.4 (3.4)	6-15	14.4 (2.7)	-0.04	.971
COMFORTS scale						
Total score	56-100	84.9 (10.5)	49-99	83.2 (11.7)	0.88	.381
Subscales scores						
Provision of choice	11-30	25.6 (4.0)	9-30	24.8 (4.7)	1.11	.270
Physical environment	15-35	28.2 (4.7)	17-35	28.0 (4.5)	0.16	.871
Nursing care	8-15	12.8 (1.9)	6-15	12.6 (2.2)	0.60	.547
Privacy	10-20	17.2 (2.8)	9-20	17.1 (2.8)	0.14	.887
CEQ subscale score						
Factor professional support	2-4	3.4 (0.53)	1.3-4	3.4 (.55)	-0.28	.778
Factor safety	1-4	2.9 (0.51)	1.6-4	2.9 (.61)	-0.23	.819
Factor participation	1.6-3.8	2.8 (0.57)	1.4-4	2.8 (.64)	0.04	.970
Factor own capacity	1-4	2.1 (0.61)	1-3.8	2.1 (.61)	0.81	.420
Weight						
Discrimination total score	0-10	.92 (2.21)	0-35	6.82 (7.99)	-5.95	<.0001*

Note. *Difference is significant at the 0.001 level (2-tailed).

Table 5

Comparisons of Demographic and Childbirth Characteristics between Normal Weight Group and Obese Weight Group, using Chi-Square

Characteristic	All Participants		χ^2	p value
	Normal weight <i>n</i> = 70 <i>n</i> (%)	Obese weight <i>n</i> = 68 <i>n</i> (%)		
Education (<i>n</i> = 137)				
At least some High school	28 (40.0)	28 (41.8)	.05	.484
At least some post-secondary education	42 (60.0)	39 (58.2)		
Marital status (<i>n</i> = 138)				
Married	43 (61.4)	40 (59.7)	1.59	.452
Common-law	18 (25.7)	22 (32.8)		
Single	9 (12.9)	5 (7.5)		
Total household income (<i>n</i> = 137)				
> \$40,000	18 (25.7)	15 (22.4)	0.25	.884
\$40,000 – 79,999	25 (35.7)	26 (38.8)		
< \$80,000	27 (38.6)	26 (38.8)		
Racial background (<i>n</i> = 137)				
First Nations	7 (10)	15 (22.4)	10.73	.005*
Caucasian	35 (50)	41 (61.2)		
Other	28 (40)	11 (16.4)		
Delivery provider (<i>n</i> = 138)				
Obstetrician	62 (88.6)	56 (82.4)	0.63	.426
Other (Family Practice Physician/Midwife)	8 (11.4)	12 (17.6)		
Delivery type (<i>n</i> = 138)				
Vaginal	48 (68.6)	39 (57.4)	1.41	.235
Emergency Caesarean	22 (31.4)	29 (42.6)		
Induction of labour (<i>n</i> = 138)	27 (38.6)	45 (66.2)	9.46	.002*
Augmentation of labour (<i>n</i> = 138)	15 (21.4)	14 (20.6)	0.00	1.000
External Fetal Monitoring (<i>n</i> = 138)	67 (95.7)	66 (97.1)	0.00	1.000
Internal Fetal Monitoring (<i>n</i> = 138)	20 (28.6)	37 (54.4)	8.46	.004*
Intermittent Auscultation (<i>n</i> = 138)	9 (12.9)	7 (10.3)	0.04	.838
Type of postpartum room(<i>n</i> = 137)				
Private	49 (70)	49 (73.1)	0.05	.828
Shared	21 (30)	18 (26.9)		
Type of analgesia (<i>n</i> = 137)				
Supportive care	8 (11.6)	6 (8.8)	0.86	.649
Narcotics	12 (17.4)	9 (13.2)		
Epidural/ Spinal analgesia	49 (71.0)	53 (77.9)		
Pregnancy risk (<i>n</i> = 138)				
Low risk	56 (80.0)	40 (58.8)	7.31	.007*
High risk	14 (20.0)	28 (41.2)		

Note. * Difference in proportion is significant at the 0.05 level (2-tailed)

Demographic characteristics. Statistical testing showed there was no significant difference in mean age between the normal weight group and obese weight group (M 28.1 vs. 29.4 years; $t = -1.253$, $p = .213$). There was no statistical difference found between the two BMI groups and the mean total years of formal education (M 14.4 vs. 29.4; $t = -1.253$, $p = .971$). Additionally, no statistical difference in participants' marital status was found between in the normal weight group and the obese weight group ($X^2 = 1.586$, $p = .452$). When reported level of income was categorized to less than \$40,000, between \$40,000 and \$79,999, and greater than \$80,000, no significant difference between BMI groups was found ($X^2 = 0.246$, $p = .884$). Finally, there was no statistical difference in type of delivery provider ($X^2 = 0.663$, $p = .426$), type of analgesia ($X^2 = 0.047$, $p = .828$), and type of postpartum room ($X^2 = 0.042$, $p = .838$) between the normal weight group and the obese weight group.

Half of the participants in the normal weight category were Caucasian ($n = 35$, 50%) compared to about 61% ($n = 41$) of the obese weight participants. More participants in the normal weight group, compared to the obese weight group, reported their racial background as "other" ($n = 28$, 40% vs. $n = 11$, 16.4%), whereas more women in the obese weight group reported a "First Nations" background ($n = 15$, 22.4% vs. $n = 7$, 10.0%) than those in the normal weight group. These differences between the two groups were significant ($X^2 = 10.731$, $p = .005$).

Delivery type was categorized into two groups; vaginal delivery or emergency caesarean delivery. There was no significant difference in type of delivery between the BMI groups ($X^2 = 1.413$, $p = .235$). However, significantly more women in the

obese weight group had an induction of labour ($X^2 = 9.457, p = .002$). In regards to fetal surveillance, almost all participants received external fetal monitoring during their labour and delivery and there was no statistical difference between the normal weight group (95.7%) and the obese weight group (97.1%) ($X^2 = <0.001, p = 1.0$). However significantly more obese women required internal fetal monitoring compared to normal weight women ($X^2 = 8.464, p = .004$). Finally, significant differences were found between the two BMI groups when examining calculated pregnancy risk score, with more obese women falling into the high risk category ($X^2 = 7.306, p = .007$)

Satisfaction with intrapartum care. Satisfaction with intrapartum care was assessed using the score from four of the six subscales in the COMFORTS scale (Janssen, Dennis, & Reime, 2006). The four subscales of the COMFORTS scale that were measured included: provision of choice, information and support; your physical environment; nursing care in labour; and privacy. Total satisfaction scores can range from 20 to 100, with higher scores indicating higher satisfaction. The mean score for overall satisfaction was 84.13 (SD = 11.16), meaning on average participants were satisfied with their intrapartum care. Total COMFORTS scores in this sample ranged from 49 to 100; the scores of participants with a BMI in the normal weight group ranged from 55 to 100 while those in the obese weight group ranged from 49 to 100. Overall satisfaction scores did not differ significantly between the normal weight (M = 84.9, SD = 11.1) and the obese weight groups (M = 83.2, SD = 11.7) ($t = 0.80, p = .815$). Refer to Table 4.

Scores for the provision of choice, information, and support can range from 6 to 30. Mean scores for the satisfaction with provision of choice, information, and support was 25.2 (SD = 4.4) for all participants, 25.6 (SD = 4.0) for the normal weight group, and 24.8 (SD = 4.7) for the obese weight group. There was no significant difference in satisfaction with provision of choice, information, and support between the two BMI groups ($t = 1.11$, $p = .270$).

The COMFORTS subscale of your physical environment has mean scores that range between 7 and 35, with higher scores indicating participants have higher satisfaction with their physical environment. The mean score for the normal weight group was 28.2 (SD = 4.7); this was similar to the mean score for the obese weight group (M = 28.0, SD = 4.5). No significant difference with the scores in this subscale were found between weight groups ($t = 0.16$, $p = .871$).

Scores for the subscale nursing care in labour ranged from 3 to 15. Overall participants were found to be satisfied with nursing care in labour; the mean score of the nursing care in labour subscale was 12.7 (SD = 2.1). These scores remained consistent between the two BMI groups (normal weight M = 12.8, SD = 1.9; obese weight M = 12.6, SD = 2.2); no significant difference was found ($t = 0.60$, $p = .547$).

The mean score for the privacy subscale for all participants was 17.1 (SD = 2.8); this suggests that participants had a high level of satisfaction with privacy (scores can range between 4 and 20). No significant difference ($t = 0.14$, $p = .887$) was found with the scores of the privacy subscale between normal weight participants (M = 17.2, SD = 2.8) and obese weight participants (M = 17.10, SD = 2.8).

Childbirth experiences. The 22 item CEQ (Dencker et al., 2010) was used to measure childbirth experiences. This tool was designed to study women's perceptions of childbirth in four dimensions of childbirth experiences. After completing a factor analysis on the 22 items in Dencker's (2010) CEQ (described in the previous chapter), four newly grouped dimensions of childbirth experiences were determined; these included: factor 1 - professional support, factor 2 - perceived safety, factor 3 - participation, and factor 4 - own capacity. Scores for each of the four subscales can range between 1 and 4, with higher scores indicating a participant's perception of a positive experience.

No significant differences were found between participants in the normal weight group and the obese weight group for any of the four CEQ subgroups. Results are presented in Table 4. Factor 1 – professional support had higher mean scores than the other subscales with a mean of 3.4 (SD = 0.53), meaning participants mostly agreed or totally agreed that they had positive experiences with the support they received from their healthcare providers. The mean scores for factor 2 – perceived safety, factor 3 – participation, and factor 4 – own capacity were 2.9 (SD = 0.51), 2.8 (SD = 0.57), and 2.1 (SD = 0.61) respectively. These findings indicate that the on average participants mostly disagreed or mostly agreed that they had positive experiences with perceived safety, participation, and their own capacity during childbirth. Scores for the CEQ subscale factor 4 – own capacity were lower than the other 3 subscales for both weight groups.

Weight discrimination. The adapted EOD questionnaire (Krieger et al., 2005) was used to assess perceived weight discrimination, with possible scores

ranging from zero to 50. In this sample total scores ranged from zero to 35 ($M = 3.83$, $SD = 6.51$). Total score for weight discrimination for the normal weight and obese weight groups are presented in Table 4. The mean weight discrimination total score for obese women was almost seven times higher than that of women in the normal weight group ($M = 6.82$, $SD = 7.99$ vs. $M = 0.92$, $SD = 2.21$). This difference was significant ($t = -5.95$, $p < .0001$).

Three items in the weight discrimination questionnaire scored zero in both BMI groups; these questions included those who experienced discrimination because of their weight in getting housing; getting credit, bank loan, or a mortgage; and from the police or in the courts. The remaining items are presented in Table 6. Obese women were significantly more likely to face discrimination based on their weight at school ($p < .001$), getting a job ($p = .003$), at work ($p = .001$), getting medical care ($p < .001$), in a store or restaurant ($p < .001$), and on the street or in public ($p < .001$).

Table 6

Comparisons of Discrimination Questions between Normal Weight Group and Obese Weight Group, using Chi-Square

Experiences of Discrimination Questions	All Participants		χ^2	p value
	Normal weight <i>n</i> = 70 <i>n</i> (%)	Obese weight <i>n</i> = 68 <i>n</i> (%)		
Experienced weight discrimination at school (<i>n</i> = 138)	7 (10.0)	38 (55.6)	33.04	<.001*
Experienced weight discrimination getting a job (<i>n</i> =138)	4 (5.7)	16 (23.5)		.003*
Experienced weight discrimination at work (<i>n</i> =138)	4 (5.7)	17 (25.0)		.001*
Experienced weight discrimination getting medical care (<i>n</i> = 138)	1 (1.4)	15 (22.1)		<.001*
Experienced weight discrimination during labour and delivery (<i>n</i> = 138)	2 (2.9)	6 (8.8)		.128
Experienced weight discrimination in a store or restaurant (<i>n</i> = 138)	1 (1.4)	14 (20.6)		<.001*
Experienced weight discrimination on the street or in public (<i>n</i> = 138)	5 (7.1)	34 (50.0)	31.25	<.001*

Note: Questions in the Experiences of Weight Discrimination Questionnaire included: experienced weight discrimination at school, experienced weight discrimination getting a job, experienced weight discrimination at work, experienced weight getting housing, experienced weight discrimination getting medical care, experienced weight discrimination during labour and delivery, experienced weight discrimination in a store or restaurant, experienced weight discrimination getting credit, bank loan or a mortgage, experienced weight discrimination on the street or restaurant, experienced weight discrimination from the police or in the courts.

Note: Fisher's Exact Test was used when the count for any cell was less than 5.

Research Questions

There were three primary research questions in this study. The first two questions examined the difference in satisfaction with intrapartum care and childbirth experiences between women of normal weight and obese weight. Results used to answer these questions have been presented earlier in this chapter in the section on the descriptive analysis of normal weight and obese weight groups. The third question, examining factors that are associated with satisfaction with intrapartum care, was answered using a multiple regression analysis. First, univariate analyses comparing differences in COMFORTS total scores for a variety of childbirth and demographic characteristics were conducted; results of the independent t-tests are presented in Table 7 and the results of the one-way ANOVA are presented in Table 8.

There was no significant difference in the total COMFORTs score for any of the following independent variables: type of delivery (vaginal vs. caesarean section), pregnancy risk (low vs. high risk), delivery provider (obstetrician vs. other), level of education (high school vs. post-secondary education), induction of labour, augmentation of labour, internal fetal surveillance, type of postpartum room (private vs. semi-private), pain relief options (supportive care, narcotics, epidural/spinal), racial background (First Nations, Caucasian, other), marital status (married, common-law vs. single), and total household income (< \$40,000, \$40,000 – 79,999, ≥ \$80,000). A difference in intrapartum satisfaction was found between women who faced weight discrimination during labour and delivery and those who did not. Women who indicated that they experienced this type of weight discrimination had significantly lower satisfaction scores than women who did not experience weight

discrimination, 73.38 (SD = 14.41) vs. 84.73 (SD = 10.57), $p = .005$. Finally, participants who experienced weight discrimination while getting medical care also had significantly lower satisfaction scores than women who did not (75.44 vs. 85.22, respectively). A crosstab analysis of two questions from the weight discrimination questionnaire was conducted: weight discrimination while getting medical care, and weight discrimination during labour and delivery. Sixteen (16) participants reported experiencing discrimination based on their weight while getting medical care while 8 participants reported experiencing discrimination based on their weight during labour and delivery. Six participants reported perceived discrimination both while getting medical care and during labour and delivery. Because these two variables exhibit multicollinearity only one variable was chosen to be used in the linear multiple regression. The variable, weight discrimination during labour and delivery was selected as it seemed to be more related to satisfaction with intrapartum care.

Table 7

Comparisons of COMFORTS score between childbirth characteristics, using independent t-test

Characteristic	Total COMFORTS score M (SD)	t-test	p value
Type of delivery			
Vaginal	84.26 (11.69)	0.28	.778
Caesarean	83.69 (10.09)		
Pregnancy risk			
Low risk	84.48 (11.32)	0.68	.500
High risk	83.07 (10.65)		
Delivery provider			
Obstetrician	84.22 (11.36)	0.42	.679
Family Physician/Midwife	83.10 (9.68)		
Education			
High school	84.33 (11.21)	0.18	.856
Post-secondary education	83.97 (11.11)		
Induction of labour (n = 132)			
Yes	84.29 (11.67)	0.27	.798
No	83.77 (10.48)		
Augmentation of labour			
Yes	83.89 (11.20)	-0.09	.932
No	84.09 (11.12)		
Internal fetal surveillance			
Yes	82.98 (11.11)	-0.93	.353
No	84.80 (11.09)		
Postpartum room			
Private	84.14 (11.49)	0.03	.980
Shared	84.08 (10.20)		
Experienced weight discrimination while getting medical care (n = 138)			
Yes	75.44 (14.85)	3.44	.001**
No	85.22 (10.01)		
Experienced weight discrimination during labour and delivery (n = 138)			
Yes	73.38 (14.41)	2.88	.005*
No	84.73 (10.57)		

Note: * Correlation is significant at the 0.05 level (2-tailed);
 ** Correlation is significant at the .001 level (2-tailed).

Table 8

Comparisons of COMFORTS score between childbirth and demographic characteristics, using one-way ANOVA

Characteristic	Total COMFORTS score M (SD)	F	p value
Pain relief option			
Supportive care	83.29 (11.43)	0.27	.763
Narcotics	82.57 (12.16)		
Epidural/Spinal	84.43 (10.95)		
Racial background			
First Nations	80.19 (13.82)	1.57	.211
Caucasian	84.88 (10.74)		
Other	84.82 (11.17)		
Marital status			
Married	85.26 (10.32)	1.09	.339
Common-law	82.39 (11.40)		
Single	82.21 (14.39)		
Total household income			
< \$40,000	82.13 (12.45)	1.04	.358
\$40,000 – 79,999	85.71 (10.56)		
>= \$80,000	83.71 (10.82)		

The following factors were examined to determine if they were associated with satisfaction with intrapartum care: the four new subscales from Dencker's (2010) CEQ (factor 1 – professional support, factor 2 – perceived safety and control, factor 3 – participation, and factor 4 – own capacity), age, years of education, induction of labour, and pregnancy risk. Pearson *r* correlation coefficients between these variables are shown in Table 9.

Significant positive correlations were found between satisfaction with intrapartum care and professional support, as well as with each of the other three childbirth experiences subscales. Higher satisfaction scores were found when participants reported more positive experiences with their healthcare provider during

childbirth ($r = .734$, $n = 134$, $p < .001$), perceived safety and control during childbirth ($r = .502$, $n = 134$, $p < .001$), participation during childbirth ($r = .435$, $n = 134$, $p < .001$), and own capacity during childbirth ($r = .201$, $n = 134$, $p < .05$). The more often participants experienced discrimination because of their weight during labour and delivery, the less satisfied they were overall ($r = -.243$, $n = 134$, $p < .05$); this negative correlation was significant. Education, age, and pregnancy risk were not significantly related to satisfaction with intrapartum care. Age was significantly negatively related to Factor 3 - participation and to pregnancy risk; therefore age was deemed an important variable to control for in the regression models. Education was significantly negatively related to Factor 4 - own capacity and therefore also controlled for in the regression model. Although one may have expected higher education to be associated with high capacity, in this study own capacity included feelings of happiness, fear and pain concepts that may not be associated to higher education.

Table 9

Pearson r Correlations: Childbirth and demographic characteristics, childbirth experience, and weight discrimination with Satisfaction with Intrapartum Care

Variable	1	2	3	4	5	6	7	8
1. COMFORTS score								
2. Weight discrimination during labour and delivery	-.234**							
3. Factor 1 – professional support	.734**	-.158						
4. Factor 2 – perceived safety and control	.502**	-.092	.447**					
5. Factor 3 – participation	.435**	-.030	.406**	.539**				
6. Factor 4 – own capacity	.201*	-.105	.075	.431**	.222**			
7. Education	-.012	-.161	.066	-.020	-.005	-.209*		
8. Age	-.124	-.062	-.071	-.092	-.168*	.030	.463**	
9. Pregnancy risk	-.059	-.029	.090	-.078	-.114	-.078	.132	.494**

Note: *Correlation is significant at the 0.05 level (2-tailed);

** Correlation is significant at the 0.001 level (2-tailed).

Multicollinearity “refers to the relationship among the independent variables” (Pallant, 2013, p. 157). Pallant (2013) suggests that independent variables are highly correlated when r is greater than or equal to 0.9. Results from the Pearson r correlations calculations suggest that multicollinearity does not exist between independent variables used in the multiple regression model, as the Pearson r correlations were all less than 0.734.

Data were initially entered into a base model of the Generalized Linear procedure with the assistance of a statistical consultant. This base model contained only basic demographic characteristics, age and years of education, and the control variables of weight group, induction of labour, and weight discrimination during

labour and delivery. Refer to table 10. All variables were entered sequentially into both of the regression models to decrease tolerance. Independent variables were included based on their p-values, explained variance, change in beta coefficients, and the minimum tolerance tests. The tolerance is an indicator of the proportion of variance for which the specified independent variable used in a regression model that is not accounted for by other independent variables used in the model (Pallant, 2013).

Table 10

Base linear multiple regression model of factors associated with COMFORTS scale

Parameter		β	SE	<i>t</i>	95% Confidence Limits		P
Intercept		102.54	7.4	13.70	87.72	117.35	<.0001
BMI Group	Obese weight	.57	2.02	0.28	-3.42	4.55	0.779
Years of Education		0.20	0.352	0.57	-0.50	0.90	0.572
Age		-0.33	4.04	-2.96	-19.94	-3.97	0.079
Induction	yes	1.32	2.00	0.66	-2.63	5.26	0.511
Weight Discrimination in Labour and Delivery	yes	-11.96	4.04	-2.96	-19.94	-3.97	0.004*

Note: *Correlation is significant at the 0.05 level (2-tailed).

Note: $R^2 = 0.090$; adjusted $R^2 = 0.053$

Results from this model indicated that weight discrimination was highly significant and negatively related to satisfaction with intrapartum care ($\beta = -11.96$, $p < .05$). Nine variables: weight group (normal vs. obese), age, years of education, induction of labour (yes vs. no), weight discrimination during labour and delivery (yes vs. no), pregnancy risk (reported as a continuous variable), and 3 of the CEQ subscales (participation, perceived safety and control, and professional support) were

then included in the full linear multiple regression model. Findings from this model are reported in Table 11.

Table 11

Final Linear Multiple Regression Model of factors associated with intrapartum satisfaction (COMFORT Scores)

Parameter		B	SE	T	95% Confidence Limits		p
Intercept		37.26	7.04	5.30	23.33	51.18	<.0001
BMI Group	Obese weight	0.57	1.34	0.43	-2.05	3.19	0.669
Years of Education		-0.17	0.24	-0.72	-0.64	0.30	0.474
Age		-0.09	0.14	-0.60	-0.37	0.2	0.548
Induction	yes	-1.61	1.35	-1.19	-4.28	1.06	0.236
Weight Discrimination in Labour and Delivery	yes	-5.78	2.67	-2.17	-11.04	-0.51	0.032*
Factor 1 - Professional Support		13.11	1.38	9.52	10.39	15.84	<.0001**
Factor 2 – Perceived Safety and Control		3.25	1.37	2.37	0.53	5.97	0.019*
Factor 3 - Participation		1.46	1.26	1.15	-1.05	3.95	0.251
Pregnancy Risk Score		0.215	0.56	0.39	-0.89	1.31	0.699

Note: * Correlation is significant at the 0.05 level (2-tailed);

**Correlation is significant at the 0.001 level (2-tailed).

Note: $R^2 = .631$; adjusted $R^2 = .604$

Results show the beta coefficient for weight discrimination during labour and delivery was negatively related to satisfaction with intrapartum care; this result was significant ($\beta = -5.78$, $p = 0.032$). If a women experiences weight discrimination during labour and delivery, the satisfaction with intrapartum care score decreases by 5.8 units. Similarly, the CEQ subscale Factor 2 – perceived safety and control was found to significantly and positively influence satisfaction with intrapartum care scores ($\beta = 3.25$, $p = 0.019$). Meanwhile, the professional support subscale of the CEQ was found to have the strongest association with satisfaction with intrapartum care. The beta coefficient was found to be significantly and positively related to satisfaction score. Findings indicate that for every unit increase in perception of professional support, satisfaction with intrapartum care scores would increase 13.11 times.

Adjusted R^2 was calculated for both the base linear multiple regression model and for the final linear multiple regression model. The adjusted R^2 was used instead of the R^2 as it is a more conservative and “better estimate of the true population value” (Pallant, 2013, p. 167). The adjusted R^2 for the base model was 0.053, indicating that the base model predicted only 5% of the variance in intrapartum satisfaction. Meanwhile, the final linear multiple regression model predicted 60% of the variance in intrapartum satisfaction (adjusted $R^2 = 0.604$).

Chapter V: Discussion

This chapter discusses the key findings of this study, which was designed to compare satisfaction with intrapartum care and childbirth experiences between normal weight and obese weight women and to examine factors associated with satisfaction with intrapartum care. To date there are no known studies that have focused on comparing obese women's childbirth experiences and satisfaction with intrapartum care to those of normal weight women. Findings from this study will enhance existing knowledge on satisfaction with intrapartum care and will increase our understanding of childbirth experiences of obese weight women. In this chapter, the results will be discussed in the context of the published literature and the theoretical framework that was used to guide the study. Study limitations, implications for nursing practice, and suggestions for future research will be explored.

In this study, there were no significant differences in either satisfaction with intrapartum care or childbirth experience between normal weight and obese weight women. Additionally, many of the demographic characteristics and childbirth characteristics did not differ significantly between the two groups examined. A small number of demographic or childbirth characteristics were found to differ significantly between women in the normal weight group and women in the obese weight group: racial background, induction of labour, internal fetal monitoring and pregnancy risk category. Weight discrimination, professional support, and perceived safety and control were found to be either positively or negatively associated with satisfaction with intrapartum care. These results will be explored.

Demographic and Childbirth Characteristics

Both demographic and childbirth characteristics of the two BMI groups were relatively consistent. No statistically significant differences were found between normal weight and obese weight women in regards to age (M 28.1 vs. 29.4), total years of education (M 14.4 for both), marital status, and total household income. Significantly more women in the obese weight group identified themselves as a member of a First Nations group compared to the normal weight group (22.4% vs. 10%), while more women in the normal weight group identified themselves as “other” compared to the obese weight group (40% vs. 16.4%). The “other” racial background category consisted of women with a Filipino, Latin American, Chinese, Black or South Asian backgrounds. These results are not surprising, as authors have reported that people with an Asian background have a mean BMI lower than other non-Asian populations (WHO, 2004). Meanwhile, Garriguet (2008) found that Aboriginal people living off-reserves were more likely to be obese than non-Aboriginals. In Manitoba, Chan et al. (2010) reported that 40% of First Nations women between the ages of 19 and 30 and 55% of women between 30 and 50 years of age living on-reserve were obese. Additionally, authors have reported that the prevalence of obesity among people that self-identified as Aboriginal was about 23% in Canada (Lix, Bruce, Sarkar, and Young, 2009). Researchers examining maternal characteristics and birth outcomes among First Nations people living in Southern Ontario found that First Nations mothers, on average, had a higher pre-pregnancy BMI compared to non-First Nations mothers (Oliveira et al., 2013). Chen et al. (2015) reported that in rural Saskatchewan, adults who did not live on a farm, low

income was associated with increased risk of obesity. Similarly, researchers have identified that obesity was more common among women with a low income or poorer socioeconomic status (Hajizadeh, Campbell, & Sarma, 2014). Luo et al. (2010) found that Manitoba First Nations women were more likely than non-First Nations women to have a low socioeconomic status. Physical activity has also been shown to be related to obesity (Tjepkema, 2006). Using data from the 2004 Canadian Community Health Survey: Nutrition, Garriguet (2008) found that a lack of physical activity and increased in BMI was more common in Aboriginal people compared to non-Aboriginal people. These findings may explain why more of the obese weight participants in the current study had a First Nations background compared to the normal weight participants.

Pregnancy risk status was determined using Coopland et al.'s (1977) Antepartum High Risk Pregnancy Screening Form. A large number (69.6%) of participants were found to have a low pregnancy risk score (0-2). However, significantly more women in the obese weight group had a high pregnancy risk score (3-6) compared to normal weight women (41.2% vs. 20% respectively). Although the finding that obese women had a higher pregnancy risk score than normal weight women was expected, it was unexpected that there were no participants in the extreme pregnancy risk category (score ≥ 7). Having only nulliparous women participating in this study may account for the lower pregnancy risk scores overall. All participants scored at least one point for being nulliparous (Para 0) prior to giving birth, but scores for risk factors that would have been associated with previous deliveries were not applicable in this population. Chronic or pregnancy related

conditions found among the participants included gestational diabetes, gestational hypertension or essential hypertension. Crane et al. (2009) found that obese and morbidly obese women were more likely to develop gestational hypertension compared to normal weight women (19.16% vs. 4.66% respectively). Chu et al. (2008) found an odds ratio of 8.56 for gestational diabetes in obese women. Both of these conditions are more common among obese women compare to normal weight women (Bodnar et al., 2006; Crane et al., 2009) and therefore one would expect the obese group to have higher pregnancy risk scores compared to women with a normal BMI, thus accounting for increased numbers of obese women in the high risk group.

The average caesarean birth rate in the two participating hospitals was 22.0% in the 2014-2015 fiscal year (WRHA, 2015). Authors have reported that obese women have a higher risk for caesarean birth (Crane et al., 2009; Dzakpasu et al., 2014; Magriples et al., 2008). However, two current studies examining delivery outcomes among women in different weight groups found that mode of delivery did not differ significantly for women with spontaneous labour (Hermann, Le Ray, Blondel, Goffinet, & Zeitlin, 2015; Vinturache, Moledina, McDonald, Slater, & Tough, 2014). In a Canadian study where pre-pregnancy BMI and delivery outcomes were examined, Vinturache (2014) found that increasing BMI was associated with higher rates of labour induction and subsequently higher rates of caesarean section. This finding was also seen in the current study, in which women with a BMI in the obese category were significantly more likely to have had an induction compared to women with a normal BMI (66.2% vs. 38.6% respectively). Although in this current study the difference in the caesarean birth rate of normal weight and obese weight

women might be considered clinically important, the difference was not statistically significant (31.4% and 42.6% respectively). These rates however were both higher than the average rate in Winnipeg.

Higher caesarean birth rate among the participants in this study may be related to the recruitment site. Two models of care exist in the two hospitals used in this study: an LDRP model where low risk women labour, deliver, recover and spend the postpartum period; and an LDR model where women of either high or low risk labour, deliver and recover and are then transferred to a separate postpartum unit. The LDR unit at both sites was chosen as the site for recruitment of participants because women with higher BMI's are excluded from delivering on the LDRP units, as well as to control for location of delivery. Thirty-five percent of the total deliveries at both recruiting centers occur on the LDRP units; all of these deliveries are vaginal deliveries (J. Luong, personal communication, December 29, 2015). All women having a caesarean birth are delivered in the LDR units and then transferred to the postpartum unit. The rate of caesarean sections among participants in this study may be higher due to having a larger number of women with caesarean sections to choose from on the units where recruitment occurred. Additionally, women with a caesarean section remain in hospital for a longer period of time compared to women having a vaginal delivery, and these women may be more willing to participate in a study.

In Winnipeg, 87.5% of women have their delivery attended by an obstetrician, 8.3% by a family physician and 4% by a midwife (Heaman et al., 2012). In this study, 85.5% of women had their deliveries attended by an obstetrician, 13.0% by a

family physician and 1.4% by a midwife. Except for the rate of midwifery attended deliveries, these results were consistent with those found in the Perinatal Services and Outcomes in Manitoba report (Heaman et al., 2012). Additionally, the type of birth attendant did not differ among normal weight and obese weight women participating in this study. The lower rates of midwifery attended deliveries may be accounted for by current midwifery practices in Winnipeg. About seventeen percent of midwifery attended deliveries occur at home (Thiessen, Heaman, Mignone, Matrens, & Robinson, 2015) and many of the midwifery attended births that occur in the hospital occur on the LDRP units, which were not used as recruitment sites for this study. Those women receiving care from a midwife and delivering on the LDR unit often choose to go home less than 24 hours after their delivery. This shortened stay could be a deterrent to participation.

No differences in the type of fetal monitoring or analgesia used during labour and delivery were found between the two study groups. Continuous fetal monitoring is a common practice on the LDR units at both hospitals; most women at some point during their labour and delivery have had their baby monitored with this method. This finding is consistent with results from other studies that have found most women report having experienced continuous fetal monitoring during labour. The Canadian Maternity Experiences Survey (Chalmers, Dzakpasu, Heaman, & Ksczorowski, 2008) reported that 90.8% of women surveyed experienced some form of EFM during their labour. A large national survey in the United States of 1573 mothers found that 87% of women surveyed had continuous fetal monitoring during labour (Declercq, Sakala, Corry, & Applebaum, 2007).

Satisfaction with Intrapartum Care

Overall, participants in this study reported high levels of satisfaction with intrapartum care; women in the normal weight group and obese weight group had mean satisfaction scores of 84.9 and 83.2 out of 100 respectively. This finding is consistent with results of other satisfaction with intrapartum care studies where participants reported high levels of satisfaction (Christiaens & Bracke, 2007; Haines et al., 2013; Harvey et al., 2002; Sadler et al., 2001).

Contrary to what was expected, the mean satisfaction scores did not differ significantly between normal weight and obese weight women, nor did any of the satisfaction subscale scores, although there was a wider range of satisfaction scores in the obese weight group compared to the normal weight group (normal weight ranged from minimum score of 56 to maximum of 100; obese weight from 49 to 99). These findings of no difference are consistent with those of Hildingson and Thomas (2012). These Swedish researchers compared satisfaction with intrapartum care between women with a BMI less than or equal to 30 kg/m^2 to those with a BMI greater than 30 kg/m^2 . Hildingson and Thomas (2012) suggest that the lack of difference in satisfaction scores could be accounted for because midwives treat all women the same regardless of their weight. In Canada, women may receive care from a variety of healthcare providers including, but not limited to, obstetricians, midwives, family physicians and nurses. Although one cannot generalize the results from Hildingsson and Thomas's (2012) study to the Canadian population, one may conclude that, like in the Swedish study, satisfaction with intrapartum care did not differ among normal

weight and obese weight women because healthcare providers are likely to treat all women the same regardless of their weight.

Hodnett (2002) argued that a women's level of satisfaction may be influenced by the birth of a healthy infant. She suggests that this may negate negative aspects of their care. Satisfaction has been defined as a reaction to different aspects of healthcare (Pascoe, 1983), and some authors argue cognitive evaluations and reactions to processes and outcomes of services influence a patient's satisfaction (Cleary & McNeil, 1988). After the birth of a healthy infant, women may experience a strong emotional reaction to the process of labour and the positive outcome of the delivery. Participation in this study was limited to women with full term normal newborns; this may help explain why women tend to report high levels of satisfaction with intrapartum care.

A women's level of satisfaction with intrapartum care may be influenced by a belief that "what is, must be best" (Hodnett, 2002, p.19). Sandin-Bojo, Larsson, and Hall-Lord (2008) examined 138 Swedish women's perception of intrapartum care in relation to the 1996 WHO recommendations for labour and delivery. These authors found that women receiving medical interventions, such as oxytocin augmentation or epidural analgesia, felt that these interventions were an important component of their care. Sandin-Bojo et al. (2008) found that women placed a high level of subjective importance to fetal assessments and EFM, suggesting that EFM is a normal and expected part of labour and delivery. Similar results were found in a qualitative study investigating women's experiences with interventions during labour and delivery in the United States (Bibeau, 2014). Bibeau (2014) found that women identified they

had concerns for remaining safe during the birthing process and many felt labour and birth was a risky event. One participant in the study mentioned that “having a baby is not something that I can do safely without medical interventions” (Bibeau, 2014, p. 169), and many participants identified they felt that interventions during labour and delivery were possibly essential for minimizing risk to their babies. Sadler et al. (2001) conducted a randomized control study in New Zealand to measure maternal satisfaction with active management of labour. These authors found that age, type of primary caregiver, type of pain relief used, and use of continuous EFM did not affect satisfaction with intrapartum care. In the current study, most of the childbirth characteristics were found to be similar between the two BMI groups. Those that were different, such as induction of labour, the use of internal fetal monitoring, and pregnancy risk scores, most likely did not influence participants’ perception of intrapartum care because participants may have felt these medical interventions were a necessary part of their labour and delivery care.

Women’s expectation of what is a “normal” labour and delivery may play a major role in influencing satisfaction with intrapartum care. Although expectations were not examined in this study, there is evidence to suggest that when expectations are met, patients are satisfied with the care they received (Thompson & Sunol, 1995). Authors suggest that in order to keep their baby healthy and safe, women expect some form of medical interventions during (Bibeau, 2014). In their search of the literature, Arendas, Qui, and Greslin (2008) found that obesity was associated with a number of maternal and neonatal health outcomes including gestational diabetes, gestational hypertension, shoulder dystocia, induction of labour, birth by caesarean section, and

macrosomia. These authors recommend that healthcare providers provide counselling to obese women prenatally so they are aware of what to expect throughout their pregnancy and birth. In the current study, satisfaction with intrapartum care in this study was found to be high in both weight groups despite the higher level of medical interventions in the obese weight group. This may suggest that obese women already had expectations of the increased interventions they may experience during labour and birth. Also one may speculate that with the birth of a healthy baby these expectations may be met and women will be more satisfied. Christiaens and Bracke (2007) suggest it is important to understand and evaluate if women's expectations are met during labour and delivery in order to better understand satisfaction with intrapartum care. Further research is required to understand normal weight and obese weight women's childbirth expectations and how these expectations may differ between the two groups.

Although researchers have found that general patient satisfaction is influenced by different patient sociodemographic characteristics such as age, level of education, and marital status (Milutinovic et al., 2009; Sitza & Wood, 1997; Spasojevic, Hrabac, & Huseinagic, 2015), researchers studying satisfaction with intrapartum care found little relationship of these characteristics to satisfaction (Hodnett, 2002; Sadler et al., 2001; Waldenstrom & Nilsson, 1993). This finding is consistent with this study. In a quantitative study by Gregory (2013), designed to identify factors associated with satisfaction with prenatal care in Winnipeg, it was found that demographic characteristics were not significant predictors of overall patient satisfaction with

prenatal care. Gregory did find that some subscales of satisfaction were influenced by race/ethnicity, years of education, and income.

In this study, nine variables (BMI group, age, years of education, induction of labour, weight discrimination during labour and delivery, professional support, perceived safety and control, and participation) were examined to determine predictors of intrapartum satisfaction in the final multiple regression model. Three of the nine variables were found to have either a significant positive or a negative relationship to satisfaction with intrapartum care in the multiple regression analysis; these variables included weight discrimination during labour and delivery, professional support, and perceived safety and control. Findings from the base linear multiple regression suggest that weight discrimination during labour and delivery was significantly and negatively related to satisfaction with intrapartum care: this model explained five percent of the variance in the satisfaction with intrapartum care scores. In the final linear multiple regression model, sixty percent (adjusted $R^2 = .604$) of the variance in satisfaction with intrapartum care was explained by the variables used in the model.

Perceived weight discrimination during labour and delivery was negatively and significantly related to total satisfaction ($\beta = -5.78$, $p = 0.032$), meaning that if a woman felt she had experienced discrimination based on her weight during labour and delivery, her patient satisfaction score decreased by 5.8 units. As indicated previously, obesity has been associated with discrimination and stigma (Rogge et al., 2004). These findings are important because no studies to date were found that examined perceived weight discrimination and satisfaction with intrapartum care.

Although this information is unique, it is not unexpected. Many researchers have found that perceived discrimination is associated with decreased levels of satisfaction with health care (Bird, Bogart, Delahanty, 2004; Lopez-Cervillos, Harvey, & Waren, 2014; Merrill & Grasley, 2008; Tajeu et al., 2015). Bird et al. (2004) studied perceived discrimination in HIV care and found that the majority of their participants felt they faced race based or socioeconomic discrimination at some point during their healthcare journey. They found that the presence of perceived discrimination was associated with a decrease in healthcare satisfaction. Similar findings were seen by Lopez-Cevallos et al. (2014) who used a modified version of the EOD (Krieger et al., 2005) to examine how discrimination influenced healthcare services among Latinos in the United States. These authors found a negative relationship between perceived discrimination and patient satisfaction.

Perceived safety and control were also found to be a predictor of satisfaction with intrapartum care ($\beta = 3.25$, $p = 0.019$). This positive relationship indicates that for every unit increase in a woman's perception of safety and control during childbirth, her satisfaction with intrapartum care score will increase by 3.25 units. These results are consistent with research examining predictors of satisfaction with intrapartum care. In their study examining factors related to childbirth satisfaction, Goodman et al. (2004) found control during labour and birth to be one of the strongest predictors of satisfaction of intrapartum care. Mackey (1995) suggest perceptions of childbirth experiences, and thus satisfaction with intrapartum care, are influenced by how well women feel they managed their labour and delivery. If women feel that they managed well, they reported a more positive experience.

Finally, professional support was found to be highly predictive of satisfaction with intrapartum care. Professional support was significantly and positively related to the COMFORTS scale ($\beta = 13.11$, $p < .001$). For every one unit of increase on the professional support subscale, the COMFORTS score increased by 13.11 units.

Professional support has been found by other authors to be an important component of satisfaction with intrapartum care (Chirstiaens & Bracke, 2007; Hodnett, 2002; Mackey, 1998; Murray et al., 1996; Sadler et al., 2001; Sequin et al., 1989), satisfaction with prenatal care (Gregory, 2013; Hundley et al., 2001; Ivanov & Flynn, 1999; Milutinovic, 2009), and within the general patient satisfaction research (Cleary & McNeil, 1988; Mascato et al., 2015). Bramadat and Driedger (1993) concluded “advocacy by healthcare professionals also was a source of satisfaction” (p. 25).

Murray et al. (1996) suggested that nurses may influence satisfaction with intrapartum care because they offer women a sense of control by providing information, education, and support. In developing countries, Srivastava, Avan, Rajbanshi, and Bhattacharyya (2015) found “interpersonal behaviour as the most widely reported determinant of satisfaction” (p. 8) in maternal health care. These interpersonal behaviors allow women to become more engaged with their care and may increase their feeling of safety (Karlstrom, Nystedt & Hildingon, 2015).

Forsetlund et al. (2009) found that professional continuing education meetings and workshops for healthcare providers may improve patient outcomes. A variety of initiatives have been implemented in the Winnipeg Regional Health Authority to assist healthcare workers providing care to obese patients. Some of these programs include a bariatric equipment pool program and a bariatric/non-bariatric patient

handling and movement and falls prevention course. Within the Women's Health Program a number of educational opportunities have been provided to staff to assist them in caring for obese perinatal patients. At Women's Hospital, evidence based journal articles have been provided to staff to review and discuss on the unit or in some of the education days offered biannually. At St. Boniface Hospital, a guideline for caring for bariatric perinatal patients was developed as a staff resource (SBH, 2011). This education and support may account for participants in this study reporting similar levels of satisfaction with intrapartum care, regardless of their weight group. When staff have both the equipment and knowledge they need to care for all patients in the same manner, differences in care may not occur or may be so minimal that patients do not notice them.

Researchers studying general patient satisfaction suggest interpersonal aspects of healthcare professionals can influence patient-provider relationships (Cleary & McNeil, 1988). Communication between patients and healthcare providers have been recently identified as predictors of patient satisfaction (Jackson, Chamberlin, & Kroenke, 2001; Joshi, McCormick, Sully, Garvan, & Plastaras, 2016; Heatley, Watson, Gallios, & Miller, 2015). Furthermore, in a study examining patient satisfaction with nursing care, Milutinovic (2009) found communication to be a prerequisite to patient satisfaction. In the field of perinatal care, Heatley et al. (2015) conducted a quantitative study examining how women's perceptions of communication during pregnancy and birth influenced participation and satisfaction with care. The authors surveyed 3531 women who had given birth in a two month period in Queensland, Australia. Results indicated that participation and

communication influenced perceptions of quality of care (Heatley et al., 2015). They also found personal confidence, client-centered communication, and communication about choices significantly influenced how they participated in their own labour and birth. Heatley et al. (2010) found that parity did not influence participation, although they did suggest that if women felt they had some influence on decision making, they were more likely to report receiving high quality of care. Client-centered communication with healthcare providers was found to strongly influence perceptions of quality of care, and therefore satisfaction with the care they received.

A number of initiatives and programs that have been provided to obstetrical healthcare providers at St. Boniface and the Women's hospital may influence strong patient-provider relationships. All nurses that work on a labour and delivery unit in the WRHA attend a full day workshop on supportive care in labour. This workshop is run by a midwife and a nurse, and staff from both sites attend the workshop together. In the workshops, staff learn how to support women during both labour and delivery. Another initiative that staff at both recruitment sites have had the opportunity to participate in over the past couple of years were interprofessional simulation sessions. Approximately 11 sessions were held over a one year period and included team members from many disciplines; each session focused on teamwork and communication during obstetrical emergencies. Similarly, at St. Boniface Hospital, members of the women and child program participated in the team STEPPS® program, "an evidence-based teamwork system aimed at optimizing patient care by improving communication and teamwork skills among healthcare professionals" (AHRQ, 2015, December 30). Finally, over the last eight years, nurses

at Women's hospital have received education on communication techniques, escalation protocols (who to call when you need more help) and "releasing time to care" (an educational initiative designed to put patients first and improve patient care and provider satisfaction). All of these education opportunities focus on putting patients first and involving patients as active members in the healthcare team. In a "patient friendly" culture, women of all body types and sizes may be treated the same by nurses and other healthcare providers within these two centers. These initiatives may have contributed to the high levels of satisfaction reported by participants in this study, and the lack of difference in satisfaction levels between weight groups.

Childbirth Experiences

Researchers have suggested that childbirth experiences encompass a women's perception of her childbirth and the treatment that was received during childbirth (Bramadat & Driedger, 1993; Green et al., 1990; Windridge & Berryman, 1999). A small amount of published literature was found examining obese women's perceptions of childbirth. The results from these studies differed slightly from the information found in this study, in which no difference in childbirth experiences were found between the two weight groups. Mulherin et al. (2013) identified some similar findings in their study investigating weight stigma in maternity care. These authors examined participants' perceived quality of treatment throughout their pregnancy and included quality of care provided, information and support provided, and health outcomes. Like the current study, Mulherin et al. (2010) found that differences in pre-pregnancy BMI did not impact either positive or negative perceptions of intrapartum treatment. Although these authors found that BMI was not associated

with women's perceptions of their intrapartum care, they did find some associations with perceptions of prenatal care and with care received during the postpartum period.

The Childbirth Experiences Questionnaire (Dencker et al., 2010) was developed to measure different dimensions of childbirth experiences. A factor analysis of data collected for this study identified four subscales similar to the original four CEQ subscales: factor 1 – professional support, factor 2 – perceived safety and control, factor – 3 participation, and factor 4 – own capacity. Similar to findings from our factor analysis, control, intrapartum support, and relationship with caregivers were identified by Larkin et al. (2009) as concepts related to childbirth experiences. Additionally, authors have found that care providers strongly influence women's perspectives of childbirth (Christiaens et al., 2008; Larkin et al., 2009; Nyman et al., 2010; Shafiei et al., 2012). Childbirth experiences with professional support, perceived safety and control, participation and own capacity did not differ between women with a normal pre-pregnancy weight and those with an obese pre-pregnancy weight. The lack of differences in childbirth experiences may suggest that obstetrical healthcare providers treat women the same regardless of their weight.

A small number of qualitative studies have been done to examine obese women's perspectives and experiences with intrapartum care. These studies contribute specific examples of obese women's experiences with perinatal care rather than just whether participants had a positive or negative experience. Nyman et al. (2010) found that obese women were at risk for feeling discriminated against and having feelings of receiving bad treatment. Women in Nyman's study reported feeling humiliation and discomfort when receiving both prenatal and intrapartum care; some also indicated

that when their care provider was not present they were concerned about what was being said about them. An instrument such as the CEQ may not be sensitive enough to pick up subtle differences in care. Merrill and Grassley (2008) suggest that relationships with healthcare providers influence women's positive and negative experiences with their care. Nyman et al. (2010) argue that positive encounters during the prenatal and intrapartum periods may alleviate discomfort and provide obese women with a sense of wellbeing. This would suggest that obese women may experience affirmative encounters during the intrapartum period.

Theoretical Framework

Baker's (1997) pragmatic model of patient satisfaction was used to guide this study. While some concepts were examined in this study, others were used to select a tool to measure satisfaction with intrapartum care. Baker (1997) describes satisfaction as a multidimensional concept and suggests that it is important to consider what is important to the clinical group that is being studied, because "in different clinical settings, different elements of care may be more or less important" (p. 202). When examining the literature for this current study, it was apparent that perceived control (Callister, Holt, & Kuhre, 2010; Christiaens & Bracke, 2007), active decision making (Spaich et al., 2013), and pain management (Haines et al., 2013) influenced perceptions of care during labour and delivery. Understanding the determinants of satisfaction with intrapartum care helped determine an appropriate measurement tool.

Baker (1997) indicated that patient satisfaction is an attitude and a continuous variable. This study did not test if satisfaction was an attitude. However, the findings

demonstrated that satisfaction with intrapartum care was a continuous variable. Response choices on the COMFORTS scale varied, resulting in a range of scores, and some differences in satisfaction scores were seen between groups. Finally, Baker's (1997) pragmatic model of patient satisfaction suggests that some groups of patients may evaluate care differently than other groups of patients. In this study, satisfaction with intrapartum care was found to be negatively associated with weight discrimination during labour and delivery. In addition, both perceived safety and control and participation were found to be positively associated with satisfaction.

The model suggests that patient characteristics, such as age, expectations, or past experiences, may influence patient satisfaction (Baker, 1997). Findings from this study support this feature of the model. Although expectations and past experiences were not measured in this study, other patient characteristics were. Unlike Baker's (1997) finding, age, years of education, induction of labour, and pregnancy risk were not found to be associated with satisfaction with intrapartum care in the final regression model. However, there were differences in satisfaction with intrapartum care whether a patient experienced discrimination during labour and delivery or not.

Study Limitations

This study has a number of limitations. The use of a nonprobability sampling method makes it less likely to find accurate representation of the population being examined. Although the high levels of satisfaction with intrapartum care found in this study are consistent with other studies found in the literature, it is possible that women who were dissatisfied may have chosen not to participate in the study. The use of a cross sectional study design is "appropriate for describing the status of

phenomena or for describing relationships among phenomena at a fixed point in time” (Polit & Beck, 2008). When using a cross sectional design, it is difficult to determine cause and effect. Additionally, one is unable to determine which variable influenced which. Finally, the results cannot be generalized to groups of women excluded from the study including (but not limited to) multiparous women, women undergoing elective caesarean birth, women having a preterm birth, and women labouring and delivering on an LDRP unit. Future studies should include these groups in order to understand all women’s perspectives.

Using a quantitative research design may overestimate satisfaction with intrapartum care (Bramadat & Driedger, 1993; Green et al., 1988). Some authors feel that qualitative interviews provide researchers with the ability to pick up some of the negative perceptions women have in regards to negative childbirth experiences; something quantitative questionnaires may be unable to do (Britton, 2012).

Many authors argue that expectations are an important determinant of patient satisfaction (Linder-Pelz, 1982a, 1982b; Thompson & Sunol, 1995). Thompson and Sunol (1995) suggest that expectations can change over time, while Christiaens and Bracke (2007) suggest that fulfillment of one’s expectations could influence satisfaction. Expectations and behavioural compliance were two elements in Barker’s (1997) pragmatic model of patient satisfaction which would require a longitudinal study to examine. Due to time constraints of this study this was not possible; this is an area that requires more research.

Another limitation in this study was the use of the women’s weight recorded at their first prenatal visit (in the first trimester) as a proxy for pre-pregnancy weight

in the first 28 participants. The first trimester includes the first 12 weeks of pregnancy, which could create inaccuracies in determining pre-pregnancy BMI, because weights measured at the first visit held later in pregnancy (e.g., 12 weeks) might be higher than those measured earlier in pregnancy (e.g., 6 weeks). However, in most cases the weight gain in the first trimester is fairly small, around 0.5 – 2 kg (Murray and Mckinney, 2010). As indicated, a very small number of women were recruited using weight recorded in the first trimester because it was often not documented on the prenatal record. Therefore self-reported pre-pregnancy weights were used for the remaining 113 participants. Studies have found that women, particularly in higher BMI categories, tended to underestimate their weight (Shields et al., 2008). These authors found that obesity rates were 7.4% higher when based on measured weights compared to self-reported data. Therefore self-reported pre-pregnancy weights may be under underestimated and could have affected the BMI groupings of the participants causing BMIs to be lower. However, underweight and overweight BMI groups were excluded from this study so if a participant BMI grouping was lower than their actual grouping they would have been excluded from the study.

Health Canada (2003) identified the following weight categories based on BMI: normal weight: BMI between 18.5 and 24.9 kg/m², overweight: BMI between 25.0 and 29.9 kg/m², obese: BMI greater than or equal to 30.0 kg/m². BMI's in the obese category are further classified and obese class I: BMI 30.0 to 34.9 kg/m², obese class II: BMI 35.0 to 39.9 kg/m², or obese class III: BMI greater than or equal to 40.0 kg/m². In this study, participants with a pre-pregnancy BMI greater than or equal

to 30.0 kg/m^2 were classified as obese; BMI's in this group were not further differentiated into obese class I, obese class II, or obese class III. Therefore any potential differences in perceptions of weight discrimination between these groups were not identified. Additionally, the impact of gestational weight gain and perceptions of weight discrimination cannot be determined in this study as weight gain during pregnancy was not measured.

Timing of the administration of the questionnaires created a potential limitation to this study. Hodnett (2002) suggests that the purpose of the study may influence the impact timing has on satisfaction. Additionally, Bramadat and Driedger (1993) and Hodnett (2002) suggest that increased levels of satisfaction with intrapartum care may be seen in the immediate postpartum period. This could be due to a reluctance to criticize caregivers while still under their care (Sullivan, & Beeman, 1982) or the halo effect (Hodnett, 2002). Although some researchers have found there to be no difference between satisfaction in the immediate postpartum period and 4 - 6 weeks later (Lomas et al., 1987), this does pose a potential limitation.

Perceived discrimination based on weight, not race, was examined in this study. Some differences in racial background were found between the two weight groups; therefore not controlling for racial discrimination may be a possible limitation to this study. Additionally, in order to gain a better understanding of perceived weight discrimination, interactions between racial discrimination and weight discrimination could have been examined.

Implications for Nursing Practice

This study is one of few studies to date that has examined the influence pre-pregnancy body weight has on childbirth experiences and the only one found to date that compares satisfaction with intrapartum care among different weight groups. Satisfaction with intrapartum care and childbirth experiences was found to be similar in both weight groups examined. However, women with an obese pre-pregnancy BMI were more likely to experience weight discrimination during their lifetime including while getting medical care and during labour and delivery. Weight discrimination during labour and delivery, professional support, and perceived safety were found to significantly influence women's satisfaction with intrapartum care. The findings from this study may be useful in assisting nurses with providing care to women of all body sizes.

Patient-provider relationships have been found to influence women's perceptions of the care they receive. During labour and delivery, positive relationships could lead to women feeling safe and in control of their care, which in turn will lead to increased feelings of satisfaction. Supportive care in labour courses for obstetrical nurses that focus on comfort measures, emotional support, labour and delivery information, and advocacy have been developed in Winnipeg. Nurses are given the knowledge to support and empower women during the intrapartum period. However, curriculum for the workshop does not differentiate intrapartum care for women of different pre-pregnancy weights. While this may explain why all women may be treated the same while in labour and delivery, it is important for nurses to understand how to support obese women during labour and delivery and ensure

they maintain positive childbirth experiences. It is also important to address the role discrimination and stigma has on satisfaction with intrapartum care within the supportive care in labour workshops.

Satisfaction with intrapartum care has been found to be influenced by both perceived control and professional support. Green et al. (1990) found that a women's sense of control could be influenced by relationships formed with caregivers.

Knowledge and understanding can make providers more comfortable with talking to obese women during their labour and delivery. Educational programs in obstetrics should continue to focus on improving communication with patients and other healthcare providers. Effective communication has been found to improve healthcare provider-patient relationships in obstetrics by providing women with a sense of personal control (Heatley et al., 2015). Additionally, orientation for labour and delivery nurses should include information on obesity in pregnancy. With this knowledge, providers can advocate better for their patients and have the ability to anticipate the needs of all women regardless of their weight. Finally, it is recommended that simulations which occur on the units and during education days should include scenarios that obese women face so healthcare providers can ensure that resources and facilities meet the needs of all of their patients.

Findings from this study suggest that obese women are still more likely to experience discrimination while getting medical care and/or during labour and delivery than normal weight women. Women who have perceived this feeling of weight discrimination may be less satisfied with intrapartum care than those who did not face this discrimination. A conceptual framework for obesity stigma as a

determinant of poor birth outcomes by DeJoy and Bittner (2015) demonstrates how stigma could influence birth. They suggest that stigma in medical settings could lead to overuse of interventions and increase stress on patients. This in turn may lead to preterm birth, macrosomia, and unhealthy coping strategies, all of which could lead to maternal and infant morbidity (DeJoy & Bittner, 2015). This information should be included in educational programs offered to obstetrical nurses so they have a complete understanding of the needs of their obese patients. Nurses who are aware that obese women have reported feelings of discrimination during labour and delivery may be more sensitive to their how their actions and behaviours may be perceived by patients. This awareness may help to ensure nurses provide the same care to all women regardless of their weight. Administrators can create environments to support equal care to women of different body types. This can be done by ensuring availability of the appropriate resources, such as trained nursing and support staff, and equipment, such as appropriate sized bed, blood pressure cuffs, fetal monitors, and gowns. Although findings from this study suggest that healthcare providers are treating normal weight and obese weight women the same, findings of perceived discrimination during labour and delivery suggest there is some room for improvement. To fully understand how nursing can influence change and improve patient experiences, more information is needed regarding why some individuals feel they were discriminated against. This is an area for future research.

Pregnant women are often motivated to make positive lifestyle changes during their pregnancy. Programs developed to assist obese pregnant women in the prenatal period may influence their intrapartum expectations and thus influence childbirth

experiences. An example of one such program is the “MY” clinic at the London Health Sciences center in London Ontario (S. Parker, personal communication, January, 2014). This clinic focuses on obesity in pregnancy and provides specialized care to women with a pre-pregnancy BMI greater than or equal to 35 kg/m^2 . Women are offered a number of services that include, but are not limited to, nutritional counseling, high risk pregnancy management, anaesthesia consults, group education sessions, and access to lifestyle changes programs. Programs like the “MY” clinic in London may allow healthcare providers to build strong relationships with their patients. Lavender and Smith (2015) suggest that some obese pregnant women may be unaware of the risks that can be associated with increased weight and therefore may believe they are having a “normal” pregnancy. Taking time in the prenatal period to communicate risks that are common in obese pregnancies provide obese women with an better understanding of what may be expected during their labour and delivery. This may also help prevent women from feeling discriminated against based on their weight because they will have expectations that are more similar to the potential care they receive. Developing a program similar to the “MY” clinic here in Winnipeg may fill a gap within the current Women’s Health program and may improve care for obese pregnant women.

With the growing rate of obesity in the general Canadian population, as well as the pregnancy population, research on body weight and healthcare will be essential to ensure equal care to all. Obesity research in maternity care will be very difficult without accurate documentation of women’s pre-pregnancy BMI and weight gain during pregnancy. The high proportion of missing data on pre-pregnancy weight

and/or weights at first prenatal visits on prenatal health records suggests providers may not perceive this information is valuable to their patients' care. It is important to emphasize to obstetrical care providers the importance of documenting this data, not only for potential research but also as a starting point for prenatal care and education.

Recommendations for Future Research

Expectations have been identified as one of the key determinants of women's satisfaction with intrapartum care (Goodman et al., 2004; Christiaens et al., 2008). Currently, no evidence has been found regarding if expectations of childbirth differ among women of different weights. Furthermore, no studies have been found that examine how obese women's expectations influence satisfaction with intrapartum care. A prospective longitudinal study is needed to determine the relationship of childbirth expectations and satisfaction with intrapartum care between different weight groups. Expectations ideally would be measured at the beginning of the prenatal period. It may also be important to determine if expectations change during the prenatal period and what factors influence such changes.

Discrimination related to weight was measured in this study, but racial discrimination was not assessed. Future studies should include both measures of perceived racial discrimination and weight discrimination. This will help researchers explore any interactions between the two forms of discrimination and how this could influence satisfaction with intrapartum care.

Due to the lack of qualitative studies exploring how obesity impacts pregnancy experiences and perceptions of care, additional qualitative research is needed. A qualitative study examining obese women's experiences with childbirth

expectations, intrapartum care, and weight discrimination during their pregnancy may add important information to the small but growing body of research examining the effects of obesity in the obstetrical population. Additionally, qualitative research exploring healthcare provider's perceptions and experiences with discrimination related to weight may assist in developing programs that are more suited to the needs of this population of women.

Researchers have conducted some studies which examined satisfaction with prenatal care among the obese population (Levine et al., 2013). Few of these studies compared satisfaction of prenatal care of obese women to women those with a normal weight women. To date no Canadian studies were found. Research into how pre-pregnancy weight influences satisfaction with prenatal care is needed to ensure women are provided the best care throughout their pregnancy. It would also be beneficial to examine if there are any differences in satisfaction with postpartum care between different BMI groups.

Professional support was found to strongly influence satisfaction with intrapartum care. A study done in the postpartum period looking retrospectively at what aspects of intrapartum nursing care may contribute to positive views of professional support would assist nurses in optimizing patient care. Understanding what areas of intrapartum care can help create positive experiences for women can help nurses focus on ways to build stronger patient-nurse relationships, in turn ensuring women are satisfied with the care they receive.

Conclusion

As the obesity epidemic continues to grow in the general public as well as in the obstetrical population, obstetrical healthcare providers must be prepared to care for these women with their unique needs. Information gathered from this study indicates that even though no significant differences in satisfaction with intrapartum care or childbirth experiences were found between normal weight and obese weight women, obese women were more likely to experience weight discrimination during labour and delivery. Weight discrimination, along with professional support and perceived control and safety, were found to be significant predictors of satisfaction with intrapartum care. The information gathered from this study has implications for improving practice and will inform researchers and guide future research in this area.

References

- Agency for Healthcare research and Quality (2015, December 30). TeamSTEPPS®: strategies and tools to enhance performance and patient safety. Retrieved from <http://www.ahrq.gov/professionals/education/curriculum-tools/teamstepps/index.html>
- Alexander, G. R., & Kotelchuck, M. (2001). Assessing the role and effectiveness of prenatal care: history, challenges, and directions for future research. *Public Health Reports*, 116, 306-316.
- Amy, N. K., Aalborg, A., Lyons, P., & Keranen, L. (2006). Barriers to routine gynaecological cancer screening for white and African-American obese women. *International Journal of Obstetrics*, 30(1), 147-155.
- Anderson, R. E. (1973). Consumer dissatisfaction: the effect of disconfirmed expectancy on perceived product performance. *Journal of Marketing Research*, Feb, 38-44.
- Arendas, K., Qiu, Q., Gruslin, A. (2008). Obesity in pregnancy: pre-conceptional to postpartum consequences. *Journal of Obstetrics and Gynaecology Canada*, 30(6), 477-488.
- Ayalon, L., & Gum, A. M. (2011). The relationships between major lifetime discrimination, everyday discrimination, and mental health in three racial and

ethnic groups of older adults. *Aging & Mental Health*, 15(5), 587-594.

doi:10.1080/13607863.2010.543664

Baker, R. (1997). Pragmatic model of patient satisfaction in general practice: progress towards a theory. *Quality in Health Care*, 6, 201-204.

Benbow, S., Forchuk, C., & Ray, S. L. (2011). Mothers with mental illness experiencing homelessness: A critical analysis. *Journal of Psychiatric and Mental Health Nursing*, 18(8), 687-695. doi: 10.1111/j.1365-2850.2011.01720.x

Bergqvist, L., Dencker, A., Taft, C., Lilja, H., Ladfors, L., Skaring-Torsen, L., & Berg, M. (2012). Women's experiences after early versus postponed oxytocin treatment of slow progress in first childbirth – a randomized controlled trial. *In press: Sexual and Reproductive Healthcare*.

Bibeau, A. M. (2014). Interventions during labour and birth in the United States: a qualitative analysis of women's experiences. *Sexual and Reproductive Healthcare*, 5, 167-173.

Bird, S. T., Bogart, L. M., & Delahanty, D. L. (2004). Health-related correlates of perceived discrimination in HIV care. *AIDS Patient care STDS*, 18(1), 19-26.

Bodnar, L. M., Siega-Riz, A. M., Simhan, H. N., Himes, K. P., & Abrams, B. (2010). Severe obesity, gestational weight gain, and adverse outcomes. *American Journal of Clinical Nutrition*, 91(6), 1642-1648.

- Bramadat, I. J. & Driedger, M. (1993). Satisfaction with childbirth: theories and methods of measurement. *BIRTH*, 20(1), 22-29.
- Brennand, E., Dannenbaum, D., & Willows, N. (2005). Pregnancy outcomes of First Nations women in relation to pregravid weight and pregnancy weight gain. *Journal of Obstetrics and Gynecology*, 27(10), 936-44.
- Britton, J. R. (2012). The assessment of satisfaction with care in the perinatal period. *Journal of Psychosomatic Obstetrics & Gynecology*, 33(2), 37-44. doi: 10.3109/0167482X.2012.658464
- Brown, S., & Lumley, J. (1994). Satisfaction with care in labor and birth: a survey of 790 Australian women. *BIRTH*, 21(1), 4-13.
- Callister, L. C., Holt, S. H., & Kuhre, M. W. (2010). Giving birth: the voices of Australian women. *Journal of Perinatal and Neonatal Nursing*, 24(2), 129-136. doi: 10.1097/JPN.0b013e3181cf0429.
- Carr, D., & Friedman, M. A. (2005). Is obesity stigmatizing? Body weight, perceived discrimination, and psychological well-being in the United States. *Journal of Health and Social Behavior*, 46(3), 244-259.
- Chalmers, B., Dzakpasu, S., Heaman, M., & Kaczorowski, J. for the Maternity Experiences Study Group of the Canadian Perinatal Surveillance System, Public Health Agency of Canada. (2008). The Canadian Maternity

Experiences Survey: An overview of findings. *Journal of Obstetrics and Gynaecology Canada*, 30(3), 217-228.

Chan, L., Receveur, O., Sharp, D., Schwartz, H., Ing, A., Fediuk, K., . . . Tikhonov, C. (2012). First Nations food, nutrition and environmental study (FNFNES); results from Manitoba. *Prince George: University of Northern British Columbia*. Print.

Chen, Y., Rennie, D. C., Karunanayake, C. P., Janzen, B., Hagel, L., Pickett, W., . . . the Saskatchewan Rural Health Study Group. (2015). Income adequacy and education associated with the prevalence of obesity in rural Saskatchewan, Canada. *BMC Public Health*, 15(700), 1-7. doi: 10.1186/s12889-015-2006-9

Childbirth. (n.d.). In Merriam-Webster's online dictionary. Retrieved from <http://www.merriam-webster.com/medical/childbirth>

Christiaens, W., & Bracke, P. (2007). Assessment of social psychological determinants of satisfaction with childbirth in a cross-national perspective. *BMC Pregnancy and Childbirth*, 7(26), 1-12. doi: 10.1186/1471-2393-7-26

Christiaens, W., Verhaeghe, M., & Bracke, P. (2008). Childbirth expectations and experiences in Belgian and Dutch models of maternity care. *Journal of Reproductive and Infant Psychology*, 26(4), 309-322. doi: 10.1080/02646830802350872

Chu, S. Y., Bachman, D. J., Callaghan, W. M., Whitlock, E. P., Dietz, P. M., Berg, C. J., . . . Hornbrook, M. C. (2008). Association between obesity during pregnancy

and increased used of health care. *The New England Journal of Medicine*, 358, 1444-1453. doi: 10.1056/NEJMoa0706786

Cleary, P. D. & McNeil, B. J. (1988). Patient satisfaction as an indicator of quality care. *Inquiry*, 25, 25-36.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.) New Jersey: Lawrence Erlbaum Associates.

Coopland, A. T., Peddle, L. J., Baskett, T. F., Rollwagen, R., Simpson, A., & Parker, E. (1977). A simplified antepartum high-risk pregnancy scoring form: statistical analysis of 5,459 cases. *Canadian Medical Association Journal*, 116, 999-1001.

Crane, J. M., White, J., Murphy, P., Burrage, L., & Hutchens, D. (2009). The effect of gestational weight gain by body mass index on maternal and neonatal outcomes. *Journal of Obstetrics and Gynaecology Canada*, 31(1), 28-35.

Davies, G. A. L., Maxwell, C., & McLeod, L. (2010). Obesity in pregnancy. *Journal of Obstetrics and Gynaecology Canada*, 239, 165-172.

Declarcq, E. R., Sakala, C., Corry, M. P., & Applebaum, S. (2007). Listening to mothers II: report of the second national U.S. survey of women's childbearing experiences. *Journal of Perinatal Education*, 16(4), 15-17.

DeJoy, S. B., & Bittner, K. (2015). Obesity stigma as a determinant of poor birth outcomes in women with high BMI: a conceptual framework. *Maternal Child Health Journal*, 19, 693-699. doi: 10.1007/s10995-014-1577-x

- Dencker, A., Taft, C., Bergqvist, L., Lilja, H., & Berg, M. (2010). Childbirth experience questionnaire (CEQ): development and evaluation of a multidimensional instrument. *BMC Pregnancy and Childbirth*, 10(81) 1-8.
- Driedger, M. (1991). Postpartum women's perceptions of satisfaction with childbirth. *Unpublished Master's degree thesis*. University of Manitoba, Winnipeg, Canada.
- Drury, C. A. A., & Louis, M. (2002). Exploring the association between body weight, stigma of obesity, and health care avoidance. *Journal of the American Academy of Nurse practitioners*, 14(12), 554-561. doi: 10.1111/j.1745-7599.2002.tb00089.x
- Dzakpasu, S., Fahey, J., Kirby, R., Tough, S., Chalmers, B., Heaman, M., . . . McDonald, S.D., for the Canadian Perinatal Surveillance System of the Public Health Agency of Canada. (2014). Contribution of prepregnancy body mass index and gestational weight gain to caesarean birth in Canada. *BMC Pregnancy and Childbirth*. 2014, 14:106. doi: 10.1186/1471-2393-14-106.
- Experiences. (n.d.). In Merriam-Webster's online dictionary. Retrieved from <http://www.merriam-webster.com/dictionary/experience>
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Don Mills, ON: Addison-Wesley Publishing Company.

- Forsetlund, L., Bjorndal, A., Rashidian, A., Jamtvedt, G., O'Brien, M., Wolf, F. M., . . . Oxman, A. D. (2009). Continuing education meetings and workshops: effects on professional practice and health care outcomes. *The Cochrane Library*, doi: 10.1002/14651858.CD003030.pub2
- Fox, P., & Yamaguchi, C. (1997). Body image change in pregnancy: a comparison of normal weight and overweight primigravidas. *BIRTH*, 24(1), 35-40.
- Frederick, M. (Ed.). (2003). *Merriam Webster's dictionary* (11th ed.). Springfield, MA: Merriam-Webster Incorporated.
- Furber, C. M., & McGowan, L. (2011). A qualitative study of the experiences of women who are obese and pregnant in the UK. *Midwifery*, 27, 437-444. doi: 10.1016/j.midw.2010.04.001
- Furness, P. J., McSeveny, K., Arden, M.A., Garland, C., Dearden, A. M., & Soltani, H. (2011). Maternal obesity support serviced: a qualitative study of the perspectives of women and midwives. *BMC Pregnancy and Childbirth*, 11(69), 1-11.
- Gamble, J., Creedy, D. K., & Teakle, B. (2007). Women's expectations of maternity services: a community-based survey. *Women Birth*, 20(3), 115-130.
- Garriguet, D. (2008). Obesity and the eating habits of the Aboriginal population. *Health Reports / Statistics Canada*. 19(1), 21-35.

- Gill, L. & White, L. (2009). A critical review of patient satisfaction. *Leadership in Health Services*, 22(1), 8-19. doi: 1000.1108/17511870910927994
- Goodman, P., Mackey, M.C., & Tavakoli, A.S. (2003). Factors related to childbirth satisfaction. *Issues and Innovations in Nursing Practice*, 46(2), 212-219. doi: 10.1111/j.1365-2648.2003.02981.x
- Gottvall, K., & Waldenstrom U. (2002). Does a traumatic birth experience have an impact on future reproduction? *British Journal of Obstetrics and Gynaecology*, 109, 254-260.
- Green, J.M., Coupland, V.A., & Kitzinger, J.V. (1990). Expectations, experiences, and psychological outcomes of childbirth: a prospective study of 825 women. *BIRTH*. 17(1), 15-24.
- Graves, B. W., DeJoy, S. A., Heath, A., & Pekow, P. (2006). Maternal baby mass index, delivery route, and induction of labour in midwifery caseload. *Journal of Midwifery and Women's Health*, 51(4), 254-259. doi: 10.1016/j.jmwh.2005.11.008
- Gregory, P. (2013). Factors related to women's experiences and satisfaction with prenatal care (Unpublished doctoral dissertation). University of Manitoba, Winnipeg, Manitoba.

- Gungor, I. & Beji, N. K. (2012). Development and psychometric testing of the scales for measuring maternal satisfaction in normal and caesarean birth. *Midwifery*, 28, 348-357. doi: 10.1016/j.midw.2011.03.009
- Hajizadeh, M., Campbell, M. K., & Sarma, S. (2014). Socioeconomic inequalities in adult obesity risk in Canada: trends and decomposition analyses. *European Journal of Health Economics*, 15, 203-221.
- Hansson, L. M., Näslund, E., & Rasmussen, F. (2010). Perceived discrimination among men and women with normal weight and obesity. A population-based study from Sweden. *Scandinavian Journal of Public Health*, 38(6), 587-596. doi:10.1177/1403494810372266
- Haines, H. M., Hildingsson, I., Pallant, J. F., & Rubertsson, C. (2013). The role of women's attitudinal profiles in satisfaction with the quality of their antenatal and intrapartum care. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 42, 428-441. doi: 10.1111/1552-6909.12221
- Harvey, S., Rach, D., Stainton, M. C., Jarrell, J., & Brant, R. (2002). Evaluation of satisfaction with midwifery care. *Midwifery*, 18, 260-267. doi: 10.1054/midw.2002.0317
- Heaman, M., Kingston, D., Helewa, M.E., Brownell, M., Derksen, S., Bogdanovic, B., McGowan, K.L., & Bailly, A. (2012). *Perinatal Services and Outcomes in Manitoba*. Winnipeg, MB: Manitoba Centre for Health Policy.

Health Canada. (2003). Canadian guidelines for body weight classification in adults.

Ottawa: Health Canada, Catalogue H49-179.

Health Canada. (2011). Adult obesity prevalence in Canada and the United States.

Ottawa: Health Canada. 82-625-X.

Heatley, M. L., Watson, B., Gallois, C., & Miller, Y. D. (2015). Women's perceptions of communication in pregnancy and childbirth: influences on participation and satisfaction with care. *Journal of Health Communication, 20*, 827-834. doi: 10.1080/10810730.2015.1018587

Hermann, M., Le Ray, C., Blondel, B., Goffinet, F., & Zeitlin, J. (2015). The risk of prelabour and intrapartum cesarean delivery among overweight and obese women: possible preventive actions. *American Journal of Obstetrics and Gynecology, 212*, 241.e1-9.

Heslehurst, N., Lang, R., Rankin, J., Wilkinson, J. R., & Summerbell, C. D. (2007). Obesity in pregnancy: a study of the impact of maternal obesity on NHS maternity services. *BJOG: An International Journal of Obstetrics and Gynaecology, 114*(3), 334-342. doi: 10.1111/j.1471-0528.2006.1230.c

Heslehurst, N., Moore, H., Rankin, J., Ells, L. J., Wilkinson, J. R., & Summerbell, C.D. (2011). How can maternity services be developed to effectively address maternal obesity? A qualitative study. *Midwifery, 27*, e170-e177. doi: 10.1016/j.midw.2010.01.007

- Hildingsson, I. & Thomas, J. (2012). Perinatal outcomes and satisfaction with care in women with high body mass index. *Journal of Midwifery and Women's Health*, 57, 336-344. doi: 10.1111/j.1542-2011.2011.00141.x
- Hodnett, E. D. (2002). Pain and satisfaction with the experience of childbirth: a systematic review. *American Journal of Obstetrics and Gynecology*, 186(5), 1-23. doi: 10.1067/mob.2002.121141
- Hundley, V., Ryan, M., & Graham, W. (2001). Assessing women's preferences for intrapartum care. *BIRTH*, 28(4), 254-262.
- Intrapartum Period. (n.d.) In mediLexicon. Retrieved from <http://www.medilexicon.com/medicaldictionary.php?t=67122>
- Ivanov, & Flynn (1999). Utilization and satisfaction with prenatal care services. *Western Journal of Nursing Research*, 21(3), 372-386.
- Jackson, J. L., Chamberlin, J., & Kroenke, K. (2001). Predictors of patient satisfaction. *Social Science and Medicine*, 52, 609-620.
- Janssen, P. A., Carty, E. A., & Reime, B. (2006). Satisfaction with planned place of birth among midwifery clients in British Columbia. *Journal of Midwifery & Women's Health*, 51(2), 91-97. doi: 10.1016/j.jmwh.2005.10.012
- Janssen, P. A., Dennis, C., & Reime, B. (2006). Development and psychometric testing of the care in obstetrics: Measure for testing satisfaction (COMFORTS) scale. *Research in Nursing and Health*, 29(1), 51-60. doi:10.1002/nur.20112

Joshi, A. B., McCormick, Z. L., Sully, K., Garvan, C. & Plataras, C. T. (2016).

Factors that predict satisfaction with medical care: data from 27,212 injured workers surveyed for 14 years. *Journal of occupational and environmental medicine*, 58(1), 101-107. doi: 10.1097/JOM.0000000000000578

Kaminsky, J. & Gadaleta, D. (2002). A study of discrimination within the medical

community as viewed by obese patients. *Obstetrical Surgery*, 12(1), 14-18.

Karlstrom, A., Nystedt, A., & Hildingsson, I. (2015). The meaning of a very positive

birth experience: focus groups discussions with women. *Pregnancy and Childbirth*, 15(251), 1-8. doi: 10.1186/s12884-015-0683-0

Kessler, R. C., Mickelson, K. D., & Williams, D. R. (1999). The prevalence,

distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*, 40(3), 208-230.

Khatibi, A., Brantsaeter, A., Sengpiel, V., Kacerovsky, M., Magnus, P., Morken, N.,

Myhre, R., Gunnes, N., & Jacobsson, B. (2012). Pregnancy maternal body mass index and preterm delivery. *American Journal of Obstetrics and Gynecology*, 207, 212.e1-212.e7. doi: 10.1016/j.ajog.2012.06.002

Kim, S. S., & Williams, D. R. (2012). Perceived discrimination and self-rated health

in South Korea: a nationally representative survey. *PLoS ONE*, 7(1), e30501-e30501.

- Kraminsky, J., & Gadaleta, D. (2002). A study of discrimination within the medical community as viewed by obese patients. *Obesity Surgery*, 12, 14-18.
- Krieger, N., Smith, K., Naishadham, D., Hartman, C., & Barbeau, E.M. (2005). Experiences or discrimination: validity and reliability of a self-report measure for population health research on racism and health. *Social Sciences Medicine*. 61, 1576-1596.
- Kuo, S., Lin, K., Hsu, C., Yang, C., Chang, M., Tsao, C. & Lin, L. (2009). Evaluation of the effects of a birth plan on Taiwanese women's childbirth experiences, control and expectations fulfilment: a randomised control trial. *International Journal of Nursing Studies*, doi: 10.11016/j.inurstu.2009.11.012
- LaCoursiere, D. Y., Baksh, L., Bloebaum, L., & Varner, M. W. (2006). Maternal body mass index and self-reported postpartum depressive symptoms. *Maternal and Child Health Journal*, 10(4), 385-390. doi: 10.1007/s10995-006-0137-4
- Lavender, T., & Smith, D. M. (2015). Seeing it through their eyes: a qualitative study of experiences of women with a body mass index of 30 or more. *Health Expectations*, 1-12. doi: 10.1111/hex.12339
- Larkin, P., Begley, C. M., & Devane, D. (2009). Women's experiences of labour and birth: an evolutionary concept analysis. *Midwifery*, 25, e49-e59. doi: 10.1016/j.midw.2007.07.010

Latner, J. D., Barlie, J. P., Durso, L. E., & O'Brien, K. S. (2014). Weight and health-related quality of life: the moderating role of weight discrimination and internalized weight bias. *Eating Behaviors*, 15, 586-590.

Levine, L. D., Landsberger, E. J., Bernstein, P. S., Chazotte, C., & Srinivas, S. K. (2013). Is obesity an independent barrier to obtaining prenatal care? *American Journal of Perinatology*, 30, 401-406. doi: 10.1055/s-0032-1326984

Linder-Pelz, S. (1982a). Towards a theory of patient satisfaction. *Social Science Medicine*, 16, 577-582.

Linder-Pelz, S. (1982b). Social psychological determinants of patient satisfaction: a test of five hypotheses. *Medicine*, 16, 583-589.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, 27, 363-385.

Link, B. G., & Phelan, J. C. (2006). Stigma and its public health implications. *Lancet*, 367(9509), 528-529.

Lix, L., Bruce, S., Sarkar, J., and Young, T. K. (2009). Risk factors and chronic conditions among Aboriginal and non-Aboriginal populations. *Health Reports*, 20(4), 51-60.

Lomas, J., Dore, S., Enkin, M., & Mitchell, A. (1987). The labor and delivery satisfaction index: the development and evaluation of a soft outcome measure. *BIRTH*, 14(3), 125-129.

- Lopez-Cevalos, D.F., Harvey, S. M., & Warren, J. T. (2014). Medical mistrust, perceived discrimination, and satisfaction with health care among young-adult rural Latinos. *Journal of Rural Health, 30*(4), 344-351. doi: 10.1111/jrh.12063
- Luo, Z. C., Wilkins, R., Heaman, M., Smylie, J., Hart, L., Wassimi, S., Simonet, F., Wu, Y., & Fraser, W. D. (2010). Neighbourhood socioeconomic characteristics, birth outcomes and infant mortality among First Nations and non-First Nations in Manitoba, Canada. *Open Women's Health Journal, 4*, 55-61.
- Maggioni, C., Margola, D, & Filippi, F. (2006). PTSD, risk factors, and expectations among women having a baby: a two wave longitudinal study. *Journal of Psychosomatic Obstetrics and Gynecology, 27*(2), 81-90. doi: 10.1080/01674820600712875
- Magriples, U., Kershaw, T. S., Rising, S. S., Westdahl, C., & Ickovics, J. R. (2009). The effects of obesity and weight gain in young women on obstetric outcomes. *American Journal of Perinatology, 26*(5), 365-371.
- Manitoba Health. (2012). *Personal health information act*. Retrieved from <http://web2.gov.mb.ca/laws/statutes/ccsm/p033-5e.php>
- Marshall, N. E., Guild, C., Cheng, Y. W., Caughey, A. B., & Halloran, D. R. (2012). Maternal superobesity and perinatal outcomes. *American Journal of Obstetrics and Gynecology, 206*, 417.e1-417.e6. doi: 10.1016/j.ajog.2012.02.037

- McCrea, B. H., & Wright, M. E. (1999). Satisfaction in childbirth and perceptions of personal control in pain relief during labour. *Journal of Advanced Nursing*, 29(4), 877-884.
- Merrill, E., & Grassley, J. (2008). Women's stories of their experiences as overweight patients. *Journal of Advanced Nursing*, 56(5), 472-479.
- Milutinovic, D., Brestovacki, B., & Martinov-Cvejin, M. (2009). Patients' satisfaction with nursing care as an indicator of quality of hospital service. *HealthMED*, 3(4), 412-419.
- Mission, J. F., Marshall, N. E., & Caughey, A. B. (2013). Obesity in pregnancy: a big problem and getting bigger. *Obstetrical and Gynecological Survey*, 15, 389-399.
- Morin, K. H., & Reilly, L. (2007). Caring for obese pregnant women. *JOGNN – Journal of Obstetrics, Gynecology, and Neonatal Nursing*, 36(5), 482-489. doi: 10.1111/j/1552-6909.2007.00182.x
- Mulherin, K., Miller, Y. D., Barlow, F. K., Diedrichs, P. C., & Thompson, R. (2013). Weight stigma in maternity care: women's experiences and care providers' attitudes. *BMC Pregnancy and Childbirth*, 13(19), 1-13.
- Murray, I. & Kobayashi, L. (1996). Obstetrical patient satisfaction. *Journal of Health Care Marketing*, 16(3), 54-57.
- Murray, S., & McKinney, E. (2010). Foundations of maternal-newborn and women's health nursing. (5th ed.). Saunders Elsevier.

- Myers, A., & Rosen, J. C. (1999). Obesity stigmatization and coping relation to mental health symptoms, body image, and self-esteem. *International Journal of Obesity*, 23(3), 221-230.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. (3rd ed.) New York, N.Y.: McGraw-Hill.
- Nyman, V. M. K., Prebensen, A. K., & Flemsner, G. E. M. (2010). Obese women`s experiences of encounters with midwives and physicians during pregnancy and childbirth. *Midwifery*, 26, 424-429. doi: 10.1016/j.midw.2008.10.008
- Oliver, R. L. (1993). Cognitive, affective, and attribute bases of satisfaction response. *Journal of Consumer Research*, 20(3), 418-430.
- Oliveira, A. P., Kalra, S., Wahi, G., McDonald, S., Desai, D., Wilson, J., . . . Anand, S.S. (2013). Maternal and newborn health profile in a First Nations community in Canada. *Journal of Obstetrics and Gynecology of Canada*, 905-913.
- Olson, C. L., Schumaker, H. D., & Yawn, B. P. (1994). Overweight women delay medical care. *Archives of Family Medicine*, 3(10), 888-892.
- Oweis, A. (2009). Jordanian mother`s report of their childbirth experience: findings from a questionnaire survey. *International Journal of Nursing Practice*, 15, 525-533. doi: 10.1111/j.1440-172X.2009.01774.x
- Pallant, J. (2013). *SPSS survival manual: a step by step guide to data analysis using IBM SPSS*. (5th ed.). Berkshire, the McGraw Hill Companies.

- Parasuraman, A., Berry, L.L., & Zeitbaml, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32(3), 39-48.
- Pascoe, G.C. (1983). Patient satisfaction in primary health care: a literature review and analysis. *Evaluation and Program Planning*, 6, 237-243.
- Pilver, C. E., Desai, R., Kasl, S., & Levy, B. (2011). Lifetime discrimination with greater likelihood of premenstrual dysphoric disorder. *Journal of Women's Health*, 20(6), 923-931. doi: 10.1089/jwh.2010.2456
- Piotr, H., Dariusz, B., Michał, K., Lech, P., Wojciech, H., & Jan, W. (2009). Maternal obesity as a perinatal risk factor. [Otyłość matki jako czynnik ryzyka perinatalnego] *Ginekologia Polska*, 80(5), 334-337.
- Polit, D., & Beck, C. (2008). Nursing research: generating and assessing evidence for nursing practice. (8th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Public Health Agency of Canada. (2009). What mothers say: the Canadian maternity experiences survey. Available at <http://www.public.gc.ca/mes>
- Puhl, R., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obes Res*, 8, 133-145.
- Puhl, R., & Brownell, K. D. (2006). Confronting and coping with weight stigma: an investigation of overweight and obese adults. *Obesity*, 14(10), 1802-1815.

- Puhl, R. M., Andreyeva, T., & Brownell, K. D. (2008). Perceptions of weight discrimination: Prevalence and comparison to race and gender discrimination in America. *International Journal of Obesity*, 32(6), 992-1000.
- Puhl, R.M., Moss-Racusin, C.A., Schwartz, M.B., & Brownell, K.D. (2008). Weight stigmatization and bias resection: perspectives of overweight and obese adults. *Health Education Research*, 23(2) 347-358.
- Puhl, R. M., Heuer, C., & Sarda, V. (2010). Framing messages about weight discrimination: impact on public support for legislation. *International Journal of Obesity*, 1-10. doi: 10.1038/ijo.2010.194
- Rogge, M. M., Greenwald, M., & Goldon, A. (2004). Obesity, stigma, and civilized oppression. *Advances in Nursing Science*, 27(4), 301-315.
- Rubbertsson, C., Wickberg, B., Radestad, I., Hildingsson, I, & Waldenstrom, U. (2005). Depressive mood in early pregnancy and postpartum: prevalence and women at risk in a national Swedish sample. *Journal of Reproductive Infant Psychology*, 23, 155-166.
- Rudman, A., El-Khoury, B., & Waldenstrom, U. (2007). Womens' satisfaction with intrapartum care – a pattern approach. *JAN Original Research*, 59(5), 474-487. doi: 10.1111/j.1365-2648.2007.04323.x

- Sadler, L. C., Davison, T., & McCowan, L. M. E. (2001). Maternal satisfaction with active management of labor: a randomized controlled trial. *BIRTH*, 28(4), 225-235.
- Sandin-Bojo, A., Larson, B. W., & Hall-Lord, M. (2008). Women's perception of intrapartal care in relation to WHO recommendations. *Journal of Clinical Nursing*, 17, 2993-3003. doi: 10.1111/j.1365-2702.2007.02123.x
- Sawyer, A., Ayers, S., Abbott, J., Gyte, G., Rabe, H., & Duley, L. (2013). Measures of satisfaction with care during labour and birth: a comparative review. *BMC Pregnancy and Childbirth*, 13(108), 1-10.
- Shafiei, T., Small, R., & McLachlan, H. (2012). Women's views and experiences of maternity care: a study of immigrant Afghan women in Melbourne, Australia. *Midwifery*, 28, 198-203. doi: 10.1016/j.midw.2011.02.008
- Schaafsma, J. (2011). Discrimination and subjective well-being: the moderating roles of identification with the heritage group and the host majority group. *European journal of Social Psychology*, 41, 786-795. doi: 10.1002/ejsp.825
- Schmied, V. A., Duff, M., Dahlen, H. G., Mills, A. E., & Kolt, G. S. (2011). 'Not waving but drowning' : a study of the experiences and concerns of midwives and other health professionals caring for obese childbearing women. *Midwifery*, 27, 424-430. doi: 10.1016/j.midw.2010.02.010

- Sebire, N. J., Jolly, M., Harris, J. P., Wadsworth, J., Joffe, M., Beard, R. W.,...
Robinson, S. (2001). Maternal obesity and pregnancy outcome: a study of
287213 pregnancies in London. *International Journal of Obesity*, 25(8), 1175-
1182.
- Seguin, L., Therrien, R., Champagne, F., & Larouche, D. (1989). The components of
women's satisfaction with maternity care. *BIRTH*, 16(3), 109-113.
- Sheilds, M., Connor Gober, S., & Tremblay, M. S. (2008). Estimates of obesity based
on self-reported versus direct measures. *Health Measures*, 19(2), 1-16.
- Shields, M., Tremblay, M. S., Laviolette, M., Craig, C. L., Janssen, I., & Gorber, S.
C. (2010). Fitness of Canadian adults: results from the 2007-2009 Canadian
health measures survey. *Health reports*, catalogue no. 82-003-X
- Shields, M., & Tjepkema, M. (2006). Regional differences in obesity. *Health Reports*,
17(3), 61-67.
- Sitzia, J. & Wood, N. (1997). Patient satisfaction: a review of issues and concepts.
Social Science Medicine. 45(12), 1829-1843.
- Small R., Yelland, J., Lumlet, J., Brown, S., & Liamputtong, P. (2002). Immigrant
women's views about care during labor and birth: and Australian study of
Vietnamese, Turkish, and Filipino women. *BIRTH*, 29(4), 266-277
- Smith, D. M., Cooke, A., & Lavender, T. (2012). Maternal obesity is the new
challenge; a qualitative study of health professionals' views towards suitable care

for pregnant women with a body mass index (BMI) ≥ 30 kg/m². *BMC Pregnancy and Childbirth*, 12(157), 1-8.

Smith, L. F. P. (2001). Development of a multidimensional labour satisfaction questionnaire: dimensions, validity, and internal reliability. *Quality in Health Care*, 10, 17-22.

Social Stigma. (n.d.). In *Wikipedia the free encyclopedia*. Retrieved from http://en.wikipedia.org/wiki/Social_stigma

Society of Obstetricians and Gynaecologists of Canada. (1998). SOGC clinical practice guidelines: healthy beginnings: guidelines for care during pregnancy and childbirth. 71, 1-71 retrieved December 13, 2013 from <http://sogc.org/guidelines/healthy-beginnings-guidelines-care-pregnancy-childbirth-replaces-55-dec-95/>

Spasojevic, N., Hrabac, B., & Huseinagic, S. (2015). Patient's satisfaction with healthcare: a questionnaire study of different aspects of care. *Journal of the Academy of Medical Sciences of Bosnia and Herzegovina*, 27(4), 220-224. doi: 10.5455/msm.2015.27.220-224

Spaich, S., Welzel, G., Berlit, S., Temerinac, D., Tuschy, B., Sutterlin, M., & Kehl, S. (2013). Mode of delivery and its influence on women's satisfaction with childbirth. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 170, 401-406.

- Sirvastava, A., Avan, B. I., Rajbangshi, P., & Bhattacharyya, S. (2015). Determinants of women's satisfaction with maternal health care: a review of literature from developing countries. *Pregnancy and Childbirth*, 15(97), 1-12. doi: 10.1186/s12884-015-0525-0
- Starky, S. (2005). The obesity epidemic in Canada. *Library of Parliament, PRB 05-11E*
- Statistics Canada. (2008). Aboriginal peoples in Canada in 2006: Inuit, metis and first nations, 2006 census. Retrieved from <http://www12.statcan.gc.ca/census-recensement/2006/as-sa/97-558/p2-eng.cfm>. Catalogues no.97-558, 1-53.
- Statistics Canada. (2013). Canadian health measures survey. Retrieved from <http://www.statcan.gc.ca/survey-enquete/household-menages/5071-eng.htm>
- St. Boniface Hospital (SBH) (revised 2011). Women and child program practice guideline: bariatric care for the perinatal patient. Retrieved from <http://intranet.sbgh.mb.ca/GuidesObstetrics/files/BariatricCare.pdf>
- Stevens, N. R., Wallston, K. A., & Hamilton, N. A. (2012). Perceived control and maternal satisfaction with childbirth: a measure development study. *Journal of Psychosomatic Obstetrics and Gynecology*, 33(1), 15-24. doi: 10.3109/0167482X.2011.652996
- Sullivan, B. A., & Beeman, R. (1982). Satisfaction with maternity care: a matter of communication and choice. *Medical Care*, 20, 321-330.

Tajeu, G. S., Cherrington, A. L., Andreae, L., Prince, C., Holt, C. L., & Halanych, J.

H. (2015). "We'll get to you when we get to you": exploring potential contributions of health care staff behaviors to patient perceptions of discrimination and satisfaction. *American Journal of Public Health*, 105(10), 2076-2082. doi: 10.2105/AJPH.2015.302721

Thiessen, K., Heaman, M., Mignone, J., Martens, P., & Robinson, K. (2015). Trends in Midwifery use in Manitoba. *Journal of Obstetrics and Gynaecology of Canada*, 37(8), 707-714.

Thompson, A. G. H., & Sunol, R. (1995). Expectations as determinants of patient satisfaction: Concepts, theory and evidence. *International Journal for Quality in Health Care*, 7(2), 127-141.

Van Teijlingen, E. R., Hundley, V., Rennie, A. M., Graham, W., & Fitzmaurice, A. (2003). Maternity satisfaction studies and their limitations: what is, must be best. *Birth*, 30, 75-82.

Vinturache, A., Moledina, N., McDonald, S., Slater, D., & Tough, S. (2014). Pre-pregnancy body mass index (BMI) and delivery outcomes in a Canadian population. *Pregnancy and Childbirth*, 14(422), 1-10. doi: 10.1186/s1284-014-0422-y

Waldenstrom, U. (1999). Experience of labour and birth in 1111 women. *Journal of Psychosomatic Research*, 47(5), 471-482.

- Waldenstrom, U. & Nilsson, C. (1993). Women's satisfaction with birth center care: a randomized controlled study. *BIRTH*, 20(1), 3-13.
- Ware, J., Snyder, M., Wright, W. R., & Davies, A. (1983). Defining and measuring patient satisfaction with medical care. *Evaluation Program Planning*, 6, 247-263.
- Watkins, T. M. (1998). Defining women's preferences for support during labor: a review of the literature. *The Journal of Perinatal Education.*, 7(4), 9-16.
- Wiegers, T. A. (2009). The quality of maternity care services as experienced by women in the Netherlands. *BMC Pregnancy and Childbirth*, 9(18), 1-8. doi: 10.1186/1471-2393/9/18
- Wilde-Larsson, B., Larsson, G., Kvist, L. J., & Sandin-Bojo, A. (2010). Womens' opinions on intrapartum care: development of a theory-based questionnaire. *Journal of clinical Nursing*, 19, 1748-1760. doi: 10.1111/j.1365-2702.2009.03055.x
- Wilton, T., & Kaufmann, T. (2001). Lesbian mothers' experiences of maternity care in the UK. *Midwifery*, 17,203-211. doi: 10,1054/midw.2001.0261
- Windridge, K. C., & Berryman, J. C. (1999). Women's experiences of giving birth after 35. *BIRTH*, 26(1), 16-23. doi: 10.1046/j.1523-536x.1999.00016.x
- Winnipeg Regional Health Authority (WRHA). (2015). Summary of birth statistics in the WRHA 2014/15 fiscal year.

World Health Organization (WHO). (2004). Appropriate body-mass index for Asian populations and its implications for policy and interventions strategies. *The Lancet*, 363, 157-163

World Health Organization (WHO). (2012). Obesity and overweight: fact sheet. Retrieved from <http://www.who.int/mediacentre/factsheet/fs211/en/>

Wray, S. & Deery, R. (2008). The medicalization of body size and women's healthcare. *Health Care Women Int*, 29(3), 227-243. doi: 10.1080/07399330701738291

Yogev, Y., & Catalano, P. M. (2009). Pregnancy and obesity. *Obstetrics and Gynecology Clinics of North America*, 36(2), 285-300. doi: 10.1016/j.ogc.2009.03.003

Appendix A

Intrapartum Measurement Tools for Patient Satisfaction

Six Simple Questions (SSQ)

The SSQ was developed by Harvey et al. (2002) to measure satisfaction with maternity care. The tool was developed to provide researchers with a short easy tool that could be utilized in satisfaction measures. The tool consists of six questions scored on a 7-point Likert scale and reports only a single satisfaction score. Construct and face validity was attained through research members examination of the questions and their congruence with the current literature. High reliability was assessed ($\alpha = 0.86$) and Harvey et al. (2002) compared satisfactions scores with the LADSI and found the SSQ demonstrated similar scores as the LADSI and showed a correlation score of 0.506. Although the SSQ was used by Harvey et al. (2002) at repeated intervals throughout the pregnancy, intrapartum and postpartum periods the authors did not report any correlations between these evaluations. This would demonstrate if there is test-retest reliability.

The Labor and Delivery Satisfaction Index (LADSI)

The LADSI developed by Lomas et al. (1987) to examine patient satisfaction with childbirth. The LADSI consists of 38 items measuring technical and caring components of satisfaction with labour and delivery. These items were obtained through a literature review, interviews with postpartum women and the clinical opinions of the researchers and then circulated to healthcare professionals and postpartum women to ensure face validity. Construct validity was assessed to ensure

the LADSI could discriminate between two different groups of women. Construct validity for the LADSI was also demonstrated by Harvey et al. (2002) who compared women's satisfaction levels between midwifery and physician led care. This study found that women were more satisfied with the care they received from midwives compared to physicians. Lomas et al. (1987) found that this was the case and the LADSI could discriminate between different mood groups. Test-Retest reliability was assessed and the authors found that to be reliable (intraclass correlation coefficient = 0.67). The failure to describe the sample used during the tools development as well as the conduct a pre-test of the measurement tool prior to its use are two of the limitations of the LADSI. Additionally, internal consistency of the LADSI is fairly low. The overall Cronbach's alpha was $\alpha = 0.36$ (the caring aspects of satisfaction: $\alpha = 0.11$ and the technical aspects of satisfaction $\alpha = 0.78$). This led the authors to recommend only using the total satisfaction score of the LADSI rather than subcomponent scores.

Satisfaction with Childbirth Scale (SWCh scale)

Developed by Stevens et al. (2012) the SWCh scale was created to examine global satisfaction with childbirth. The items for the SWCh scale came from the satisfaction with life scale where the term "life" was replaced with the term "childbirth". Additionally, Stevens et al. (2012) added three reverse-worded items "to reduce the likelihood of response acquiescence" (p.16). Construct validity was examined by comparing the SWCh scale and the positive and negative affect schedule. By conducting a factor analysis the authors found all items on the SWCh scale loaded to the scale at 0.50 or higher. Relatively high internal consistency was

reported ($\alpha = 0.92$). A limitation to this tool is that only global satisfaction is reported, therefore not evaluating any of the specific components of childbirth. This tool therefore cannot examine the multidimensional aspect of intrapartum satisfaction.

Scale for Measuring Maternal Satisfaction – Normal Birth and the Scale for Measuring Maternal Satisfaction – Caesarean Birth (SMMS-Normal Birth and SMMS-Caesarean Birth) Questionnaires

To examine maternal satisfaction with birth and to evaluate experiences in labour, Gungor and Beji (2012) developed the SMMS-normal birth and the SMMS-caesarean birth questionnaires. Convergence validity was obtained by Gungor and Beji (2012) through comparison of the SMMS with the Newcastle Satisfaction with Nursing Scale. Content and face validity of these tools are suggested by the questionnaire development using a comprehensive review of the literature, evaluation of generated items by obstetrical professionals, and finally through pilot testing with a convenience sample of 20 postpartum women. This resulted in the SMMS-normal birth consisting of 45 items and the SMMS-caesarean birth consisting of 44 items examining aspects of intrapartum and postpartum care using a 5-point Likert scale (strongly agree to strongly disagree). Higher scores on these questionnaires indicated higher levels of satisfaction. Total item correlations were performed to examine internal consistency, Gungor and Beji (2012) found that all items had item-total correlation coefficients > 0.25 (SMMS-normal birth $r = 0.27-0.67$; SMMS-caesarean birth $r = 0.26-0.64$) except for two items in each scale which were eliminated from the questionnaires. With $\alpha = 0.91$ for both questionnaires the internal reliability of the scale were very good. Moreover, there was high internal consistency with the

Cronbach's α coefficient for the subscale ranging from 0.67 to 0.89 for the SMMS-normal birth and 0.65 to 0.88 for the SMMS-caesarean birth. One of the subscales of these tools is "meeting expectations", this is one of the few measurement tools that assess expectations in a retrospective manner. This tool was developed by Gungor and Beji (2012) in Istanbul, although an English version of the scale is available this version has not been tested for reliability and validity. Further pilot testing of the English version would be required prior to its use.

Mackey Childbirth Satisfaction Rating Scale

Little literature was found on the development of the Mackey Childbirth Satisfaction Rating Scale. The scale consists 34 items in five subscales; self, partner, baby, nurse, and physician. In Goodwin et al.'s (2004) study discussed briefly the scale suggesting face and construct validity and reliability were established but did not indicate how. Additionally, Goodwin et al. (2004) found the internal consistency reliability coefficients for their study to be high with the total scale = 0.94 and the subscales ranging between 0.70 and 0.97. Christiaens and Bracke (2007) used a Belgian and Dutch version of the Mackey Childbirth Satisfaction rating Scale which they pilot tested to demonstrate validity of the instrument. Similar internal consistency was found by Christiaens and Bracke (2007) with a total scale $\alpha = 0.95$ and the subscales ranging between 0.71 and 0.96.

Intrapartum Specific Quality from the Patient's Perspective Questionnaire (QPP-I)

Developed from the general Quality from the Patient's Perspective (QPP) instrument and the Intrapartal care in relation to WHO recommendations Wilde-

Larsson et al (2010) developed the 32 item questionnaire to examine women's opinions of intrapartum care. By attaining questionnaire items from other questionnaires where face and content validity was confirmed the same can be assumed for the QPP-I. Internal consistency was found to be mixed with some subscales, such as 'midwives present during delivery' and 'medical care and pain relief' reporting lower Cronbach alpha coefficients than others (α ranged from 0.49 to 0.93). This questionnaire measures quality of care and has not been tested with an intrapartum satisfaction scale to determine the correlation of the two constructs. Many authors have suggested that satisfaction is an indicator of quality care but not an identical concept (Britton, 2012; Brown & Lumley, 1997; Cleary & McNeil, 1988; Gill & White, 2009; Gungor & Kizilkaya, 2012; Haines et al., 2013; McCrea & Wright, 1999; Rudman et al., 2006; Shafiei et al., 2012; Wilde-Larsson et al., 2010).

Satisfaction with Childbirth Experience Questionnaire (SWCBE)

Oweis's (2009) SWCBE questionnaire was developed in Jordan to measure satisfaction with the birth experience. Little information is provided on the development of this 32 item questionnaire, specifically in regards to content and face validity. However Oweis (2009) reports a relatively high internal reliability with $\alpha = 0.88$.

Women's Views of Birth and Labour Satisfaction Questionnaire (WOMBLSQ)

Smith (2000) developed the WOMBLSQ in order "to measure maternal satisfaction with the quality of different models of labour in the UK" (p.17). Content and face validity was ensured through selection of items from a variety of sources including literature reviews and other questionnaires. Different versions of the

WOMBLSQ were pilot tested to examine construct validity. Internal reliability of the WOMBLSQ4 (the fourth version) total scale was reported as $\alpha = 0.892$, with the subscales ranging from 0.62 to 0.91. The WOMBLSQ was moderately correlated with a general satisfaction scale. The test-retest reliability still needs to be investigated as well as use in other areas other than the UK.

Care in Obstetrics: Measure FOR Testing Satisfaction (COMFORTS) scale.

The COMFORTS scale (Janssen, Dennis, & Reime, 2006) is a 40 item tool consisting of 6 subscales. Items were generated for this scale through review of the literature and examination of the questionnaire by other obstetrical healthcare providers, this demonstrated face and content validity. The tool was pilot tested with 12 postpartum women. With $\alpha = 0.95$ for the total scale and ranging between 0.82 and 0.91 for the subscale high internal reliability was demonstrated. The tool still needs to be examined for test-retest reliability and for use outside of the low-risk population it was developed with.

Privacy

How satisfied were you with:

the respect shown by caregivers for your privacy needs?	Very dissatisfied				very satisfied
	1	2	3	4	5
the number of different nurses who looked after you during your labour and delivery?	Very dissatisfied				very satisfied
	1	2	3	4	5
the number of different doctors (including medical students, residents) who looked after you during your labour and delivery?	Very dissatisfied				very satisfied
	1	2	3	4	5
the number of hospital staff who came into your room during labour?	Very dissatisfied				very satisfied
	1	2	3	4	5

Appendix C

Inbox: RE: Request to use the COMFORTS scale (33 of 82)  

Date: Tue, 12 Nov 2013 20:52:09 +0000 [12/11/13 2:52:09 PM CST]

From: 

To: 

Subject: RE: Request to use the COMFORTS scale

Part(s):  2 [COMFORTS_questionnaire.doc](#) 34 KB 

[Download All Attachments \(in .zip file\)](#) 

[Strip All Attachments](#) 

Hi Christine- I lost a number of emails due to a glitch in the UBC system - and don't think I received your previous email - happy for you to use the COMFORTS scale - best, Patti J

Patti Janssen, PhD, Professor
UBC School of Population and Public Health
Co-Theme Leader, Maternal Child Health



-----Original Message-----

From: umfinnbc@cc.umani toba.ca [mailto:umfinnbc@cc.umani toba.ca]
Sent: Tuesday, November 12, 2013 9:08 AM
To: Janssen, Patricia
Subject: Fwd: Request to use the COMFORTS scale

Good morning,

I am just forwarding my request to use the COMFORTS scale to you again. I am working on my master's thesis with Maureen Heaman as my adviser and chair. I will be comparing childbirth experiences and satisfaction between overweight and obese women.

Thank you again for your time and consideration.

Christine Finnbogason
Graduate Student, Faculty of Nursing, University of Manitoba

Appendix D**The Childbirth Experience Questionnaire – CEQ**

Subject ID # _ _ _

Dear new mother,

One of the goals of childbirth care is to ensure a positive childbirth experience for the mother. The purpose of this questionnaire is to learn about how you experienced childbirth. Your answers, along with answers from other new mothers, will be used to evaluate childbirth care. It is important that you answer all the questions.

There are two ways to rate your experience, either by ticking a box or marking a line.

Examples:

Tick the box below the response choice that best corresponds to your opinion.

I eat fruit every day.

Totally agree

Mostly agree

Mostly disagree

Totally disagree

Indicate your opinion by marking on the line between the two end-points.

How much do you like apples?



Not at all

My favourite fruit

The questionnaire begins on the next page.

Thank you for participating and sharing your views.

1. Labour and birth went as I had expected.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. I felt strong during labour and birth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. I felt scared during labour and birth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. I felt capable during labour and birth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I was tired during labour and birth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. I felt happy during labour and birth

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. I have many positive memories from childbirth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. I have many negative memories from childbirth.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Some of my memories from childbirth make me feel depressed.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. I felt I could have a say whether I could be up and about or lie down.

Totally agree	Mostly agree	Mostly disagree	Totally disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. As a whole, how secure did you feel during childbirth?



Not at all secure

Completely secure

Additional comments:

Thank you for your input!

Note. Adapted with permission from Childbirth Experience Questionnaire (CEQ): Development and evaluation of a multidimensional instrument by A. Denker, C. Taft, H. Lija, and M. Berg. 2010, BMC Pregnancy and Childbirth 10(81), p. 1-8. Copyright 2011 by Denker, Taft, Lija and Berg.

Appendix E

Inbox: SV: SV: SV: Request to use the Childbirth Experience Questionnaire in my research (36 of 82)  

Date: Mon, 28 Oct 2013 21:58:17 +0000 [28/10/13 4:58:17 PM CST]

From: 

To: 

Subject: SV: SV: SV: Request to use the Childbirth Experience Questionnaire in my research

Absolutely, you can do that change in CEQ! Do you mean the physician when you say health care provider? Or that it can be either a physician or a midwife?

I wish you all luck with your study!

Best wishes, Anna

-----Ursprungligt meddelande-----

Från: 

Skickat: den 28 oktober 2013 22:15

Till: Anna Dencker

Ämne: Re: SV: SV: Request to use the Childbirth Experience Questionnaire in my research

Thank you for your quick reply,

I am only asking to replace "midwife" with "health care provider".

For example # 16. My midwife understands my needs.

would be

16. My healthcare provider understands my needs.

My advisor and I like the CEQ and only suggest this wording change because the majority of women in Manitoba, Canada have a physician for their obstetrical provider. Few have midwives.

Thank you again for your time.

Christine Finnbogason

Quoting Anna Dencker 

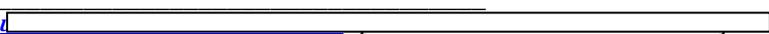
[Hide Quoted Text]

Dear Christine,

Yes, I remember well! I wonder what changes you would like to do? Are you planning to replace the word "midwife" with other professionals only or other changes as well? Can you tell exactly which changes? In which case you can change the text on the information page but please keep the instruction part.

Best wishes,

Anna

Från: 

Skickat: den 28 oktober 2013 18:28

Till: Anna Dencker

Ämne: Re: SV: Request to use the Childbirth Experience Questionnaire in my research

Dear Anna,

I was wondering if you had further thoughts to me adapting the wording of the CEQ to reflect healthcare provider rather than midwife for our healthcare system in Canada. I am hoping that you received all the information that I sent to you a couple of weeks ago. If you have further questions please let me know. I am really looking forward to using the CEQ in my masters thesis.

Christine Finnbogason

*Quoting Anna Dencker <anna.dencker@gu.se>:
Dear Christine,*

I am happy to give you permission to use the English version of the CEQ! You are not supposed to change or take away any item in the scale but you can add own questions before or after the CEQ items. You can change the first part of the text on the first page to suit your study, but please keep the instructions to the respondent there.

I attach the questionnaire in pdf and Word files, instructions for scoring and two articles. Be aware that the VAS-scales can change length if you print them!

Your project sounds very interesting! Please write again if you have further questions regarding the CEQ.

Best wishes,

Anna

*Anna Dencker
RN, RM, PhD, postdoctoral fellow
Institute of Health and Care Sciences The Sahlgrenska Academy
University of Gothenburg*

-----Ursprungligt meddelande-----

*Från:
Skickat: den 19 september 2013 23:15
Till: Anna Dencker
Ämne: Request to use the Childbirth Experience Questionnaire in my research*

Good afternoon,

After reviewing the available information in your article with my advisor Dr. Maureen Heaman of the University of Manitoba I would like to request permission to use the Childbirth Experience Questionnaire for my thesis work.

My thesis topic is entitled "Experience and Satisfaction with Intrapartum Care: A Comparison of Normal Weight to Obese Women"

I am working on completing my proposal draft for early October.

Thank you for your time and consideration. I look forward to hearing from you soon.

Christine Finnbogason

Appendix F**ADAPTED WEIGHT DISCRIMINATION QUESTION**

Subject ID # _ _ _

1. Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations because of your weight?

At School

 No Yes, if yes please select how often Once Two or more times Four or more times

Getting hired or getting a job?

 No Yes, if yes please select how often Once Two or more times Four or more times

At work?

 No Yes, if yes please select how often Once Two or more times Four or more times

Getting housing?

 No Yes, if yes please select how often Once Two or more times Four or more times

Getting medical care?

 No Yes, if yes please select how often Once Two or more times Four or more times

During your labour and delivery?

 No Yes, if yes please select how often Once Two or more times Four or more times

Getting service in a store or restaurant?

- No Yes, if yes please select how often
- Once
 - Two or more times
 - Four or more times

Getting credit, bank loans, or a mortgage?

- No Yes, if yes please select how often
- Once
 - Two or more times
 - Four or more times

On the street or in public?

- No Yes, if yes please select how often
- Once
 - Two or more times
 - Four or more times

From the police or in the courts?

- No Yes, if yes please select how often
- Once
 - Two or more times
 - Four or more times

Note. Adaptations of the Experiences of Discrimination Scale (EOD) (Krieger, 2005) were done with permission from N. Krieger.

Appendix G

Permission to Adapt the Experiences of Discrimination (EOD) Questionnaire



Subject: RE: Experiences of discrimination scale

Date: Wed, 12 Feb 2014 22:01:30 +0000

Hi –

Quick reply to say that I have granted you permission to use the EOD, with the stipulation that you cite it appropriately – and you are welcome to adapt it, and state that you have adapted it – and as I trust you can understand, it's not possible for me to get involved in the specifics of your research project.

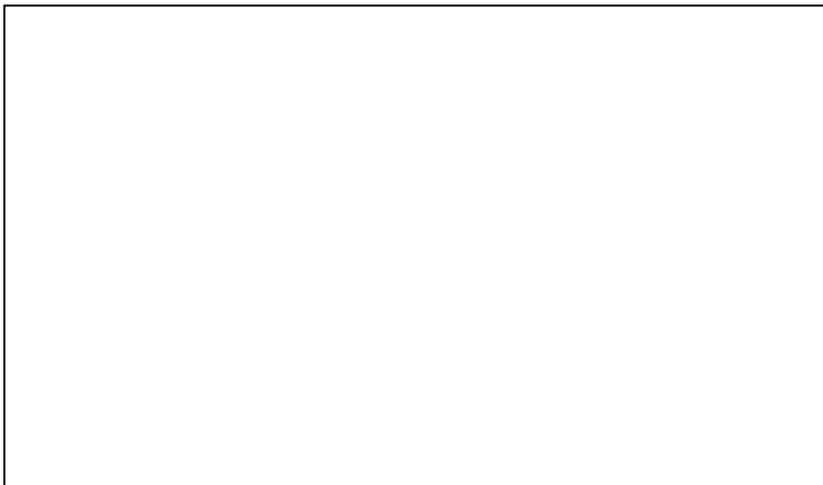
best wishes with your project –

Nancy Krieger

Nancy Krieger, PhD

Professor of Social Epidemiology

Department of Social and Behavioral Sciences



Appendix H**Maternal Demographic and Intrapartum Care Characteristics Questionnaire**

Subject ID # _ _ _

The following questions are about your pregnancy and yourself. Please read each statement carefully and check the box next to the response that best applies to you and fill in the blanks where indicated.

1. **Date you are completing this questionnaire:** ____/____/____
Day Month Year
2. **Where are you completing this questionnaire?**
(check the box next to your response)
 - St. Boniface Hospital
 - Women's Hospital, Health Sciences Centre
3. **When was your baby born?** ____/____/____
Day Month Year
4. **From which of the following types of providers did you receive prenatal care?** (check the box next to your response)
 - Obstetrician
 - Family Doctor
 - Midwife
5. **Where you able to move around during your labour and delivery? (i.e. walking or changing positions)**
 - All of the time
 - Most of the time
 - Some of the time
 - Very little of the time
 - None of the time
6. **Which of the following types of providers were present for your delivery?**
 - Obstetrician
 - Family Doctor
 - Midwife
7. **What type of postpartum room did you have after your delivery?**
 - Private
 - Shared

8. **What is your age in years?** _____ years
9. **What is your current marital status?** (check the box next to your response)
- Married and living with spouse
 - Common-law relationship or live-in partner
 - Single – never married
 - Divorced
 - Separated
 - Widowed
10. **What is your highest level of education?** (check the box next to your response)
- No schooling
 - Incomplete Elementary school
 - Complete Elementary school
 - Incomplete Junior High school
 - Complete Junior High school
 - Incomplete High school
 - Complete High school
 - Incomplete Non-university (technical/vocational)
 - Complete Non-university (technical/vocational)
 - Incomplete University
 - Complete University
 - Diploma/Certificate (e.g. hygienist)
 - Bachelor's Degree
 - Professional Degree (Vet., Dr., Law)
 - Master's Degree
 - Doctorate
11. **How many years of formal education have you completed starting with grade one and not counting repeated grades at the same level?** _____ years
12. **We would like to know the total income of all the members of your household for this past year before tax and deductions. Please remember that your response will be kept confidential.** (check the box next to your response)
- No income
 - Under \$20,000
 - \$20,000-39,999
 - \$40,000-59,999
 - \$60,000-79,999
 - \$80,000-99,999
 - \$100,000 or over

13. Which of the following best describes your racial/ethnic background? Would you say... (check the box next to your response)

- Aboriginal – Inuit
- Aboriginal – Métis
- Aboriginal - First Nations
- Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
- Black (e.g., African, Haitian, Jamaican, Somali)
- Chinese
- Filipino
- Japanese
- Korean
- Latin American
- South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
- South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
- White (Caucasian)
- Other (please specify) _____

14. Were you born in Canada?

- Yes
- No If no what was your country of birth? _____
What is the total number of years you have lived in
Canada? ____ years

15. Are you now, or have you ever been, a landed immigrant in Canada?

- Yes
- No

16. Do you currently have refugee status in Canada?

- Yes
- No

Appendix I**Health Record Data Collection Form**

Subject ID # ___ ___ ___

Group: Normal weight
 Obese weightAdmission date: __/__/____
dd/mmm/yyyyDelivery date: __/__/____
dd/mm/yyyyPlace of delivery: St. Boniface Hospital Women's Hospital

Height (measured by researcher or research nurse) _____ cm

Self-reported weight _____ kg

Weight at first prenatal visit: _____ kg

Number of weeks at first prenatal visit _____

Weight at delivery (admission weight): _____ kg

Gestational age at delivery: ____ weeks ____ days

Type of delivery: Spontaneous vaginal delivery
 Assisted vaginal delivery
 forceps vacuum
 Emergency caesarean birthDelivery provider Obstetrician
 Family Doctor
 MidwifePast obstetrical history (not including this pregnancy):
 Number of miscarriages _____
 Number of therapeutic abortions _____
 Number of ectopic pregnancies _____Induction: Yes No # of attempts _____Method of induction: Cervical Prostin CRB/Foley
 ARM Oxytocin

Augmentation: Yes No

Method of Augmentation: ARM Oxytocin

Length of first stage: _____ Length of second stage: _____

Type of fetal surveillance used:

- External EFM Internal EFM (Scalp electrode) IA

Type of monitoring for contractions used:

- External monitoring (toco)
 Internal monitoring (IUPC)
 Palpation

Methods of pain relief:

- | | |
|--|---|
| <input type="checkbox"/> SCIL (supportive care in labour) | <input type="checkbox"/> Fentanyl |
| <input type="checkbox"/> N ₂ O ₂ | <input type="checkbox"/> PCA Fentanyl |
| <input type="checkbox"/> Morphine | <input type="checkbox"/> PCA Remifentanyl |
| <input type="checkbox"/> Sterile H ₂ O injections | <input type="checkbox"/> Epidural analgesia |
| <input type="checkbox"/> Spinal analgesia | |

Documentation of any of the following conditions prior to getting pregnant:

- Any gynaecological surgery
- Kidney disease
- Diabetes
- Heart disease
- Other chronic health conditions (specify) _____

Documentation of any of the following conditions during this pregnancy:

- Vaginal bleeding before 20 weeks of pregnancy
- Vaginal bleeding at or after 20 weeks of pregnancy
- Gestational diabetes
- Anemia
- High blood pressure
- Polyhydramnious
- Small for dates fetus
- Premature rupture of membranes

Number of Deliveries on the LDR unit during the 24 hour period prior to the delivery time of the infant: _____

Appendix J

Estimation of Effect Size

The formula for Cohen's d was used to calculate effect size (Polit and Beck, 2008)

$$d = \frac{u_1 - u_2}{\sigma}$$

d = effect size

u_1 = Mean of population 1

u_2 = Mean of population 2

σ = Population standard deviation

The value of u_2 must be estimated for this study. The population mean for obese women (u_2) was estimated to be about 10 points lower than the mean score for normal weight women due to the hypothesis that obese women will be less satisfied with their intrapartum care due to feelings of discrimination. The mean COMFORTS scale score of 164 and σ of 19, as determined by Janssen et al (2006)

$$d = \frac{164 - 154}{19}$$

$$d = 0.526$$

Therefore the effect size of 0.5 will be used in a power analysis to estimate the appropriate sample size needed.

(Cohen, 1988; Polit & Beck, 2008)

Appendix K

Antepartum High Risk Pregnancy Scoring

Subject ID # _ _ _

Table V1 Category I Reproductive History

Reproductive History	Criterion	Score
Age	<16 years	1
	16-34	0
	35	2
Parity	0	1
	1-4	0
	5+	2
Postpartum hemorrhage	Yes	1
Baby > 9 lbs	Yes	1
Baby < 5 lbs	Yes	1
Pre-eclampsia/Hypertension	Yes	1
Previous long labour or difficulty delivery	Yes	1
Previous Section	Yes	2
Stillbirth or neonatal death	Yes	3

Table V2 Category II Associated Conditions

Associated Condition	Criterion	Score
Previous gynecological surgery	Yes	1
Chronic renal disease	yes	2
Gestational diabetes	yes	1
Diabetes mellitus	Yes	3
Heart disease	Yes	3
Other medical disorders	Yes	(1-3 depending on severity)

Table V3 Category III Present Pregnancy

Present Pregnancy	Criterion	Score
Bleeding < 20 weeks	Yes	1
Bleeding \geq 20 weeks	yes	3
Anemia	yes	1
Prolonged pregnancy (42 weeks)	Yes	1
Hypertension	Yes	2
Premature rupture of membranes	Yes	2
Polyhyramnios	Yes	2
Small for dates	Yes	3
Multiple pregnancy	Yes	3

Coopland et al. (1977).

Appendix L



**Research Ethics
and Compliance**
Office of the Vice-President (Research and International)

Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Fax +204-269-7173

APPROVAL CERTIFICATE

September 19, 2014

TO: Christine Finnbogason (Advisor M. Heaman)
Principal Investigator

FROM: Lorna Guse, Chair
Education/Nursing Research Ethics Board (ENREB)

Re: Protocol #E2014:097
"Experiences and Satisfaction with Intrapartum Care: A Comparison of Normal Weight and Obese Weight Women"

Please be advised that your above-referenced protocol has received human ethics approval by the **Education/Nursing Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). **This approval is valid for one year only.**

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- If you have funds pending human ethics approval, please mail/e-mail/fax (261-0325) a copy of this Approval (identifying the related UM Project Number) to the Research Grants Officer in ORS in order to initiate fund setup. (How to find your UM Project Number: <http://umanitoba.ca/research/ors/mrt-faq.html#pr0>)
- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) in order to be in compliance with Tri-Council Guidelines.

Appendix M



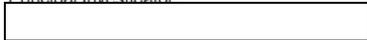
**Health Sciences Centre
Winnipeg**

Office of the Director of Research

Dial Direct 204-787-4831
Fax 204-787-4547

September 30, 2014

Christine Finnbogason
Principal Investigator



Dear Christine

**RE: EXPERIENCES AND SATISFACTION WITH INTRAPARTUM CARE: A
COMPARISON OF NORMAL WEIGHT WOMEN AND OBESE WOMEN.**

ETHICS #: E2014:097 RIC #: RI2014:128

The above-named protocol, has been evaluated and approved by the HSC Research Impact Committee.

The Department of Research wishes you much success with your study.

Sincerely



Karen Shaw-Allan
Research Protocol Officer
Health Sciences Centre

cc: Director of Research
Ancillary Services, Finance Department

Appendix N



Hôpital St-Boniface Hospital

409 Taché Ave, Winnipeg MB Canada R2H 2A6

Research Review Committee Approval Form

Principal Investigator: Ms. C. Finnbogason
RRC Reference Number: RRC/2014/1419
Date: September 24, 2014
Protocol Title: Experiences and Satisfaction with Intrapartum Care: A Comparison of Normal Weight and Obese Weight Women

The following is/are approved for use:

- Proposal, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix K: Research Participant Information and Consent Form, Version dated August 22, 2014
- Appendix A: Comforts in Obstetrics: Measure FOR Testing satisfaction (COMFORTS) Scale, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix C: The Childbirth Experience Questionnaire – CEQ, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix E: Adapted Weight Discrimination Question, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix G: Maternal Demographic and Intrapartum Care Characteristics Questionnaire, Version submitted to the RRC on September 21, 2014
- Appendix H: Health Record Data Collection Form, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix I: Antepartum High Risk Pregnancy Scoring, Version reviewed at the RRC meeting held on August 6, 2014
- Appendix J: Participant Recruitment Eligibility Checklist: Experiences and Satisfaction with Intrapartum Care: A Comparison of Normal Weight Women and Obese Women, Version submitted to the RRC on September 21, 2014
- Appendix L: Request for a Summary of Results, Version submitted to the RRC on September 21, 2014

The above was approved by Dr. B. Ramjiawan, Co-Chairperson, Research Review Committee (RRC), St. Boniface Hospital, on behalf of the Committee. As the recommendations by the Research Review Committee have been met, final approval is now granted.

As a reminder any changes to the study Protocol and/or Informed Consent Form must be reported to the Research Review Committee along with any other documents required as per Standard Operating Procedures for Clinical Investigators. The Research Review Committee must be notified regarding discontinuation or study closure.

saintboniface.ca

Espoir et guérison
Hope and Healing



Hôpital St-Boniface Hospital

409 Taché Ave, Winnipeg MB Canada R2H 2A6

Should you require assistance during any stage of your research project, please do not hesitate to contact the St. Boniface Hospital Office of Clinical Research (204-258-1044).

The Research Review Committee wishes you much success with your study.

Sincerely yours,



Dr. B. Ramjiawan
Co-Chairperson, Research Review Committee
St. Boniface Hospital

Please quote the above reference number on all correspondence.

Inquiries should be directed to the RRC Secretary
Telephone: (204) 235-3623 **Fax:** (204) 237-9860
N1004 – 409 Taché, Winnipeg, MB, Canada R2H 2A6

BR/ar

saintboniface.ca

Espoir et guérison
Hope and Healing

Appendix O



Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Fax +204-269-7173

AMENDMENT APPROVAL

December 18, 2014

TO: Christine Finnbogason
Principal Investigator

FROM: Lorna Guse, Chair
Education/Nursing Research Ethics Board (ENREB)

Re: Protocol #E2013:097
"Experiences and Satisfaction with Intrapartum Care: A
Comparison of Normal Weight and Obese Weight Women"

This will acknowledge your Amendment Request dated December 15, 2014 requesting amendment to your above-noted protocol.

Approval is given for this amendment. Any further changes to the protocol must be reported to the Human Ethics Secretariat in advance of implementation.

Appendix P

College of Nursing
 Helen Glass Centre for Nursing
 89 Curry Place
 Winnipeg, Manitoba
 Canada R3T 2N2
 Telephone 204-474-7452
 Fax 204-474-7682

Faculty of Health Sciences

Research Participant Information and Consent Form

Research Project Title: Experiences and satisfaction with childbirth, comparing women in different weight categories.

Researcher: Christine Finnbogason, RN, Master of Nursing Student,

Research Supervisor: Dr. Maureen Heaman, Professor, College of Nursing,

Sponsor: Kathleen and Winnifred Ruane Graduate Student Research Grant, and Dolly Gembey Research Award

You are invited to participate in a research study looking at experiences and satisfaction with childbirth that compares women in different pre-pregnancy weight categories. This consent form, a copy of which will be left with you for your records and reference, is only part of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take time to read this carefully and to understand any accompanying information.

Purpose of the Study:

The purpose of this study is to compare the childbirth experience and satisfaction with labour and delivery care between women in different pre-pregnancy weight groups. A number of factors will also be looked at to find out if they are related to women's satisfaction with the care received during labour and delivery (for example, mother's age, length of labor, type of delivery). This study is being done for the researcher's thesis or nursing research project. Information obtained in this study may help healthcare providers and administrators find resources and create guidelines that will improve all pregnant women's childbirth experiences.

Women who may participate in the study:

Women admitted to the postpartum unit are invited to take part in this study if they have laboured and given birth to a live full-term infant on the labour, deliver, and

recovery unit at St. Boniface Hospital or Women's Hospital, Health Sciences Centre. Women must be 18 years or older and have a body mass index (BMI) between 18.5 and 24.9 kg/m² or greater than 30.0 kg/m² to be eligible to participate.

Procedures:

If you agree to participate in this study, you will be given a package of questionnaires to complete. You will be asked to answer a number of questions about your childbirth experiences, satisfaction with the care you received during childbirth, and your experiences with weight discrimination. You will also be asked some questions about your childbirth care and some background questions about your age, marital status, level of education, income, and ethnic background. This will take about 30 minutes of your time.

In addition to the questionnaires that you will be given to complete, with your permission, the researcher or research nurse will measure your height and review your prenatal and labour and delivery health records in order to complete a health record data collection form. Information collected on this form will include your height and weight at your first prenatal visit and your weight at delivery, your past obstetrical history, gestational age at delivery, the type of delivery, as well as some information about your delivery. No information revealing any personal information such as your name, address, or telephone number will be collected on this form.

Confidentiality:

All information gathered in this study will be kept strictly confidential. However, the researcher is required by law to disclose information to the relevant authorities if you reveal a situation of child abuse or where a child is in need of protection. In order to track the questionnaires and forms all questionnaires will be identified with a unique identification number that will be assigned only to you. Your name will not appear anywhere on the questionnaires and your name will not be linked to the identification number on the forms in any way. Consent forms and questionnaires will be stored separately in a locked filing cabinet in Room 268 Helen Glass Centre for Nursing at the University of Manitoba. The consent form and completed questionnaires will be destroyed five years after the completion of the project. Only the researcher, Christine Finnbogason, her research supervisor, Dr. Maureen Heaman, and the research nurse, Nancy Kosie, will have access to the answers on your questionnaires. Medical records that contain your identity will be treated as confidential in accordance with the Personal Health Information Act of Manitoba. Results of this study will be reported in the researcher's thesis defence and may be presented to policy makers and published in journals. Your individual identity will not be revealed in reports, presentations, or articles that describe the results of this study.

Risks:

Due to the potential sensitive nature regarding personal body weight, there may be a risk of emotional distress for some women who participate in this study. Should you experience any emotional distress and feel the need to seek medical advice while in the hospital please contact your health care provider. Should you experience any emotional distress and feel the need to seek medical advice when you are at home, please contact the Health Links – Info Santé 24 hours, 7 days a week telephone information service at (204) 788-8200 or toll-free 1-888-315-9257.

Benefits:

There are no direct benefits involved in participating in this study. However, your answers may help improve childbirth care for other women.

Voluntary Participation and Withdrawal:

Your participation in this study is completely voluntary and your decision about whether or not you take part will not affect the care you receive in any way. You have the right to withdraw from the study at any time, without prejudice or consequence. You have the right not to answer any of the questions that you do not wish to. To withdraw from the study at any time please contact the researcher, Christine Finnbogason [redacted], or her research supervisor, Maureen Heaman [redacted] to have them remove and destroy your data.

You will receive a \$5.00 Wal-Mart gift card to thank you for taking time to participate in this study regardless of if you choose to withdraw.

Feedback to Participants:

A brief summary of the results of the study will be provided to you if you would like one. Results of the study are expected to be available by June 2015 or earlier. Please complete the “Feedback to Participants” form at the end of this consent form if you would like to receive a summary of the results.

Statement of Consent:

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your consent, so you should feel free to ask for clarification or new information throughout your participation by contacting either Christine Finnbogason [redacted] or her research supervisor, Maureen Heaman [redacted].

The University of Manitoba and St. Boniface Hospital may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Education/Nursing Research Ethics Board of the University of Manitoba. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at [redacted] or by email [redacted].

A copy of this consent form will be given to you to keep for your records and reference.

Participant’s Signature _____ Date _____

Printed name above _____

Researcher and/or Delegate’s signature _____ Date _____

Printed name above _____

Appendix Q**Request for a Summary of Results**

Once the study has been completed a brief summary of the results may be provided to you at your request. Please fill out the following contact information if you would like a summary of the results.

Name: _____

Address: _____

Postal Code: _____

OR

E-mail Address: _____

Appendix R**Copyright Permission for Figure 1. Revised model of patient satisfaction in
general practice (Baker, 1997)****BMJ PUBLISHING GROUP LTD. LICENSE
TERMS AND CONDITIONS**

Mar 01, 2016

This Agreement between Christine C Finnbogason ("You") and BMJ Publishing Group Ltd. ("BMJ Publishing Group Ltd.") consists of your license details and the terms and conditions provided by BMJ Publishing Group Ltd. and Copyright Clearance Center.

License Number	3812611351257
License date	Feb 19, 2016
Licensed Content Publisher	BMJ Publishing Group Ltd.
Licensed Content Publication	BMJ Quality and Safety
Licensed Content Title	Pragmatic model of patient satisfaction in general practice: progress towards a theory.
Licensed Content Author	R Baker
Licensed Content Date	Jan 1, 1997
Licensed Content Volume Number	6
Licensed Content Issue Number	4
Volume number	6
Issue number	4
Type of Use	Dissertation/Thesis
Requestor type	Individual
Format	Print and electronic
Portion	Figure/table/extract
Number of figure/table/extracts	1
Description of figure/table/extracts	Figure 2 Revised model of patient satisfaction in general practice
Will you be translating?	No
Circulation/distribution	6
Title of your thesis /	Experiences and Satisfaction with Intrapartum Care: A Comparison

dissertation of Normal Weight and Obese Weight Women

Expected completion date Mar 2016

Estimated size(pages) 188

BMJ VAT number GB674738491

Billing Type Invoice

Billing Address Christine C Finnbogason

 Canada
 Attn: Christine C Finnbogason

Requestor Location Christine C Finnbogason

 Attn: Christine C Finnbogason

Billing Type

Billing Address

 Attn: Christine C Finnbogason

Total 0.00 USD

Terms and Conditions

BMJ Group Terms and Conditions for Permissions

When you submit your order you are subject to the terms and conditions set out below. You will also have agreed to the Copyright Clearance Center's ("CCC") terms and conditions regarding billing and payment <https://s100.copyright.com/App/PaymentTermsAndConditions.jsp>. CCC are acting as the BMJ Publishing Group Limited's ("BMJ Group's") agent.

Subject to the terms set out herein, the BMJ Group hereby grants to you (the Licensee) a non-exclusive, non-transferable licence to re-use material as detailed in your request for this/those purpose(s) only and in accordance with the following conditions:

- 1) **Scope of Licence:** Use of the Licensed Material(s) is restricted to the ways specified by you during the order process and any additional use(s) outside of those specified in that request, require a further grant of permission.
- 2) **Acknowledgement:** In all cases, due acknowledgement to the original publication with permission from the BMJ Group should be stated adjacent to the reproduced Licensed Material. The format of such acknowledgement should read as follows:
 "Reproduced from [publication title, author(s), volume number, page numbers, copyright notice year] with permission from BMJ Publishing Group Ltd."
- 3) **Third Party Material:** BMJ Group acknowledges to the best of its knowledge, it has the rights to licence your reuse of the Licensed Material, subject always to the caveat that images/diagrams, tables and other illustrative material included within, which have a separate copyright notice, are

presumed as excluded from the licence. Therefore, you should ensure that the Licensed Material you are requesting is original to BMJ Group and does not carry the copyright of another entity (as credited in the published version). If the credit line on any part of the material you have requested in any way indicates that it was reprinted or adapted by BMJ Group with permission from another source, then you should seek permission from that source directly to re-use the Licensed Material, as this is outside of the licence granted herein.

4) **Altering/Modifying Material:** The text of any material for which a licence is granted may not be altered in any way without the prior express permission of the BMJ Group. Subject to Clause 3 above however, single figure adaptations do not require BMJ Group's approval; however, the adaptation should be credited as follows:

"Adapted by permission from BMJ Publishing Group Limited. [publication title, author, volume number, page numbers, copyright notice year]"

5) **Reservation of Rights:** The BMJ Group reserves all rights not specifically granted in the combination of (i) the licence details provided by you and accepted in the course of this licensing transaction, (ii) these terms and conditions and (iii) CCC's Billing and Payment Terms and Conditions.

6) **Timing of Use:** First use of the Licensed Material must take place within 12 months of the grant of permission.

7) **Creation of Contract and Termination:** Once you have submitted an order via Rights link and this is received by CCC, and subject to you completing accurate details of your proposed use, this is when a binding contract is in effect and our acceptance occurs. As you are ordering rights from a periodical, to the fullest extent permitted by law, you will have no right to cancel the contract from this point other than for BMJ Group's material breach or fraudulent misrepresentation or as otherwise permitted under a statutory right. Payment must be made in accordance with CCC's Billing and Payment Terms and conditions. In the event that you breach any material condition of these terms and condition or any of CCC's Billing and Payment Terms and Conditions, the license is automatically terminated upon written notice from the BMJ Group or CCC or as otherwise provided for in CCC's Billing and Payment Terms and Conditions, where these apply.. Continued use of materials where a licence has been terminated, as well as any use of the Licensed Materials beyond the scope of an unrevoked licence, may constitute intellectual property rights infringement and BMJ Group reserves the right to take any and all action to protect its intellectual property rights in the Licensed Materials.

8) **Warranties:** BMJ Group makes no express or implied representations or warranties with respect to the Licensed Material and to the fullest extent permitted by law this is provided on an "as is" basis. For the avoidance of doubt BMJ Group does not warrant that the Licensed Material is accurate or fit for any particular purpose.

9) **Limitation of Liability:** To the fullest extent permitted by law, the BMJ Group disclaims all liability for any indirect, consequential or incidental damages (including without limitation, damages for loss of profits, information or interruption) arising out of the use or inability to use the Licensed Material or the inability to obtain additional rights to use the Licensed Material. To the fullest extent permitted by law, the maximum aggregate liability of the BMJ Group for any claims, costs, proceedings and demands for direct losses caused by BMJ Group's breaches of its obligations herein shall be limited to twice the amount paid by you to CCC for the licence granted herein.

10) **Indemnity:** You hereby indemnify and hold harmless the BMJ Group and their respective officers, directors, employees and agents, from and against any and all claims, costs, proceeding or demands arising out of your unauthorised use of the Licensed Material.

11) **No Transfer of License:** This licence is personal to you, and may not be assigned or transferred by you without prior written consent from the BMJ Group or its authorised

agent(s). BMJ Group may assign or transfer any of its rights and obligations under this Agreement, upon written notice to you.

12. **No Amendment Except in Writing:** This licence may not be amended except in a writing signed by both parties (or, in the case of BMJ Group, by CCC on the BMJ Group's behalf).

13. **Objection to Contrary terms:** BMJ Group hereby objects to any terms contained in any purchase order, acknowledgment, check endorsement or other writing prepared by you, which terms are inconsistent with these terms and conditions or CCC's Billing and Payment Terms and Conditions. These terms and conditions, together with CCC's Billing and Payment Terms and Conditions (which to the extent they are consistent are incorporated herein), comprise the entire agreement between you and BMJ Group (and CCC) and the Licensee concerning this licensing transaction. In the event of any conflict between your obligations established by these terms and conditions and those established by CCC's Billing and Payment Terms and Conditions, these terms and conditions shall control.

14. **Revocation:** BMJ Group or CCC may, within 30 days of issuance of this licence, deny the permissions described in this licence at their sole discretion, for any reason or no reason, with a full refund payable to you should you have not been able to exercise your rights in full. Notice of such denial will be made using the contact information provided by you. Failure to receive such notice from BMJ Group or CCC will not, to the fullest extent permitted by law alter or invalidate the denial. For the fullest extent permitted by law in no event will BMJ Group or CCC be responsible or liable for any costs, expenses or damage incurred by you as a result of a denial of your permission request, other than a refund of the amount(s) paid by you to BMJ Group and/or CCC for denied permissions.

15. **Restrictions to the license:**

15.1 **Promotion:** BMJ Group will not give permission to reproduce in full or in part any Licensed Material for use in the promotion of the following:

a) non-medical products that are harmful or potentially harmful to health: alcohol, baby milks and/or, sun beds

b) medical products that do not have a product license granted by the Medicines and Healthcare products Regulatory Agency (MHRA) or its international equivalents. Marketing of the product may start only after data sheets have been released to members of the medical profession and must conform to the marketing authorization contained in the product license.

16. **Translation:** This permission is granted for non-exclusive world English language rights only unless explicitly stated in your licence. If translation rights are granted, a professional translator should be employed and the content should be reproduced word for word preserving the integrity of the content.

17. **General:** Neither party shall be liable for failure, default or delay in performing its obligations under this Licence, caused by a Force Majeure event which shall include any act of God, war, or threatened war, act or threatened act of terrorism, riot, strike, lockout, individual action, fire, flood, drought, tempest or other event beyond the reasonable control of either party.

17.1 In the event that any provision of this Agreement is held to be invalid, the remainder of the provisions shall continue in full force and effect.

17.2 There shall be no right whatsoever for any third party to enforce the terms and conditions of this Agreement. The Parties hereby expressly wish to exclude the operation of the Contracts (Rights of Third Parties) Act 1999 and any other legislation which has this

effect and is binding on this agreement.

17.3 To the fullest extent permitted by law, this Licence will be governed by the laws of England and shall be governed and construed in accordance with the laws of England. Any action arising out of or relating to this agreement shall be brought in courts situated in England save where it is necessary for BMJ Group for enforcement to bring proceedings to bring an action in an alternative jurisdiction.

Questions? customercare@copyright.com or +1-855-239-3415 (toll free in the US) or +1-978-646-2777.