

EXPLORING PERINATAL DEPRESSION IN SOUTH
ASIAN IMMIGRANT WOMEN

by

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B.Sc.N., University of British Columbia, 2007

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Nursing)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

March 2014

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Abstract

In British Columbia (BC), as many as one in five women will experience some form of depression in the pregnancy and postpartum period. Perinatal depression, which refers to both the prenatal and postpartum period, is a crippling disorder with harmful repercussions for the mother, fetus, infant, and close family members. Of women diagnosed with postpartum depression, 30% have the initial onset of depression during pregnancy. Most importantly, depression and anxiety in pregnancy is one of the strongest predictors of postpartum depression. Immigrant women are at a particularly high risk for prenatal depression due to the numerous stressors associated with migration and acculturation. As South Asian immigrant women comprise a large proportion of Canadian immigrants, prenatal depression within this group needs to be more clearly understood. In this study, the research questions were: 1) What are the prevalence rates for prenatal depressive symptoms? 2) What socio-demographic or other factors are associated with prenatal depressive symptoms? and 3) What is the role of gender and culture in women with prenatal depressive symptoms? A mixed methods study design was used to analyze in-depth interviews, with interpretive description, in relation to a secondary analysis of data from the Fraser Health prenatal registration database. The findings suggest that South Asian immigrant women are at a higher risk for perinatal depression and demographic factors play a role. Punjabi-speaking women, particularly those who indicate the need for an interpreter, are more likely to report prenatal depressive symptoms compared to English-speaking women. Themes were generated from the interviews such as: disruption of family and social supports, triggers of depression: the intersection between biology and life events, social and structural conditions, psychosocial stressors: immigration process, and South Asian cultural roles and dynamics.

Preface

The research conducted in this study received approval by the University of British Columbia's Research Ethics Board [certificate # H12-01695] and the Fraser Health Research Ethics Board [2012-070].

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List of Abbreviations

BC	British Columbia
BDI	Beck Depression Inventory
CES-D	Center for Epidemiologic Studies Depression Scale
CINAHL	Cumulative Index to Nursing and Allied Health Literature
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth edition
EPDS	Edinburgh Postnatal Depression Scale
FHA	Fraser Health Authority
MOS	Medical Outcome Study
NEST-S	Nourishment, Exercise, Sleep, Time for self, and Support
PHNs	public health nurses
PHQ	Patient Health Questionnaire
SDSS-PC	Symptom-Driven Diagnostic System for Primary Care

Acknowledgements

I would like to express my special appreciation and thanks to my advisor Dr. Sabrina Wong, you have been a mentor for me. Your patience, wisdom, and most of all your ongoing support and commitment throughout this process has meant so much. I am particularly grateful to my committee members, Helen Brown and Pam Munro for your insightful comments, suggestions, and guidance. You truly helped strengthen my work. A special thank you to Joseph Puyat and Rahul Chhokar whose vast knowledge and statistical expertise I could not have done without. Your willingness to always help was greatly appreciated. Thank you to the UBC School of Nursing, BC Nurses' Union and Fraser Health for assisting me financially in pursuing this research project. I would especially like to acknowledge the staff at Fraser Health and of course, the participants of this study who made this thesis possible. Last but not least, I would like to thank my parents and family, in particular, my sister and my husband for their unconditional support.

Chapter 1: Introduction

Significance of Problem

Depression is the leading cause of disability for women in their childbearing years (BC Women's Hospital and Health Centre, 2006). During the perinatal period – the time between conception and one year following the birth of a child – women are most vulnerable for developing a mood disorder (BC Women's Hospital and Health Centre, 2006). The term 'perinatal' depression encompasses both prenatal and/or postpartum depression, as recent research indicates that depression often arises during pregnancy and extends into the postpartum period (Reid, Power, & Cheshire, 2009). Of women diagnosed with postpartum depression, 30% had their initial onset of depression during pregnancy (BC Women's Hospital and Health Centre, 2006). Most importantly, depression and anxiety in pregnancy is one of the strongest predictors of postpartum depression (Field, 2011; Milgrom et al., 2008; Oppo et al., 2009; Reid et al., 2009).

Until recently, perinatal depression was typically viewed as a Western phenomenon; however, in the last ten years, extensive research has shown that depression associated with childbirth is a detrimental consequence across many nations and cultures (Cox & Holden, 2003). Perinatal depression is considered one of the most common complications of childbearing, affecting approximately 10-20% of women worldwide (Leigh & Milgrom, 2008; Milgrom et al., 2008; Muzik & Borovska, 2010; O'Hara & Swain, 1996). Generally, prevalence rates for both prenatal and postpartum depression are similar, with a commonly reported estimate of 13% (Beck, 2002; Leigh & Milgrom, 2008; Milgrom et al., 2008; O'Hara & Swain, 1996; Sobey, 2002). In British Columbia (BC), as many as one in five

women are estimated to experience significant depression related to pregnancy and childbirth (Fraser Health Authority, 2008). Implications of perinatal depression manifest beyond the mother and can adversely affect the infant's growth and development, and the functioning of the entire family unit (Muzik & Borovska, 2010).

The detrimental impacts of perinatal depression on an infant range from physiological to psychological and behavioral (Field, 2011; Muzik & Borovska, 2010). Depression during pregnancy can cause fetus growth delays, preeclampsia, and premature delivery (Field, 2011). Neonates born to mothers experiencing depression may have low birth weights, be less responsive to stimulation and have low vagal tone (Field, 2011; Muzik & Borovska, 2010). In addition, cognitive, language, attention, and social skills of infants and toddlers are adversely affected by maternal depression (Grace, Evindar, & Stewart, 2003; Muzik & Borovska, 2010).

Overall, the signs and symptoms of prenatal and postpartum depression are not different from depression at any other time (Bowen & Muhajarine, 2006a). According to the Diagnostic Statistical Manual of Mental Disorders (DSM-IV), depression is diagnosed by the experience of at least two weeks of a depressed mood or a loss of interest, combined with four additional symptoms of depression, which may include sleep, appetite or psychomotor disturbances, feelings of worthlessness or guilt, and suicidal thoughts (American Psychiatric Association, 2000; Beck, 2006; O'Hara & Swain, 1996). In the postpartum period, postnatal depression should be distinguished from the experience of "maternal blues," which can be a natural response following the birth of an infant due to the drastic physiological and psychological changes that occur subsequent to the delivery (Beck, 2006). Mood fluctuations, such as crying, irritability, and anxiety, can arise in the first few days following

birth lasting up to two weeks and can be characterized as the maternal blues period (Beck, 2006). If symptoms persist, women should be assessed for postpartum depression. In women with postpartum depression, a small percentage, one to two women per 1000 deliveries, will develop postnatal psychosis, a serious condition associated with suicide, infanticide, and homicide (Oates, 2003).

Although the exact cause of perinatal depression is unclear, research indicates that it results from a combination of biological and psychosocial factors. Several risk factors have been identified as being associated with depression in the perinatal period. A history of mental illness or anxiety, lack of social support, and stressful life events are the strongest predictors of depression within the perinatal period (Leigh & Milgrom, 2008; O'Hara & Swain, 1996; Oppo et al., 2009; Reid et al., 2009). Poor marital relationship, socioeconomic status, obstetric complications, and in particular, migration experience have also been shown to influence the onset of depressive symptoms in women in the perinatal period (Beck, 2006; Green, 1998; Leigh & Milgrom, 2008; O'Hara & Swain, 1996; O'Mahony & Donnelly, 2010).

Migration is widespread in Canada, with over 6 of the 32 million people in Canada being recognized as immigrants (Statistics Canada, 2007). Immigration into Canada continues to increase, particularly in the number of immigrants coming from non-European countries (O'Mahony & Donnelly, 2010). According to Census data from 2006, immigrants from the Indian subcontinent of South Asia constitute one of the most rapidly expanding immigrant groups in Canada (Statistics Canada, 2007). Over 700,000 immigrants in Canada are from southern Asia (Statistics Canada, 2007). While the majority of immigrants choose to settle in a few metropolitan areas, including Toronto, Vancouver, Montreal, and Calgary,

Vancouver receives the highest proportion of Asian immigrants (Hiebert, 2000). In the province of British Columbia, in 2006, over 14.2% of all new immigrants were from India (Statistics Canada, 2007).

Research shows that immigrant people are more vulnerable to mental health problems due to various stressors associated with the overall immigration experience (O'Mahony & Donnelly, 2010). Immigrant women may be at a higher risk for depression associated with childbirth due to the challenges associated with migration to a new country, including the stresses of acculturation, and overall adaptation to a foreign environment (Ahmed, Stewart, Teng, Wahoush, & Gagnon, 2008; Sword, Watt, & Krueger, 2006; Zelkowitz et al., 2008).

Research Objectives

While a fair amount of research has been conducted on immigrant women and perinatal depression, little research has been carried out on understanding perinatal depression, specifically in the South Asian immigrant women population. In particular, the aspect of how one's ethnicity and culture might be related to perinatal depression has been understudied. Whether or not South Asian immigrant women are at a higher risk of perinatal depression than their Canadian-born counterparts is unknown. Hence, the goal of this mixed-methods research study is to gain a better understanding of perinatal depression in South Asian immigrant women. I have examined three research questions among South Asian immigrant women residing in the Fraser Health Authority (FHA): 1) What are the prevalence rates of prenatal depressive symptoms? 2) Are socio-demographic or other factors associated with prenatal depressive symptoms? and 3) What is the role of gender and culture in women with prenatal depressive symptoms? By understanding the relationship between migration and cultural processes and perinatal depression among South Asian immigrant women,

public health nurses (PHNs) can be assisted in implementing strategies to address the modifiable risk factors and to prevent perinatal depression within this particular population.

The mixed methods approach included concurrent qualitative and quantitative data collection and analysis. A secondary analysis of a Fraser Health prenatal registration database examined the prevalence of prenatal depressive symptoms among South Asian immigrant women and possible contributing factors. Semi-structured interviews were conducted to add depth to the secondary data analysis.

This research study was guided from an intersectional perspective. The analysis of various facets of marginalized populations such as South Asian immigrant women was undertaken to understand the contexts that influence the health and well-being of these women. Moreover, the intersectional perspective highlights multiple interactions of certain aspects and factors in the lives of South Asian immigrant women that may increase their vulnerability to health issues such as depression.

Chapter 2: Review of the Literature

Introduction

One in five women in BC may experience some form of depression related to pregnancy and childbirth (BC Women's Hospital and Health Centre, 2006). The reported prevalence of perinatal depression tends to vary widely, because of the manner in which the depression is defined, how the depression is diagnosed, characteristics of the population being studied, and the period of time being considered (Gjerdingen, Crow, McGovern, Miner, & Center, 2011). In South Asian immigrant women; for instance, depression becomes manifest differently than in other ethnic groups (Hussain & Cochrane, 2002; Onozawa, Kumar, Adams, Doré, & Glover, 2003). South Asian immigrant women are more likely to complain of somatic symptoms, rather than psychological symptoms (Onozawa et al., 2003). Hence, the manner in which depression is diagnosed in certain groups requires specific understandings.

In a meta-analysis of 59 studies, the authors suggested that the prevalence rate of depression in the postpartum period was 13% (O'Hara & Swain, 1996). 'Postpartum' depression is the term most often used to describe depression related to childbirth; however, the term implies that the phenomenon only occurs in women after birth and fails to acknowledge that depressive symptoms can often arise during pregnancy. On the other hand, 'prenatal' depression, which is defined as depression in pregnancy, is a term that only recognizes depressive symptoms in the pregnancy period. Accordingly, while the terms 'postpartum depression' and 'prenatal depression' will be used in this study, the emphasis will be placed on the term 'perinatal depression,' as it considers depressive symptoms that manifest at any time during the childbirth process. Studies on depression in pregnancy

suggest that the rates of prenatal depression are comparable, or in some instances, higher than postpartum depression, ranging anywhere from 6 to 38% (Evans, Heron, Francomb, Oke, & Golding, 2001; Field, 2011; Green, 1998; Leigh & Milgrom, 2008).

In the following chapter, I will review some of the current literature in relation to perinatal depression and South Asian immigrant women. The concept of perinatal depression and what constitutes this illness, including both postpartum and prenatal depression, will be examined. Using an intersectional perspective, the relevant literature will be synthesized to examine perinatal depression in the immigrant women population. Finally, the South Asian culture will be examined to contextualize what cultural aspects may play a role in women who have perinatal depression.

Definition of South Asian.

Various interpretations for South Asian exist, based on such factors as country of residence, self-identification, and language. According to the United Nations, geographically, South Asia consists of Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka (United Nations, 2011). More commonly, South Asia refers to the Indian subcontinent. Statistics Canada categorizes individuals as South Asian, if they self-report their ethnicity as being associated with any southern part of Asia or self-identify with any South Asian group (Tran, Kaddatz, & Allard, 2005). South Asian people hail from a variety of different ethnic backgrounds including Bangladeshi, Bengali, Gujrati, Hindi, Punjabi, Sri Lankan, or Tamil (Tran et al., 2005). They may have been born in Canada or in the Indian subcontinent (Tran et al., 2005). According to Census Canada (2006), among recent immigrant women, the largest group was South Asian (Statistics Canada, 2007).

Individuals from India account for the largest proportion of all South Asian immigrants in Canada (Statistics Canada, 2007). In Surrey, BC, India is the most common country of birth among immigrants (Statistics Canada, 2007). Accordingly, for the purpose of this study, South Asian immigrant is defined as an individual who self-reports his or her ethnicity as being associated with India and is Punjabi-speaking. Punjabi-speaking was chosen as an indicator of being South Asian since Punjabi is the most common language spoken at home next to English in Surrey (Statistics Canada, 2007). The geographic area of Punjab spans the India-Pakistan border and can include individuals from Hindu, Sikh, or Muslim faiths (Bhui, Bhugra, Goldberg, Sauer, & Tylee, 2004). Because India is the dominant source of immigration in the Surrey region, the sample is largely expected to consist of South Asian Punjabi-speaking women.

Perinatal Depression

Definitions.

According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth edition (DSM-IV), women who are diagnosed with perinatal depression must meet the criteria for a major depressive disorder (American Psychiatric Association, 2000). Postpartum depression is indicated in the manual as having a major depressive disorder with the onset of this episode being within the first four weeks after delivery (American Psychiatric Association, 2000). Depression in the prenatal period is not specifically discussed in the manual, though the definition of a major depressive disorder is applicable to a diagnosis of depression at any point in one's life including in pregnancy. A major depressive disorder, according to the DSM-IV, is characterized by a minimum of two weeks of a depressed mood or loss of interest in activities of daily living, accompanied by four

additional symptoms of depression, which can include: feelings of worthlessness, sleep disturbances, lack of energy, appetite changes, and poor concentration (American Psychiatric Association, 2000).

Prenatal depression can be defined as a depressive episode of mild to moderate severity arising in or extending into pregnancy (Gibson, McKenzie-McHarg, Shakespeare, Price, & Gray, 2009). Symptoms of depression in the prenatal period are commonly overlooked or associated with the normal changes and emotions associated with pregnancy (Bowen & Muhajarine, 2006a, 2006b). At the same time, depressed, pregnant women are more likely to complain of somatic symptoms like nausea, stomach aches, or headaches in comparison to non-depressed, pregnant women (Bowen & Muhajarine, 2006a).

Unfortunately, similar to postpartum depression, large detrimental consequences may arise from the mental stress and depression during pregnancy, and for many women, the depression can continue into the postpartum period. Depression in pregnancy can diminish one's capacity for self-care, in terms of inadequate nutrition, inappropriate substance use, and poor prenatal follow-up (Leigh & Milgrom, 2008). Prenatal depression can result in higher levels of corticosteroids, decreased placental flow, decreased fetal activity, preterm birth, and lower birth weight infants (Bowen & Muhajarine, 2006a; Field, 2011; Satyanarayana, Lukose, & Srinivasan, 2011).

Depression in the postpartum period is most commonly categorized in three stages: postpartum blues, postpartum depression, and postpartum psychosis (Beck, 2006).

Approximately 50 to 75% of new mothers will experience the maternal blues, which is considered a normal reaction to the extensive physiological changes that mothers undergo during and immediately after birth (Beck, 2006). Symptoms can include crying, irritability,

fatigue, and anxiety, which often arise during the first few days after delivery and can last up to 10 days (Clay & Seehusen, 2004). During this time, women can recover quickly with support and reassurance (Beck, 2006). Postpartum psychosis is the severest postpartum mood illness and is associated with high rates of maternal suicide and infanticide (Beck, 2006). One to two women per 1,000 deliveries will develop psychosis after birth (Beck, 2006). A woman in psychosis may experience rapid mood changes, insomnia, agitation, delusions, and hallucinations (Clay & Seehusen, 2004). Mothers with postpartum psychosis become a threat to themselves and to their children, and should never be left alone (Beck, 2006). Psychosis in the postpartum period is considered a medical emergency and requires immediate hospitalization (Beck, 2006; Clay & Seehusen, 2004).

Consequences of perinatal depression.

Perinatal depression has widespread public health consequences. Infants born to depressed mothers have been found to have various developmental delays including cognitive issues, socialization difficulties, and increased attention disorders (Clay & Seehusen, 2004; Field, 2011; Satyanarayana et al., 2011). Furthermore, infants and children with mothers who suffer from postpartum depression may be less attentive, have cognitive delays, issues with attachment, and challenges with social interaction (Beck, 2006; Clay & Seehusen, 2004). A large prospective study conducted in the UK on school-aged children of women who had postpartum depression, found postpartum depression adversely affected the emotional and behavioral development of the participants (Pawlby et al., 2001). In particular, the children were found to exhibit violent symptoms and behaviors towards others (Pawlby et al., 2001). The widespread negative implications of perinatal depression not only affect the children and the women, but also extend to the husband and can create serious problems in

marital relationships (Clay & Seehusen, 2004). Husbands or partners are at a higher risk of developing depression in the postpartum period if their wives have postpartum depression (Areias, Kumar, Barros, & Figueiredo, 1996).

Risk factors of perinatal depression.

Depression in the perinatal period can be best explained from an intersectional perspective as depression is often a consequence of the complex interplay of biological, psychological, and social causal factors that increase ones vulnerability to the illness (Beck, 2006; Clay & Seehusen, 2004; Field, 2011). An intersectional perspective reveals how various factors intersect with one another in different social contexts to increase a woman's susceptibility to mental health issues during the childbearing period. Nevertheless, in most studies, the analyses of risk factors for perinatal depression often fail to focus on the interplay of these factors, instead, emphasizing the factors that are related to individual behavioral states. Consequently, the intersection of factors with one another is often overlooked and many studies report risk factors as being independent correlates of perinatal depression.

The risk factors for prenatal and postpartum depression vary little from one another, as these conditions are not considered to be distinct from each other (Clay & Seehusen, 2004). Throughout pregnancy and post-birth, women experience various hormonal changes (Beck, 2006). Levels of estrogen, progesterone, thyroid hormone, testosterone, and cortisol have all been examined in relation to the onset of perinatal depression, though clear associations with the hormonal factors have not been found (Clay & Seehusen, 2004). At the same time, chemical and hormonal stresses can further the risk of a worsening spiral of depression. Expectations of happiness around pregnancy can result in guilt and confusion in women who may already be vulnerable to depression (Bowen & Muhajarine, 2006a, 2006b).

Factors which increase the risk of prenatal depression include: a history of mental illness, a lack of social support, poverty, stressful life events, marital difficulties, previous miscarriages or abortions, unplanned pregnancies, and anxiety about the fetus (Fall, Goulet, & Vézina, 2013; Field, 2011; Sidebottom, Hellerstedt, Harrison, & Hennrikus, 2013). The factors which place women at risk for prenatal depression are similar to those that lead to postpartum depression; in particular, studies suggest that depressive symptoms in pregnancy significantly predict postpartum depression (Beck, 2006; Field, 2011; Green, 1998; Milgrom et al., 2008; Oppo et al., 2009). O'Hara and Swain's (1996) meta-analysis on the risk factors of postpartum depression measured in pregnancy, found that the strongest predictors of postpartum depression included prenatal depression, anxiety during pregnancy, past history of mental illness, poor marital relationship, stressful life events, and low social support.

In the study by Segre, O'Hara, Arndt, and Stuart (2007), on approximately 4000 postpartum women, significant risk factors for postpartum depression included various demographic factors, such as low income, less than a college education, low occupational prestige, young age, single marital status, and multiple offspring. These demographic factors have also been found to be associated with depressive symptoms in pregnancy (Fall et al., 2013). In a Canadian study by Sword, Clark, Hegadoren, Brooks, and Kingston (2012), postpartum depression is suggested to be caused by various personal factors/processes and situational/contextual factors. Through questionnaires during pregnancy and interviews conducted post-birth, the participants identified factors such as physical health after delivery, unrealistic expectations of motherhood, and a lack of instrumental support in contributing to their depressive symptoms (Sword et al., 2012). By examining the intersection of these

factors, and associations with other co-occurring conditions and experiences, a holistic overview of depression in the perinatal period can be obtained.

Screening and prevention.

The harmful repercussions of perinatal depression highlight the importance of working towards prevention, screening, and treatment strategies. The development of depression in the perinatal period varies according to the population, and certain groups may be at a higher risk (Gjerdingen et al., 2011). Targeting the high risk groups is a vital component in managing perinatal depression. Immigrant women, in particular, are reported to be at an increased risk for perinatal depression due to the numerous stressors associated with settlement in a foreign nation (Ahmed et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). With immigration rates on the rise across many developed countries, analysis of perinatal depression among this population is crucial. Although the dynamics and conditions that shape perinatal depression are intricately connected, an intersectional perspective can help in conceptualizing the various interactions.

An Intersectional Perspective

An intersectional theoretical perspective makes explicit how multiple dimensions and factors are simultaneously produced, intersected, reinforced, and transformed over time in social contexts to address inequalities (Weber & Parra-Medina, 2003). While an intersectional theoretical perspective shares many similarities with other theoretical frameworks, its conceptualization of social factors is a unique aspect (Hankivsky & Cormier, 2009). An intersectional perspective assumes that various interactive social and biological determinants of health and structural conditions, shape the health of populations (Vissandjee,

Hyman, Spitzer, Apale, & Kamrun, 2007). It moves beyond a singular category of analysis to examine the concurrent interplay of multiple aspects of social identity (Hankivsky & Cormier, 2009). Using an intersectional perspective for healthcare provision is important as it addresses the gaps in single explanation avenues in health and public policies that fail to grasp the complexities of group disparities (Hankivsky & Christoffersen, 2008).

Through an intersectional perspective, the researcher can examine the social complexities of lives and look beyond one factor to focus on several social axes and their corresponding identities that contribute to vulnerabilities (Hankivsky & Cormier, 2009). Each determinant is dynamic in nature and intersectionality implies that, while one axis may be more pertinent to a social situation than another, no factor should be disregarded (Hankivsky & Cormier, 2009). Intersectionality recognizes that categories or determinants differ in content and form, and hence, should be analyzed accordingly (Hankivsky, 2012). *Simultaneity* is an underlying principle of an intersectional perspective, as it works toward gaining an understanding of individuals or groups who experience or are exposed to several social determinants in a collective manner to place them at a disadvantage (Veenstra, 2011). The principle of “multiplicativity” is deemed more important than “additivity” (Veenstra, 2011). According to Hankivsky and Cormier (2009), “Individuals’ economic, political, cultural, subjective, and experiential lives intersect to create a whole which is greater than the sum of its parts” (p 4).

Intersectional analysis of gender, race, culture, and class.

Gender, race, culture, and class are social categories that significantly shape the lives of individuals and populations. Through an intersectional lens, the inequalities caused by race, culture, gender, and class are analyzed and understood collectively rather than as

separate individual factors (Veenstra, 2011). The determinants are mutually constructing and reinforcing one another, and hence, cannot be detached from each other (Veenstra, 2011).

The concurrent interactions between the social categories of gender, race, culture, and class can place many individuals and groups in a vulnerable position; thus, understanding these concepts is an essential part of the process in helping to reduce the inequities within socially vulnerable populations (Schulz & Mullings, 2006).

Gender.

Gender is a socially constructed term, that refers to culturally produced conventions, roles, behaviors, identities, and attributions of self (Clow, Pederson, Haworth-Brockman, & Bernier, 2009). Fundamentally, gender describes and prescribes the meaning of being “male” or “female” within society at a given time (Clow et al., 2009). The particular expressions, practices, customs, and understandings of gender, are dynamic in nature and can vary over time and place among communities (Perderson & Raphael, 2006). Male and female experiences consist of multiple facets that include gender identity, gender roles, gender relations, and institutionalized gender (Clow et al., 2009). Although all individuals create their gender identity, carry out gender roles, and encounter gender relations and institutionalized gender, each of these experiences are specific to one’s social, cultural, economic, and political environment; hence, diversity must be acknowledged when examining the different dimensions (Clow et al., 2009). With the development of gender identity, appropriate behaviors, feelings, emotions, and actions for the prescribed gender are learned (Johnson, Greaves, & Repta, 2009). The manner in which one enacts and expresses their gender identity is often described as gender roles (Clow et al., 2009). Gender roles include behavioral norms that are applied to men and women in shaping an individual’s daily

practices, outlooks, and experiences (Clow et al., 2009). The everyday interactions and the way in which one is treated by others in the surrounding environment as a result of their gender are referred to as gender relations (Clow et al., 2009). Because gender is relational, the hierarchy of gender roles should be taken into account (Clow et al., 2009). The examination of gender relations can reveal the contrast in power between males and females (Johnson et al., 2009), and the differences in power can be further revealed by institutionalized gender, which highlights how key political, religious, economic, educational, media, and social organizations frame and influence an individual's gender experiences, roles, and relationships (Hankivsky & Cormier, 2009). The powerful institutions shape social norms that define and justify contrasting expectations and opportunities for men and women (Hankivsky & Cormier, 2009). Variation in employment options, family and social roles, and access to resources such as health and income for men and women are all affected by institutionalized gender (Hankivsky & Cormier, 2009).

Race.

Race, ethnicity, and culture are terms that are frequently used interchangeably. In comparison to culture, which is often defined as a social difference within groups, race is most often viewed as a biological difference within groups (Hankivsky et al., 2010). In regards to health and well-being, racial differences in health status are argued to be the result of exposures to various social and structural conditions related to class differences and not due to hereditary and genetic pre-dispositions (Schulz & Mullings, 2006). Hence, it is essential to look beyond the biology and genetics of race when examining it as a determinant of health (Vissandjee et al., 2007). Using race as a category or determinant on its own fails to take into account the complexities of cultural norms, beliefs, and values; thus, it must be

analyzed in combination with culture and other social aspects of one's life (Vissandjee et al., 2007).

Culture.

Culture is often interpreted as a system of meaning shared by a group of individuals who may have common historical, racial, ethnic, or social backgrounds, and it is learned and passed on from one generation to the next (Chan, MacDonald, & Cohen, 2009). Human conduct is viewed as being culturally-mediated as culture is perceived to be a process through which daily interactions hold an emotional tone and moral meaning for individuals (Chan et al., 2009). Accordingly, individuals are viewed as cultural beings, bringing to contexts their own values, beliefs, and knowledge (Chan et al., 2009). Although certain cultural aspects are identified with or associated with certain groups, these aspects hold varying meanings for individuals and are taken up selectively (Lynam, Browne, Kirkham, & Anderson, 2007). Cultural customs, traditions, and beliefs are not viewed in the same manner by members of a certain cultural group (Lynam et al., 2007). Some individuals may find a sense of belonging and comfort with cultural traditions and norms, while others may find them to be restrictive (Lynam et al., 2007). Consequently, when examining culture, cultural groups must not be generalized as sharing the same beliefs, norms, and traditions runs the risk of cultural stereotyping and labelling (Lynam et al., 2007).

An understanding of culture must go beyond the description of culture towards a critical analytic perspective that explores the different dimensions of culture that are developed and shaped by social contexts (Lynam et al., 2007). Culture is not static in nature but is experiential, dynamic, and constantly changing (Hankivsky & Cormier, 2009). It is continuously being redefined within different contexts (Lynam et al., 2007), and hence,

culture must be understood as a context itself, which evolves and interacts with, and is affected, by all aspects of the social environment (Chan et al., 2009). MacLachlan (2006) discusses cultural evolution as the recognition that values, attitudes, and customs change within the same social system over time.

Class.

In the literature, various definitions of class can be found. The determinants of class can include income, employment, education, family background, and language (Hankivsky & Cormier, 2009). Class is often described as a socio-economic social stratification, which represents the existent social hierarchy in our society (Hankivsky & Cormier, 2009). Most commonly, it refers to an individual's or group's place in the structure of society, which determines one's access to power, privilege and resources (Schulz & Mullings, 2006). Class, like other social categories, is not always a stable concept over time, and can change in various contexts and times in the lives of individuals (Hankivsky & Cormier, 2009).

Perinatal Depression in South Asian Immigrant Women: Research Inquiry Informed by an Intersectional Perspective

Depression is often understood through an individualistic and biomedical lens. Such an understanding of perinatal depression; however, might be argued to be unable to provide the basis for optimal care for women, because it fails to explain the intersection between individual biology and psychological/social experiences (Vissandjee et al., 2007). From an intersectional perspective, an individual's mental health is shaped by a combination of social, biological, and structural conditions (Vissandjee et al., 2007). The intersectional approach for understanding perinatal depression within South Asian immigrant women addresses the gaps

in single explanation avenues that fail to grasp the complexities of this group's disparities (Hankivsky & Christoffersen, 2008).

Intersectional analysis of gender, culture and class.

Depression is often described as a gendered problem (Falicov, 2003). The social constructions of the female gender has put women in a position of inferiority when it comes to their needs (Falicov, 2003). South Asian immigrant women, in particular, can face increased pressures to fulfill culture-specific gendered roles in environments that are patriarchal in nature (Grewal, Bottorff, & Hilton, 2005; Grewal, Bhagat, & Balneaves, 2008; Tewary, 2005). In general, South Asian immigrant women suffer greater discrimination and lack power in society, relative to men, resulting in their economic and legal helplessness, dependency on others, low self-esteem, all of which can lead to depression (Tewary, 2005).

Intertwined with gender is the expectation of women to succumb to cultural role specifications (Falicov, 2003). The intersection of the cultural context with gender, class, and other migration stressors can increase the risk of perinatal depression in South Asian immigrant women. Morrow, Smith, Lai, and Jaswal (2008) discuss the concept of "maternal role attainment," which is related to the incongruity between the expectations and realities of becoming a mother and in association with postpartum stress. "Maternal role attainment" is understood as the pressures that women face to adhere to the gendered ideals of motherhood and femininity, which also differs across cultures (Morrow et al., 2008). Cultural traditions can be perceived as a mechanism by which power is operated to maintain certain forms of positioning and control in women (Lynam et al., 2007). Adjusting to the cultural demands and challenges of being pregnant and being a new mother can, in turn, increase a woman's vulnerability to depression during this sensitive time (Zelkowitz et al., 2008).

The notion that culture is a lived experience, which is developed and shaped by one's social contexts, is fundamental to the analysis of perinatal depression in South Asian immigrant women. Many South Asian immigrant families value the importance of practicing their original traditional values and norms, in terms of family structure, social economic roles, and parenting styles (Tewary, 2005). To understand the cultural context of a South Asian immigrant woman, the process of maintenance and transmission of traditional culture within the family must be examined (Tewary, 2005). While many South Asian immigrant women may share similar cultural aspects due to their common ethnic and racial backgrounds, cultural factors may also hold a number of meanings for South Asian immigrant women, some of which may resemble others.

High depressive symptoms in the perinatal period have also been linked to low socio-economic status (O'Mahony & Donnelly, 2010). In immigrant women, in particular, the degree to which these women are vulnerable to the stresses of migration seems to be related to their socioeconomic status (Mechakra-Tahiri, Zunzunegui, & Seguin, 2007; Morrow et al., 2008). Social determinants of health, such as housing, finances, and social supports have been found to be associated with the development of perinatal depression in immigrants (Benoit, Westfall, Treloar, Phillips, & Jansson, 2007). The determinants can be further compromised in South Asian immigrant women. In terms of economics, South Asian immigrants face many challenges upon arriving to Canada. Many South Asian immigrant women never had to work in their own countries, and hence, their employment opportunities are limited due to language barriers, lack of previous work experience, and lack of education, etc. (Mehrotra & Calasanti, 2010). Many South Asian immigrant women are forced to work laborious jobs with low-pay, which can increase their stress and reduce their time for self-

care (Mehrotra & Calasanti, 2010). Over the past few decades, the standards of living within Canada have increased significantly, while the minimum wage has remained largely the same. Finances, a major stressor in the lives of South Asian immigrant women, can contribute to their worry and anxiety. Low income and the loss of job autonomy can also affect one's resources, and decrease one's social status in society (Tewary, 2005). As O'Mahony and Donnelly (2010) explain, when a immigrant woman has a "second class status in relation to the labour force, government benefits, and services, a common result is isolation and dependency within the family" (p. 445). Many South Asian immigrant women become dependent on their husbands or others for finances, transportation, and accessing services within the community (Mehrotra & Calasanti, 2010). Besides feeling that they are unable to function in society as independent women, the women cannot connect with the resources to help their health and well-being, especially during the childbearing years.

Canadian immigration policy may further contribute to an immigrant woman's dependency and vulnerability (O'Mahony & Donnelly, 2010). Economically, many South Asian immigrant women depend on their husbands, because of the sponsoring process that prohibits them from becoming employed (Mehrotra & Calasanti, 2010). In some cases, spouses are forced to work hard labor jobs with long hours and thus are unable to provide the necessary support required by their immigrant wives during the crucial perinatal period (Morrow et al., 2008). In other instances, immigrant mothers may be awaiting the arrival of their husbands, because of the sponsorship process, and are left to care for themselves and baby on their own without any spousal support.

Moving towards an intersectional perspective of women's reproductive health creates a space for understanding the various factors that influence at-risk populations, and

consequently, helps to reduce the health inequities in these populations. When the effects of gender, race, culture, and class intersect, the vulnerabilities of South Asian immigrant women to mental health illnesses during their reproductive years increase.

Perinatal Depression and Immigrant Women

The literature on immigrant women and perinatal depression was examined in a small systematic review. The literature was searched through two major online databases – Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Pub Med. In the searches, the following keywords were used: immigrant women and perinatal depression. Subject and MeSh terms for keywords, such as postnatal depression, postpartum depression, prenatal depression, antenatal, depression, immigrants and immigration were used to streamline the search results. Articles were included that examined depression during pregnancy and during the postnatal period. Eight research studies were selected for further critiquing and analyses, based on the relevance of terms in the topic of interest and on the population.

Research studies on perinatal depression and immigrant women consist of a combination of qualitative and quantitative methods. The quantitative research uses a cross-sectional approach to highlight the incidence and prevalence of perinatal depression among immigrant women. The qualitative studies add depth to the evidence and provide more insight into the experiences of immigrant women with perinatal depression. Seven of the eight studies took place in Canada, in various obstetrician offices, prenatal centers, physician offices, and the homes of immigrant women, in three major cities: Vancouver, Montreal, and Toronto.

Cross-sectional designs were used in three of the quantitative studies (Miszkurka, Goulet, & Zunzunegui, 2010; Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008; Sword et al., 2006) including one that was a prospective cohort study (Miszkurka et al., 2010). Four of the five quantitative studies compared immigrant women and Canadian-born women. Within the qualitative studies, two studies used semi-structured interviews (Ahmed et al., 2008; Morrow et al., 2008) and one study used focus groups in the study design (Ahmad et al., 2004).

Sampling.

The quantitative studies used an assortment of sample sizes, ranging from approximately 100 to 5000 women (Mechakra-Tahiri et al., 2007; Miszkurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). The qualitative studies, due to the nature of the research, had smaller sample sizes, in comparison to those in the quantitative studies. Nevertheless, the numbers of participants were sufficient for the purpose of their research approaches, ranging from 24 women in the focus groups and 10-18 women in the interviews (Ahmed et al., 2008; Morrow et al., 2008). The sample characteristics differed across the studies. The women's ages ranged from 20 to early-40s. Women who were first-time mothers or had had more than one child were included in all of the studies. The definition of "immigrant woman" was discussed in only two of the studies, and referred to refugees, asylum seekers, and family class immigrants (Ahmed et al., 2008; Stewart et al., 2008). Four of the eight studies were concerned with immigrant women only, whereas, the other four studies used a comparative approach consisting of both immigrant and Canadian-born women. The region of origin varied for the immigrant women in the studies, and included Asia, South America, Africa, and Europe. Although the focus of the literature

search was on immigration and perinatal depression, and the term “South Asian” was not included in the search, the search still found one study that was specific to South Asian immigrant women (Ahmad et al., 2004). In addition, South Asian immigrant women were part of the sample in six of the other selected studies (Ahmed et al., 2008; Mechakra-Tahiri et al., 2007; Morrow et al., 2008; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). Only one study (Miszkurka et al., 2010) had a sample without any South Asian immigrant women. The immigrant women participants in two of the studies had been living in Canada for less than five years (Ahmed et al., 2008; Stewart et al., 2008). In comparison, three of the studies involved immigrant women with varied lengths of stay (Morrow et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008) and the length of stay was not mentioned in two studies (Mechakra-Tahiri et al., 2007; Miszkurka et al., 2010).

Critical appraisal of the studies.

Random sampling was used in only one study (Mechakra-Tahiri et al., 2007), increasing its generalizability. One of the quantitative studies purposefully selected participants for a sample that would better represent the large immigrant population (Sword et al., 2006). Convenience sampling was used in three of the quantitative studies (Miszkurka et al., 2010; Stewart et al., 2008; Zelkowitz et al., 2008). Two of the qualitative studies (Ahmad et al., 2004; Morrow et al., 2008) selected participants to obtain diverse samples. The remaining qualitative study (Ahmed et al., 2008) used a convenience sample. All of the quantitative studies used interviews with questionnaires (Mechakra-Tahiri et al., 2007; Miszkurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). Although the content of the questionnaires differed, a measure of depression and the factors

associated with depression, such as social support and finances, were included in all questionnaires.

Depression was measured with either the Edinburgh Postnatal Depression Scale (EPDS) or the Center for Epidemiologic Studies Depression (CES-D) scale in most of the quantitative and qualitative studies, with the exception of Morrow et al. (2008) who examined overall mental health, as opposed to specifically perinatal depression. Five of the studies used the EPDS, which is a valid and reliable tool for screening those at risk for depression associated with childbirth. Analyses of the reliability and validity of the tools were included in the articles. The CES-D scale, though not as widely used as the EPDS, is also a valid tool for measuring depression. In addition, an instrument for measuring social support was used in three of the five quantitative studies (Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008).

Data analysis.

In all of the quantitative studies, appropriate statistical tests were performed (Mechakra-Tahiri et al., 2007; Mischurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). Descriptive statistics were used to obtain mean values and percentages of the demographics. Categorical data was assessed using a range of non-parametric tests. Logistic regression models, along with univariate descriptions were used to assess the associations between variables and the prevalence of depressive symptoms. Constant comparative analysis was carried out in all of the qualitative studies to reveal relevant themes and categories (Ahmad et al., 2004; Ahmed et al., 2008; Morrow et al., 2008). In all of the studies, the in-depth and focus group data was audio-taped, transcribed, coded, and categorized by more than one researcher to increase the overall reliability of the

research. In only one study (Ahmad et al., 2004), the authors discuss member-checking as an important process to improve the validity of the study.

In all of the studies except one, the settings were in various Canadian cities with large multiethnic groups, to increase the applicability of the findings to other immigrant populations in Canada. Most of the quantitative studies had large sample sizes, which increased the likelihood of samples being more representative of the population (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). The qualitative studies had small sample sizes, which were suitable to their purpose since the aim of qualitative research is to discover meaning and not to generalize to a target population.

For most of the participants, English was not their first language. Two of the studies required some understanding of English or French (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010), which acts as a selection bias and limiting factor, because immigrant women who do not speak English or French may be at a higher risk for perinatal depression in Canada. Accordingly, these studies may have led to an underestimation of the prevalence of depression. Zelkowitz et al. (2008) and Stewart et al. (2008) included immigrant women with a diverse range of languages, to increase the variability and applicability to other immigrant populations.

Questionnaires were used in each of the quantitative studies (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). The questionnaires were not administered by the authors, thus, preventing researcher bias. With the exception of Stewart et al. (2008), the quantitative studies did not assess a previous history of mental illness as part of the questionnaire (Mechakra-Tahiri et al., 2007;

Miszkurka et al., 2010; Sword et al., 2006; Zelkowitz et al., 2008). Therefore, it is unknown whether or not participants with higher symptoms of depression had symptoms before entering the perinatal period.

The qualitative studies with interviews and focus groups had those components conducted by individuals other than the authors (Ahmad et al., 2004; Ahmed et al., 2008; Morrow et al., 2008). The focus group approach may not have been the most appropriate for the purpose of the research since many immigrant women may refrain from disclosing their mental illness experiences in front of other individuals (Ahmad et al., 2004). The qualitative studies, which included interviews and focus groups, had appropriate explanations of the data analyses and included rich quotes throughout (Ahmad et al., 2004; Ahmed et al., 2008; Morrow et al., 2008). Data analyses were completed by more than one researcher in all of the qualitative studies to ensure dependability, congruency, and reliability. A major limitation of the qualitative studies was that no indication was made whether or not theoretical saturation had occurred.

Most of the studies failed to identify a theoretical perspective, except for the studies by Zelkowitz et al. (2008) and Morrow et al. (2008). Zelkowitz et al. used a framework of migration that included three major transition changes involving social networks, finances, and cultural systems. The framework is also highly relevant for analyzing the experiences of pregnant immigrant women, as it considers the process of migration in relation to prenatal depression. Similarly, Morrow et al. identified a feminist perspective, which was appropriate for their research question as it considers a gendered analysis approach to analyze the health of vulnerable immigrant women.

Prevalence of perinatal depression.

The purpose of the quantitative research was to examine the prevalence of perinatal depression in immigrant women. All of the quantitative studies revealed that immigrant women are at a high risk for perinatal depression (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010; Stewart et al., 2008; Sword et al., 2006; Zelkowitz et al., 2008). The comparison studies also found that rates of depression were higher in immigrant women, compared to Canadian-born women (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010; Stewart et al., 2008; Sword et al., 2006). Stewart et al. (2008) and Sword et al. (2006) found that immigrant women were more likely to score above the EPDS cut-off, when compared to Canadian-born women; they were almost twice as high in Sword et al.'s (2006) study. Similarly, the rate of depression was twice as high among minority immigrants, compared to Canadian-born and majority immigrant groups in the study by Mechakra-Tahiri et al. (2007).

Factors associated with perinatal depression.

Social support.

In all of the studies, social support was reported to be an influential factor for perinatal depression among immigrant women. In the qualitative studies, the immigrant women reported feeling socially isolated after their immigration, because of a lack of friends and family in Canada (Ahmed et al., 2008; Morrow et al., 2008). In their home country, many of the women would have been surrounded by their female family members after childbirth who, in many ways, would be acting as their first line of support (Ahmed et al., 2008; Morrow et al., 2008). Upon their arrival to Canada, immigrant women with higher depressive symptoms described their social networks as including fewer women, fewer relatives, and fewer people from their own ethnic group (Zelkowitz et al., 2008). Compared

to Canadian women, immigrant women had lower social support mean scores (Stewart et al., 2008; Sword et al., 2006). Zelkowitz et al. (2008) suggested that social supports among immigrant women are related to their length of stay in Canada. More recently arriving immigrants reported having fewer social supports (Zelkowitz et al., 2008). Although length of stay in Canada was a significant factor, and women who are new to Canada might be expected to have a higher risk of perinatal depression due to migration-related issues, length of stay was only mentioned in the findings of Zelkowitz et al. and Stewart et al. (2008). According to Stewart et al., length of stay did not increase the risk for higher EPDS scores among immigrant women, and the authors further explained that the five-year time interval may not truly reflect the effects of acculturation, because of the “healthy immigrant effect”.

Income/finances.

Immigrant women face many economic uncertainties upon arrival in Canada (O’Mahony & Donnelly, 2010). Compared to Canadian-born women, immigrant women had higher rates of lower income (Mechakra-Tahiri et al., 2007; Miskurka et al., 2010). Many immigrant women are also financially reliant on their husbands, who may be forced to work hard labor jobs with long hours (O’Mahony & Donnelly, 2010). As a result, spousal support for the new immigrant mothers may be lacking and financial issues can become major stressors in their lives (Morrow et al., 2008). In several studies, finances were identified as a significant stressor in the lives of immigrant women experiencing perinatal depression (Ahmed et al., 2008; Mechakra-Tahiri et al., 2007; Miskurka et al., 2010; Sword et al., 2006; Zelkowitz et al., 2008). Miskurka et al. (2010) recognized that a low socio-economic status accounted for the higher prevalence of depressive symptoms among pregnant immigrant women, compared to Canadian women (Miskurka et al., 2010). Similarly,

Zelkowitz et al. (2008) reported financial stressors as being more common in immigrant women with higher EPDS scores.

Other associated factors.

In the research studies, a variety of associated factors were identified as contributing to the onset of depressive symptoms experienced by immigrant women during the perinatal period. While culture was not specifically mentioned in the literature as being one of the associated factors, most of the factors can be understood through the concept of culture. Morrow et al. (2008) indicated the significance of interpersonal relations among immigrant woman and how it could play a major role in helping the women cope mentally during the postpartum period. Marital problems, conflict with in-laws, and cultural pressures and expectations were mentioned by the immigrant women in this study as influencing their mental health condition (Morrow et al., 2008). Changes in roles and responsibilities and pressures related to gender expectations appear to intersect with the overall stresses of migration, to place immigrant women at a higher risk for perinatal depression (Ahmed et al., 2008; Morrow et al., 2008; Zelkowitz et al., 2008).

Accessing healthcare resources and supports.

Many of the studies discussed the barriers to accessing healthcare resources. Immigrant women with higher EPDS scores reported receiving less prenatal care, compared to Canadian-born women (Stewart et al., 2008). Language barriers were also identified by immigrant women as obstacles to accessing support for their postpartum depressive state (Ahmed et al., 2008). Furthermore, Miskurka et al. (2010) recognized language barriers as accounting for the higher prevalence of depression in immigrant women, compared to Canadian women, which in turn, may be related to an inability to access healthcare resources

during a crucial time in their lives. Stigma, associated with seeking medical help and taking medication, was found to influence the decision to access healthcare supports for the depressive symptoms in immigrant women (Ahmed et al., 2008; Miszkurka et al., 2010). General physicians were viewed as being inaccessible, because of long wait times and an overall lack of knowledge and awareness about postpartum depression (Ahmed et al., 2008; Miszkurka et al., 2010). Community health nurses, in contrast, were identified as having a positive and helpful role in assisting immigrant women during their postpartum depressive state (Ahmed et al., 2008; Miszkurka et al., 2010).

In all of the studies, the influence of migration on women's lives is a dominant theme. The stressors associated with migration influence the onset of depressive symptoms during the women's perinatal period. Housing issues, changes in income, disruption of social networks are sources of stress that arise from migration and which can be detrimental to a woman's mental state and ability to cope during the perinatal period (Mechakra-Tahiri et al., 2007; Zelkowitz et al., 2008). Many of the reviewed studies analyzed risk factors separately from each other and did not consider their combined interactions. Nevertheless, the cultural context that surrounds immigrant women is an essential component in the complex phenomenon of perinatal depression. For South Asian immigrant women, culture can intersect with other factors to increase their risk for mental illness. While the exploration of perinatal depression in South Asian immigrant women may involve risk factors that are similar to those for women in other immigrant groups, the specific influence of the South Asian culture must be considered in terms of the women's health and mental well-being.

South Asian Immigrant Women and Perinatal Depression: Analysis of Culture

The event of childbirth is a “rite of passage” and marked in most non-Western communities by cultural traditions, rituals, values, and viewpoints (Cox, 1999). Across most of the South Asian culture, like in many other cultures, bringing a child into the world holds several meanings (Grewal et al., 2008). Childbirth validates social expectations of marriage and having children (Grewal et al., 2008). Being sensitive to the cultural context of birth and the varying ways in which culturally diverse mothers experience the childbirth process is essential to studies of perinatal depression (MacLachlan, 2006). Culture is not a static concept, and its context is continuously evolving (Chan et al., 2009). MacLachlan (2006) described cultural evolution as the recognition that values, attitudes, and customs change within the same social system over time. Several experiences that are significant and unique to the South Asian culture occur during the perinatal period, and some of these can have a detrimental effect on the mental well-being of the mother. The factors can include family, gender-specific roles, newborn gender, and stigma around mental illness.

Family.

Cultural practices may be seen as either protective of a woman’s mental health and/or detrimental to a woman’s mental health. Family is a large part of the lives of most South Asian immigrant women. In Northern India, a joint family is considered as the ideal Indian family structure (Mehrotra & Calasanti, 2010). After marriage, a woman is expected to move in with her husband’s family and the home of her in-laws is considered as the couple’s real home (Choudhry, 2001). For many South Asian immigrant women, childbirth is considered a family experience, and family members provide practical and emotional support needed by the woman during pregnancy and after birth (Grewal et al., 2008). In Grewal et al.’s (2005)

ethnographic study in Canada, the authors examined the influence of family on the health of South Asian immigrant women's health. The authors found that the extended family is viewed by many South Asian immigrant women to be a major source of social support. Family members are sought for health advice and emotional support (Grewal et al., 2005, 2008), and the elder women in the family are consulted for guidance around pregnancy and birth (Grewal et al., 2005, 2008). For many South Asian immigrant women who are originally from India, the phrase, "It takes a village to raise a child" is especially apt. Family members are as involved, or more involved, than the mother, in taking care of the newborn immediately after birth. Some cultural traditions among South Asian people encourage new mothers to rest for 40 days postpartum; when the family takes over infant care and the domesticated roles (Grewal et al., 2008).

The ample support from the family unit can act as a barrier to various health issues, such as the mother's perinatal depression (Grewal et al., 2005, 2008). South Asian immigrant women who do not have their family members present, due to the migration process, may lack social support and be at risk for becoming socially isolated (Bina, 2008; Mehrotra & Calasanti, 2010; Templeton, Velleman, Persaud, & Milner, 2003). When social isolation occurs at the most sensitive time in their lives, they can have an increased vulnerability to perinatal depression (Bina, 2008). The loss of social support was perceived by South Asian immigrant women to be the most significant stressor on their mental health, according to a focus group study by Ahmad et al. (2004). Much of the literature on immigration and perinatal depression coincides with this theme of social isolation, which occurs in many immigrant groups arriving to a new country (Hussain & Cochrane, 2002; Oates et al., 2004). The lack of social support is also interrelated with all other stressors associated with

immigration, leading to an increased overall risk of perinatal depression for these women (Bina, 2008).

Still, residing in extended households can also contribute to maternal depression for some South Asian women. Relationship challenges may occur with mother in-laws or other family members (Baldwin & Griffiths, 2009). Mother in-laws being a source of unhappiness was indicated as a common theme for British South Asian mothers in an international study on postnatal depression across cultures (Oates et al., 2004). In addition, in a study by Teng, Robertson Blackmore, and Stewart (2007), which explored the views of healthcare workers in Toronto with regards to barriers to care by immigrant women with postpartum depression, the authors reported that the barriers included obligations to family and marriage, lack of spousal support and validation, increased dependency on husband, and unsupportive mother in-laws.

Gender-specific roles.

South Asian families have also become important for the development of women's identity (Mehrotra & Calasanti, 2010). Joint families are often patriarchal, where elder men hold the most power, and the daughter in-laws are typically at the bottom of the adult hierarchy (Mehrotra & Calasanti, 2010). South Asian immigrant women are often forced to renegotiate their roles and responsibilities when they are disrupted by the migration process, to be able to fulfill cultural idealized notions of families (Mehrotra & Calasanti, 2010). Women can be further disadvantaged by various South Asian cultural norms, which places them in a subordinate position within the household. This can worsen their mental stress and escalate the risk for developing a mental illness (Grewal et al., 2005). Roles and obligations that are specific to women and the various expectations for women and men who are in the

extended family can burden and constrain women (Grewal et al., 2005; MacLachlan, 2006; Mehrotra & Calasanti, 2010). Excessive amounts of domestic work in large, extended families was also indicated as contributing to unhappiness among UK South Asian mothers (Oates et al., 2004), in a study that explored postpartum depression in different cultures. The high demands that are placed on South Asian women to fulfill their “tripartite roles” of mother, wife, and daughter-in-law come into full force during the perinatal period and can increase the level of maternal stress and anxiety (Baldwin & Griffiths, 2009).

Generally, most South Asian immigrant women are domestic laborers, responsible for household chores, even if they also have a job (Mehrotra & Calasanti, 2010). The social and economic valuation of productive work is unequal (Llácer, Zunzunegui, del Amo, Mazarrasa, & Bolúmar, 2007), and a woman’s unpaid work to complete household duties is often unrecognized and devalued (Llácer et al., 2007). For immigrant women who do not have a job, and remain housewives, they have little opportunity to recreate functional social networks, while their husbands can usually make social networks through their jobs (Llácer et al., 2007). As a consequence, the gender social isolation increases the risk for depression among the women (Llácer et al., 2007).

In some families, decisions are made solely by the males (Grewal et al., 2005; Mehrotra & Calasanti, 2010; Templeton et al., 2003). When a woman is part of a patriarchal household and pressured to follow gendered roles and fulfill maternal expectations, her autonomy can be limited, and mental health issues can develop (MacLachlan, 2006). Having to adapt to various cultural obligations, while facing the many difficulties of being pregnant and becoming a new mother, can increase the risk of a woman developing depression (Zelkowitz et al., 2008). In several Indian studies, the strains in marital relationships,

overworking, and the lack of practical and emotional support by spouses was identified by women as playing a role in the onset of perinatal depression (Chandran, Tharyan, Muliyl, & Abraham, 2002; Patel, Rodrigues, & DeSouza, 2002; Rodrigues, Patel, Jaswal, & de Souza, 2003; Savarimuthu et al., 2010). In general, patriarchal practices, gendered roles, maternal expectations, and family responsibilities can significantly affect a woman's personal autonomy, to contribute to an increased risk of developing mental health issues (MacLachlan, 2006).

Newborn gender.

Historically, in the South Asian culture, sons are valued more than daughters (Lynam, Gurm, & Dhari, 2000). This traditional thinking stems from the desire to have sons carry the family name and to ensure that family assets remain within the family (Lynam et al., 2000). Although the shift recently has been away from this traditional view, some South Asian immigrant women continue to face pressure and stress to produce a male heir (Bina, 2008). In families that still adhere to the traditional view, newborn gender is extremely important, and consequently, women who do not give birth to sons may be at a greater risk of developing perinatal depression (Lynam et al., 2000).

In Grewal et al.'s (2005) study on perinatal health, the South Asian immigrant women spoke about the expectations with regards to childbirth soon after marriage and the increased pressure to give birth to a male. The preference for newborn males appears as a consistent theme in many Indian studies dealing with postpartum depression, where it was considered a major stressor in the lives of women during the perinatal period (Chandran et al., 2002; Patel et al., 2002; Rodrigues et al., 2003; Savarimuthu et al., 2010). Patel et al. (2002) described

the relative risk of onset of postpartum depression in mothers who had experienced marital violence as being greater if the infant was a girl, but lower if the infant was a boy.

More recently, a population-based study in Ontario found that multiparous women born in India were significantly more likely than multiparous women born in Canada to have an infant boy (Ray, Henry, & Urquia, 2012). The boy to girl ratio remained unchanged in Canadian-born women with more than one infant, whereas the boy to girl ratio increased and was significantly higher in Indian immigrant women who had more than one infant (Ray et al., 2012). The findings raise the possibility that Indian immigrant couples may be more likely than couples born in Canada to use sex determination prenatally, and hence, terminate a pregnancy if the fetus is a girl or carry out other sex selection procedures (Ray et al., 2012).

On the other hand, Goyal, Murphy, and Cohen, (2006) conducted a descriptive quantitative study and found no statistically significant findings concerning cultural preferences for male newborns in relation to postpartum depression. Nevertheless, the study sample was comprised of a self-selected sample of upper class and highly educated Indian immigrant women, suggesting that the issue of gender among this population is not as influential for the onset of postpartum depression, as may be the case for other Indian immigrant women. The number of years of maternal education was found to be a protective factor against postpartum depression in an Indian study by Patel et al. (2002). Hence, cultural risk factors were offset by the level of education of these mothers (Patel et al., 2002). In another study conducted in India by Savarimuthu et al. (2010), schooling of less than five years was found to be a risk factor of postpartum depression. Generally, these findings indicate a possible role of education in decreasing the influence of cultural norms.

Expression of depression.

The expression of mental distress varies across different cultures and communities. South Asian immigrant women express mental distress in culturally specific ways that are different from English-speaking women (Fenton & Sadiq-Sangster, 1996). South Asian immigrant women are more likely to use physical terminology and express their mental distress through physical symptoms (Templeton et al., 2003). This can be explained by considering the holistic model of health and illness in the East, where the mind and body are not considered to be separate from each other (Hussain & Cochrane, 2002). The language used to express mental distress includes both mental and physical components (Fenton & Sadiq-Sangster, 1996; Gupta, 2010). More specifically, depressive symptoms described by South Asian immigrant women often refer to body aches, pains, and weaknesses (Fenton & Sadiq-Sangster, 1996). Punjabi phrases that are commonly used include “feelings of increased pressure in one’s head” and “sinking of the heart” (Fenton & Sadiq-Sangster, 1996). Gupta (2010) suggested that psychological symptoms are less often used by Indian women, compared to physical symptoms, to express mental distress, because they signify a weak character and personal deficits that would evoke blame on themselves.

Stigma.

Stigma is often associated with illnesses that are believed to be under the individual’s control (Pinto-Foltz & Logsdon, 2008). Thus, mental illness is often seen as a condition for which the individual should have control, and it is highly stigmatized (O’Mahony & Donnelly, 2010). Like other mental illnesses, perinatal depression is associated with a large stigma (O’Mahony & Donnelly, 2010; Pinto-Foltz & Logsdon, 2008). With so many societal expectations for what motherhood should entail, feelings of guilt and being a bad mother can

often arise in mothers who suffer from perinatal depression (Pinto-Foltz & Logsdon, 2008). Research evidence indicates that the shame and fear of being labelled “mentally ill” is a strong predictor of whether or not mothers with perinatal depression will reach out for support (O’Mahony & Donnelly, 2010; Pinto-Foltz & Logsdon, 2008; Templeton et al., 2003).

The stigma of mental illness, especially perinatal depression, is likely to be greater in certain immigrant populations, due to the lack of awareness about the condition in their countries of origin. Tewary (2005) discussed how mental illnesses in the South Asian culture are not perceived to be a problem, but instead, considered to be a self-inflicted abnormal behavior to seek attention. Physical health is given more priority than mental health (Tewary, 2005). Studies on the experiences of postpartum depression in women from ethnic minorities, including Indian women, have reported that many women face stigma when seeking outside help for their mental illness (Oates et al., 2004; Templeton et al., 2003). In terms of culture, many South Asians consider mental illness to be an illness requiring no medical treatment (Oates et al., 2004). Consequently, when a mental illness is acknowledged, attempts are made to practice self-discipline to overcome the mental stress, or advice will be sought from family members before seeking medical help (Gupta, 2010).

Summary

Perinatal depression is a widespread health problem with poor maternal, infant, and familial outcomes. Known risk factors of perinatal depression include a history of mental illness, lack of social support, low socioeconomic status, and life stressors (O’Hara & Swain, 1996). Some women may be more susceptible to perinatal depression due to their social circumstances. South Asian immigrant women, as a group, may be more at risk for perinatal

depression, because of the intersecting effects of immigration and culture, in combination with other social determinants. The socio-cultural meanings of motherhood, which result from cultural, societal, and familial expectations, can influence a woman's susceptibility to perinatal depression (Mechakra-Tahiri et al., 2007; Morrow et al., 2008; Sword et al., 2006). Using an intersectional perspective for the research approach is crucial for grasping the complexities of perinatal depression, though the intersectional approach has not yet been explored (Cox, 1999).

Chapter 3: Design and Methodology

Introduction

A mixed methods study can effectively investigate the complexities of perinatal depression among South Asian immigrant women. Equal importance was given to the quantitative and qualitative strands of the study and both components were carried out at the same time. The quantitative method was a cross-sectional research design. Data was examined through a secondary analysis of a prenatal registration database. The secondary analysis was undertaken of data on pregnant women who reside in the Fraser Health regions in British Columbia and had registered in pregnancy for the Fraser Health Best Beginnings Program between June 6, 2009 and August 19, 2010. The analysis generated an understanding of perinatal depression prevalence and associated factors for prenatal depressive symptoms among South Asian immigrant women. Prevalence estimates were used to determine the risk and frequency of prenatal depressive symptoms within this population. An intersectional perspective guided the research in several ways. Variables for the quantitative portion were chosen if multiplicative effects were expected from the intersection of factors. The inquiry into women's experiences of culture, gender, and immigration was undertaken through in-depth interviews, comprising the qualitative component. Interviews were conducted with pregnant South Asian immigrant women who were experiencing depressive symptoms. Six months to one year was the expected time-line for the data collection and analysis of both components; however, the timeline was not followed due to difficulties in the recruitment and other unforeseen circumstances.

Overview of Public Health – Fraser Health Best Beginnings Program

The purpose of the Fraser Health Best Beginnings Program is to provide public health services for pregnant women, postpartum women, and infants and children up to two years of age. This public health program is an essential component of a continuum of maternal and child health services that include primary, acute maternity, and community care. Provision of prenatal services is an integral part of the Best Beginnings Program. All women who reside in the Fraser Health regions are encouraged to register for the Best Beginnings Program early in pregnancy by completing a prenatal registration form. The prenatal registration form can be completed through a local health unit, family physician office, local delivering hospital, or a recently introduced website. Punjabi translations of the form are also available and are given to women upon request. The purpose of the registration form is to identify vulnerable pregnant women, including those who could be at risk for depression, tobacco exposure, and other vulnerabilities. Early identification of women who may require public health assessment and interventions can be made through this screening.

All completed prenatal registration forms are sent to the public health units for follow-up by public health nurses (PHNs). Each registration form is reviewed by a PHN and follow-up is determined based on certain criteria around vulnerability with settlement, finances, social supports, depression, and tobacco use. The intention is to provide pregnant women with the opportunity to identify and request support from public health in regards to multiple factors/concerns, such as social supports, emotional health, economic disadvantage, and substance use (Fraser Health, 2011). Initial contact through telephone is made by a PHN to women who are identified as eligible for a further nursing assessment. The assessment is made to determine what supports and resources are required for each woman, and appropriate

referrals are made. Although not every woman who fills out a prenatal registration form receives a phone call, every woman who registers receives an information package in the mail about the Best Beginnings Program.

Prenatal registration forms.

To achieve the objectives of this study, two versions of the prenatal registration forms were used, including the more recently revised prenatal registration form (Appendix A), which has 15 key questions, and the previous version of the form (Appendix B), which had 13 key questions. For the purposes of this study, version 1 refers to the older form and version 2 refers to the recently revised form. In the quantitative analysis, since the prenatal registration database consists of data from June 2009 to August 2010, the data originated from version 1 of the prenatal registration forms. The database contained only data from the form and did not contain data from any other assessments. As of 2011, several revisions were made to the prenatal registration form (with the release of version 2), with more in-depth questions regarding risk factors. These forms are currently used in practice; however, further revisions are leading to the gradual replacement of the forms with newer versions that have additional questions. These are available from an online database. The participants for the qualitative interviews were identified from the version 2 forms.

The contents of the two prenatal registration forms are based on a similar framework for identifying vulnerable women. Depression, education, finances, and tobacco use, are assessed in both forms. The same measurement of depression – the Whooley Depression Screen – is used in both questionnaires. Primary language and need for interpreter is also assessed in both forms, though version 1 does not assess immigrant or refugee status or the respondent's country of birth. The version 2 form was created in response to feedback from

PHNs who were concerned that the version 1 form may not capture at risk immigrants or refugee women (Fraser Health, 2011). To include these vulnerable women, the version 2 form, in addition to inquiring about primary language and need for interpreter, incorporated questions on country of birth, length of stay in Canada, and social supports.

Measures

Early identification of depression in the prenatal period is a key step to decrease the detrimental effects of perinatal depression and universal screening of perinatal depression is a crucial part of the strategy to address the public health issue. Through the Fraser Health Best Beginnings Program, women are screened for prenatal depression via the Whooley Depression Screen, which is a two-question tool incorporated into the prenatal registration form. Women who mark “yes” to either of the two questions, are subsequently assessed by PHNs for depression using the Edinburgh Postnatal Depression Scale (EPDS) (Appendix C). For the purpose of this study, depressive symptoms in the quantitative analysis were solely assessed through the Whooley Depression Screen, though the qualitative analysis considered both the Whooley Depression Screen and the EPDS.

Whooley Depression Screen.

The Whooley Depression Screen is a two-item screening tool that is considered to be simple, quick, and efficient for screening for depression in pregnancy (Whooley, Avins, Miranda, & Browner, 1997). Although several screening questionnaires have been developed for detecting depression, many healthcare providers find that the tools are too cumbersome and lengthy for routine use (Whooley et al., 1997). Consequently, the Whooley Depression Screen was designed as a short and proficient technique for screening for depression

(Whooley et al., 1997). The Whooley Depression Screen consists of only two questions: “During the past month have you often been bothered by feeling down, depressed or hopeless?” and “During the past month have you often been bothered by little interest or pleasure in doing things?” Research has shown that these two, brief questions (requiring a yes or no response) address mood and interests and are as likely to be effective as more complex procedures, while being more feasible for routine use in the demanding healthcare environments (Arroll, Khin, & Kerse, 2003; Whooley et al., 1997). The tool is only to be used for screening purposes and is not a diagnostic instrument for depression (Whooley et al., 1997).

Based on the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM – IV), the Whooley Depression Screen includes the most critical components of a major depressive episode, which is a depressed mood or a loss of interest or pleasure in doing things for a period of at least two weeks (DSM-IV, 1994; Whooley et al, 1997). The only difference is that the Whooley Depression Screen focuses on these symptoms over a one month period instead of two weeks (Whooley et al., 1997). Whooley et al., (1997) compared the validity of the Whooley Depression Screen to six previously validated instruments including two types of the Centre for Epidemiological Studies Depression Scale (CES-D), two forms of the Beck Depression Inventory (BDI), the Medical Outcome Study (MOS), and the Symptom-Driven Diagnostic System for Primary Care (SDSS-PC). A positive response to either one of these items in the Whooley Depression Screen has a sensitivity of 96% and a specificity of 57% (Whooley et al., 1997). Sensitivity relates to the tool’s ability to detect positive results (Polit & Beck, 2012). A sensitivity of 96% strengthens the validity of this tool, as it is important to have sensitivity maximized in a depression screening tool to ensure

that cases of depression are not missed (Whooley et al., 1997). Specificity is in relation to the tool's ability to correctly detect negative results (Polit & Beck, 2012). A negative response to both questions on the screening tool indicates that depression is highly unlikely (Whooley et al., 1997). The specificity of the Whooley Depression Screen is 57%, indicating that a certain percentage of women will be identified as false positives (Whooley et al., 1997).

Accordingly, the Whooley Depression Screen should be followed up with a further assessment for depression (Arroll et al., 2003; Whooley et al., 1997).

The Patient Health Questionnaire – 2 (PHQ-2) is a more recently tested 2-item questionnaire specifically for use in pregnancy; it is very similar to the Whooley Depression Screen (Breedlove & Fryzelka, 2011). Like the Whooley Depression Screen, it measures the frequency of depressed mood and anhedonia, though the length of time of symptoms is different (Breedlove & Fryzelka, 2011). In the PHQ-2, symptoms over the previous two weeks are examined; whereas, the Whooley Depression Screen focuses on symptoms over the past month. The PHQ-2 has a sensitivity of 83% and specificity of 92% for major depression (Breedlove & Fryzelka, 2011).

Edinburgh Postnatal Depression Scale (EPDS).

Women who answer “yes” to either of the Whooley Depression Screen questions on the prenatal registration form are further assessed by PHNs with a more detailed tool – the EPDS (Appendix C). Developed by Cox in 1987 to detect both major and minor depression during the pregnancy and postpartum period, the EPDS has become one of the most widely used tools for assessing perinatal depression (Cox & Holden, 2003). Although the EPDS has been highly effective in detecting perinatal depression across populations, it is only to be used as a screening instrument and not for diagnostic purposes (Cox & Holden, 2003). Any

subsequent clinical diagnosis of depression should be made by an appropriate healthcare professional (Cox & Holden, 2003).

While the EPDS was initially developed to detect depression post-birth, the use of the EPDS in pregnancy has been validated by Murray and Cox (1990) and investigated in several studies. In a longitudinal study by Green (1998) high risk women were assessed for perinatal depression using the EPDS at three points during their pregnancy and once at six weeks postpartum. A strong correlation was found between prenatal and postpartum EPDS scores, suggesting that the use of EPDS in the prenatal period is a fairly strong predictor of postpartum EPDS scores, and subsequently, postpartum depressive experiences (Green, 1998). Similarly, Evans et al. (2001) followed the mood of mothers through pregnancy and childbirth at several times within this period using the EPDS. The authors found little difference in the pattern of symptoms of depression during pregnancy or postpartum, thus, supporting the use of EPDS in the prenatal period (Evans et al., 2001).

The EPDS consists of ten statements related to depression and symptoms of anxiety, with each question having four possible responses (Cox, Holden, & Sagovsky, 1987). The score ranges from 0 to 30 (Cox & Holden, 2003). To identify women at risk for postpartum depression, a cut-off score of 12 is used (Cox et al., 1987; Gibson et al., 2009). Based on the validation of the EPDS in pregnancy, a cut-off score of 12/13 is recommended for screening all (major and minor) depression, despite its sensitivity of only 64% (Murray & Cox, 1990). A cut-off score of 14 or above in pregnancy indicates a possibility or high likelihood of major depression (Murray & Cox, 1990). Women who score at or above the cut-off scores in the EPDS are highly likely to be suffering from a depressive illness of varying severity and

accordingly should be further assessed for clinical depression (Cox et al., 1987; Gibson et al., 2009; Murray & Cox, 1990).

The 10-item screening tool has been found to have appropriate internal consistency reliability (0.88, 0.87) and validity (Cox & Holden, 2003). It has an overall sensitivity rate of 86% and specificity rate of 78%, though these rates vary according to when the EPDS is administered (Cox & Holden, 2003). Gibson et al. (2009), in a systematic review of 37 studies around the validation of EPDS use in pregnancy and post-birth, found varied sensitivity and specificity rates. Using a cut-off point of 14 or over in pregnancy for major depression was found to have a sensitivity ranging from 57 to 100% and specificity from 93 to 99% (Gibson et al., 2009). The cut-off score of 12 for depression post-birth has a sensitivity rate ranging from 34 to 100% and specificity from 49 to 100% (Gibson et al., 2009).

In another literature review, completed by Gavin et al. (2005), the authors found varied sensitivity and specificity rates based on whether major or both major and minor depression was being assessed. For assessment of major depression in pregnancy, the EPDS specificities ranged from 0.79 (at EPDS>12) and 0.96 (at EPDS>15) (Gavin et al., 2005). Specificity remained high for assessments of minor and major depression (0.72 to 0.95); however, sensitivity was much poorer (0.57 to 0.71). Similarly, in postpartum depression, EPDS has a high specificity and sensitivity (0.75 to 1.0) for major depression. Nevertheless, for assessment of major and minor depression, while EPDS had a high specificity, sensitivity was low. Hence, the EPDS has a greater likelihood of eliciting a false negative when assessing for both major and minor depression. Gaynes et al (2005) suggested using an overall EPDS cut-off score of ≥ 13 for assessing major depression in the perinatal period.

The heterogeneity of sensitivity and specificity rates of the EPDS used in pregnancy and post-birth can be explained by the varied samples to which the tool was administered, and to the differences in mental health expression across nations and groups of people (Gibson et al., 2009). While the EPDS has been validated in various languages, including Punjabi, the socio-cultural context of childbirth must always be considered (Cox & Holden, 2003). In particular, healthcare professionals need to be culturally competent and sensitive when administering the EPDS in different cultural groups (Cox & Holden, 2003). This is especially important as mental health expression and the use of language to describe certain feelings varies across cultures. For example, in the Punjabi language challenges have been found in expressing items referring to anhedonia (lack of enjoyment) and the concept of blaming oneself unnecessarily (Cox & Holden, 2003). South Asian immigrant women, for instance, are more likely to use physical terminology to describe their mental distress (Templeton et al., 2003). Somatic symptoms that are associated with depression, such as fatigue and change in appetite, are excluded from the EPDS, as they are expected to occur in the normal course of the pregnancy and postpartum period (Murray & Cox, 1990). Consequently, exclusion of somatic symptoms in the EPDS may be problematic when it is administered to South Asian immigrant women, because depression within this group may present itself through somatic symptoms. Having cultural awareness and sensitivity is important before administering the EPDS to non-English-speaking or minority cultural groups (Cox & Holden, 2003). In a systematic review by Downe, Butler, and Hinder (2007) on postnatal screening tools for South Asian women, the Punjabi version of the EPDS was found to be useful. The authors also acknowledged that screening tools for postpartum depression within this population have some limitations (Downe et al., 2007). This raises

questions around the value of quantitative screening tools in this population and suggests that other approaches, like engaging women in face-to-face unstructured interviews, may be more effective in detecting depression (Downe et al., 2007). Understanding the nature of depression within one's culture is critical when administering the EPDS, to ensure the reliability of the tool and to follow the appropriate recommendations.

Currently, the EPDS has been translated into 23 languages including Punjabi (Cox & Holden, 2003). Five levels of equivalence are particularly important when translating the tool; namely: content, semantic, technical, criterion, and conceptual (Cox & Holden, 2003). The Punjabi version of the EPDS has undergone the equivalence level tests in a critical validation study by Clifford, Day, Cox, and Werrett (1999), who found a high correlation between the scores of the English and Punjabi versions of the scale. A sensitivity and specificity of 80% was found at a cut-off score of 11/12, to support the use of the Punjabi EPDS in clinical settings (Clifford et al., 1999; Department of Health, Government of Western Australia, 2006).

The EPDS has been found to be more effective than many other depression screening tools. Harris, Huckle, Thomas, and Johns (1989) conducted a comparison study of the EPDS and the Beck Depression Inventory (BDI) to identify individuals who had major depression according to the DSM – III criteria (Harris et al., 1989). The results indicated that the EPDS had a better performance measure than the BDI (Harris et al., 1989). On the whole, the EPDS can be quickly administered, is easy to comprehend, and has been vastly used and validated in multiple ethnic and socioeconomic settings (Cox & Holden, 2003). For many healthcare providers, the EPDS is the preferred instrument to screen for depression in the perinatal period. On the other hand, scores alone should not replace clinical judgment; cultural

differences in interpretation may elicit scores that do not accurately reflect the mother's mood (Cox & Holden, 2003). Consequently, women should be further assessed before deciding on treatment (Cox & Holden, 2003).

Quantitative Method

Sampling.

The Fraser Health region consists of Fraser South (Cloverdale, North Delta, South Delta, Newton, North Surrey, White Rock) Fraser East (Langley, Chilliwack, Mission, Abbotsford, Maple Ridge, Port Coquitlam, Port Moody) and Fraser North (Burnaby, New West). The sample for the quantitative section of the study was derived from the population of pregnant South Asian immigrant women who resided in the Fraser Health region and who had completed a prenatal registration form (Appendix B) between June 2009 and August 2010. For this period, the data from the prenatal registration forms was entered into a regional database developed by Fraser Health specialists (Fraser Health Authority, 2011b).

From June 2009 to August 2010, approximately 9,684 women registered prenatally. Women who primarily spoke Punjabi made up 9.1% (887) of this sample. While immigration was not examined in version 1 (Appendix B) of the prenatal questionnaire, based on the demographic characteristics of Fraser Health Authority, the majority of women who had indicated on the prenatal registration form that they spoke primarily Punjabi were assumed to be of an immigrant origin. Hence, the chance of this sample including any Canadian-born Punjabi-speaking women was very little since the focus was on primary language. On the other hand, migration status could be determined by examining the women who had indicated they were Punjabi-speaking and required interpreter services (556). The sample was derived from the two groups of Punjabi-speaking women: the Punjabi-speaking group

who required an interpreter (556) and the Punjabi-speaking group who did not require an interpreter (331). The comparison group was the English-speaking pregnant women who required no interpreter and indicated no other language. Regardless of ethnicity, this group would yield women who were accustomed to the Canadian ways of being and hence would be an appropriate comparison against women who spoke primarily Punjabi and were likely to be of an immigrant origin. The inclusion criteria was applied to the database to include only the following three groups: Punjabi-speaking women, those who required an interpreter, and those who did not (887); and English-speaking women who indicated no other language or requirement of an interpreter (7,423). The revised dataset contained a total of 8,310 prenatal registrants.

Power analysis.

Power is defined as the ability of a method to detect a true relationship that exists between variables (Polit & Beck, 2012). The conventional standard level for power is 0.80 (Polit & Beck, 2012). To determine the adequacy of the sample size in the database, for detecting a difference in prenatal depressive symptoms, an a priori power analysis was conducted using the statistical program R. Since the sample sizes were already known in this study, a power calculation revealed what power level would be achieved using the known sample sizes. A two-tailed test was carried out with the possibility that English-speaking pregnant women might experience more prenatal depressive symptoms than Punjabi-speaking pregnant women. The two samples included all Punjabi-speaking pregnant women (n=887) and English-speaking pregnant women who required no interpreter and identified no other language (n=7,423). The prevalence rates used to calculate the effect size for the groups were based on the literature on depressive symptoms in pregnancy (Miszkurka et al., 2010;

Zelkowitz et al., 2004). Accordingly, a prevalence rate of 24% was applied to the English-speaking sample and a prevalence rate of 40% was applied to the Punjabi-speaking sample. Based on these prevalence rates, the calculated effect size was 0.35, which is considered a large effect size. The calculation revealed a power of 1 in a two-tailed test at a significance level of 0.05. For the subgroup analysis, a second power analysis was conducted that included all Punjabi-speaking pregnant women who require an interpreter (n=556) and English-speaking pregnant women who require no interpreter and identify no other language (n=7,423). The calculation also revealed a power of 1 in a two-tailed test at a significance level of 0.05, which is higher than the acceptable power level of 0.80 (Appendix D). An additional power analysis conducted on the Punjabi-speaking women who had not indicated a need for an interpreter (331) and English-speaking pregnant women who require no interpreter and identify no other language (7,423) also revealed a power of 1 in a two-tailed test (Appendix D).

Data analysis.

The purpose of the secondary analysis was to answer research questions 1 and 2: to examine the prevalence rates and whether there are any associated factors of prenatal depressive symptoms in South Asian immigrant women. Punjabi-speaking women were divided into two groups; those who needed the assistance of an interpreter and those who did not need an interpreter when interacting with the predominantly English-speaking healthcare system. A comparison analysis was conducted to compare the rates of reported prenatal depressive symptoms and associated factors, such as finances and education, in Punjabi-speaking women who required an interpreter, Punjabi-speaking women who did not require an interpreter, and English-speaking women who required no interpreter and indicated no

other language, to determine the presence of a statistically significant difference. The Statistical Package for Social Sciences (SPSS) version 20 and the statistical program R version 2.15 was used for all analyses.

The Fraser Health prenatal registration database is a MS-Excel spreadsheet that is stored on a secure M drive. Access to the folder has been provided only to the Administrative Assistant, Clinical Nurse Specialist, Epidemiologist, Evaluation Specialist, and Director. Fraser Health is governed by the Freedom of Information and Protection of Privacy Act (FOIPPA). Each Fraser Health employee has a secure windows login and password that is part of a system-wide protected Fraser Health computer server. Those granted permission to the M drive have access to the M drive through their Fraser Health login and password. Access to a de-identified version of the prenatal registration database was given to the researcher, and to the thesis supervisor. The de-identified dataset was encrypted with a secure password on the researcher's personal computer and USB drive.

From June 2009 to August 2010, all of the prenatal registration forms were faxed to a central Fraser Health office for data entry and filing. The original dataset contained the women's names, personal health numbers, and date of births, which are permitted on an M drive. For the study, the dataset was made anonymous by a Fraser Health Evaluation specialist by eliminating all identifying contact information. The first and last names, date of births, and personal health numbers were removed from the dataset and each woman was assigned a unique study ID. Age, as a variable, was calculated and created through a formula involving subtraction of the registration date from the date of birth. Accordingly, the de-identified database contained information obtained from the questionnaires such as age, gestational age, primary language, education level, presence of financial worries, first

prenatal visit, depressive symptoms, Aboriginal heritage, and smoking and exposure to second-hand smoke.

For data analysis purposes, the database was transferred from MS-Excel to an SPSS document to conduct the appropriate statistical tests for the analyses. Prior to the analysis, decisions about transforming the data or excluding outliers were made by the researcher and the thesis supervisor. The dataset was transformed to include only the variables of interest to the study, such as: age, primary language, education level, finances, and depressive symptoms. A new variable, labelled depressive symptoms, was developed to reflect the responses to each of the two depression screening questions on the prenatal registration form. A positive answer to either of the questions was coded as being positive for depressive symptoms.

The dataset was then cleaned and assessed for any errors, as certain errors were present during the original data entry process. To check for errors, frequencies for each variable were inspected. Common errors included more than one version of the same response to certain questions and spelling errors for variables. Through the SPSS commands of transforming, the responses were recorded into the same variables. All variables were changed from string to numeric types and recoded into the same variables with a numeric value attached to each. In the next step, the inclusion criteria was used to include only the English-speaking group, who speak no other language and require no interpreter (7,423), and the Punjabi-speaking group (887). The total number of prenatal registrants in the revised analytical dataset was 8,310. The data from all other prenatal registrants that did not fit the inclusion criteria was removed.

To ensure that the errors were corrected, frequency counts of each variable were re-conducted on the revised entire Fraser Health prenatal registration database. Some data was missing for only three variables, age, interpreter, and education; however, the amount was very small – less than 1% for both the age and interpreter variables and 7.2% for the education variable. While nothing could be done about the missing data, since it had already been obtained in the pre-collection, the occurrence of missing data is important when analyzing the education variable in the data analysis, because it may not have been representative of the population.

To ensure that the frequency counts accurately reflected the Fraser Health population, they were compared to a Fraser Health Profile 2011 report. In terms of language, 10.7% of the prenatal registrants reported Punjabi as their primary language, which is slightly higher than the 6.5% reported in the Fraser Health Profile Census Data (2006). Nevertheless, this percentage may not have been representative as the revised dataset included only English- and Punjabi-speaking and excluded those who spoke other languages. Of the prenatal registrants, 15.2% indicated worrying about finances. This resonated with the Fraser Health census data (2005), which indicated that 14.3% of the population (including lone parent households) in the Fraser Health Authority is low income. For the highest education completion variable, 11.3% of the prenatal registrants reported some high school, which is a little lower than the Fraser Health census data (2006), which reported that 16.7% of the Fraser Health Authority population had completed less than high school. Although, the education variable had a large percentage (7.2%) of missing data; hence, these frequency counts may not have been completely accurate. The average age of the prenatal registrants was 29 years, with the youngest being 14-years of age and the eldest being 52-years of age.

The data analysis was conducted using a combination of parametric and non-parametric tests. The values of each column were defined and coded. An additional variable was computed (and labelled language groups), which included: Punjabi-speaking with an interpreter, Punjabi-speaking with no interpreter, and English-speaking with no interpreter and no other language. All commands were saved to a syntax to track the steps of the analytical process.

An Analysis of Variance test was conducted to compare the ages for the English- and Punjabi-speaking groups. Chi square tests were performed to compare the variables (education, financial worries, and overall reported depressive symptoms) for the three groups. To determine whether or not the difference between reporting depressive symptoms in the Punjabi-speaking and English-speaking groups still remained after adjusting for independent variables such as age, financial worries, and education, a multiple regression analysis was carried out. Preliminary analyses were conducted to ensure that the assumptions of multicollinearity were not violated. No significantly high correlations were found between the two reported demographic characteristics: financial worries and language ability (data not shown). Lastly, additional logistic regression tests were performed to assess the predictive factors of depressive symptoms specifically in the Punjabi-speaking with interpreter group and the English-speaking group.

Rigor and validity.

The use of secondary analysis of the Fraser Health prenatal registration database to answer the first and second research questions was suitable since cross-sectional designs are appropriate for describing the status of a phenomenon and the relationships among phenomena at a single point in time. Investigating the prevalence and associated factors for

reported prenatal depressive symptoms in South Asian immigrant women with a secondary analysis was cost-effective and timely for exploring new relationships. Credibility was maintained while the accuracy of the statistical tests was assessed by the thesis supervisor, Dr Sabrina Wong. To ensure the validity of the results of the statistical tests, the findings were reviewed by Dr Sabrina Wong and the research committee.

Qualitative Methods

Sampling.

Purposeful sampling was used for the qualitative portion of the study. Sample participants were recruited from a manual review of the prenatal registration forms currently being used at the time of the study. For this part of the study, a more recent version 2 of the prenatal registration questionnaires (Appendix A) was used. The version is more comprehensive and includes questions about immigration status, length of stay in Canada, and social supports. Once the forms were completed, they were transferred to the local health units. PHNs then reviewed each form and identified vulnerable women. Contacts were initiated with the women through telephone, assessments were conducted, appropriate PHN interventions offered, and referrals were made for community resources.

Procedures.

The inclusion criteria for the qualitative research included women who are immigrants from India. As immigration is identified in the current version 2 of the prenatal registration form, the study was not limited to Punjabi-speaking women who required an interpreter. It also included South Asian immigrant women who spoke both Punjabi and/or English. The presence of depressive symptoms was a mandatory inclusion criteria for the

study and was measured by “yes” being given as an answer to one or both of the depression questions on the form, which made up the Whooley Depression Screen. Based on the Fraser Health Perinatal Depression protocol, women who marked “yes” to either one of these questions, were subsequently assessed by PHNs for depression using the EPDS (Appendix C). According to the Fraser Health – Best Beginnings Perinatal Depression protocol, when screening for all depression with the EPDS in pregnancy, a cut-off score between 10-13 requires PHNs to offer perinatal depression prevention follow-up and to notify the woman’s general physician. A score of 14 or over is used for screening for major depression (Murray & Cox, 1990); hence, for women who score 14 or over, referrals should be made to their physicians, and in some situations, to mental health services. A cut-off score of 12 and over is recommended for screening for all (major and minor) depression and has been validated in pregnancy (Murray & Cox, 1990). Scores were generated based on a community population-based screening by Fraser Health, which examines the number of births per year in the Fraser Health region (Fraser Health Authority, 2008). Initially, for the study procedures, women who answered “yes” to either one of the Whooley Depression Screen questions on the prenatal registration form and had an EPDS score of 14 or over were eligible to participate. Nevertheless, the criteria for the EPDS score was later changed to a score of 12 due to recruitment issues. Based on the initial contact of the PHN with the women, women who were suffering from severe mental illnesses, such as schizophrenia, bipolarism, or were experiencing psychosis, were excluded from the study. Gaining insight into the lived experiences of women with severe mental illness could be obscured due to their condition. Furthermore, women who disclosed suicidal ideation, which is measured by question #10 on the EPDS, were excluded from the study as they required immediate healthcare intervention

and follow-up. An attempt was made to recruit South Asian women who had immigrated to Canada and had lived here for various periods and were of different ages, to capture the different experiences of South Asian immigrant women. Canadian-born South Asian women were not included as immigration was an important focus of the study.

Participants for the interviews were recruited by PHNs at all the Fraser South public health units. The PHNs identified and recruited South Asian immigrant women based on the inclusion criteria. The managers, supervisors, and PHNs from all the Fraser South health units were made aware of the study and the specific details for recruitment and the eligibility criteria were discussed at the time of the ethics approval, when I made a brief presentation at a Fraser Health regional prenatal registration meeting. Subsequently, email messages were sent to all professionals in Fraser Public Health with a review of the study details and eligibility criteria. A brief script was provided to each PHN outlining the study purpose for potential participants (Appendix E). Potential participants were pregnant South Asian immigrant women who had answered positively to the Whooley Depression Screen and had a score of 12 or higher on the EPDS. Routine PHN follow-ups included referrals to mental health, family physician, and connections to various public health resources. The study coincided with routine public health protocols and delivery of services. During the phone contact with PHNs, potential participants were asked if they were interested in participating in the study and the PHNs reviewed the study details with them. PHNs also asked permission to pass the client's contact information to the researcher. Interested participants were mailed or faxed the informed consent form (Appendix F) and the researcher followed-up within a week.

Participant recruitment for the interviews was a difficult process. The study procedures, eligibility criteria, and informed consent process had been reviewed at regional and local meetings with PHNs, supervisors, and managers across Fraser Health South. Emails were sent continuously to PHNs, supervisors, and managers in the region, with a detailed explanation of the study and an attachment document containing the informed consent form. Incentives, in the form of monetary gift cards, were offered to both PHNs and the participants. Recruitment mainly took place out of Newton Public Health Unit, where the researcher is employed as a PHN.

The eligibility criteria also contributed to the small sample size. While South Asian immigrant women were experiencing depressive symptoms, as indicated by their positive answers to the Whooley Depression Screen, some declined to complete the EPDS screening and/or some completely declined any public health follow-up. Moreover, the EPDS score criteria was difficult to meet. Early in the recruitment phase, certain challenges caused the score to be reduced from 14 or over (which captures major depression) to 12 (which includes major and minor depression). Even with this change, many women did not have EPDS scores of 12 or over. The challenges in the process may have reflected the research tool's lack of cultural sensitivity, which has been indicated in other research studies that have used this tool among certain immigrant groups (Cox & Holden, 2003; Downe et al., 2007). While the EPDS is recommended to be administered directly, without the presence of a third party, some South Asian immigrant women are reluctant to stray from the cultural stigma of mental illness that exists in the South Asian community (Department of Health, Government of Western Australia, 2006). Hence, the participants may have lacked an openness and truthfulness when facing questions on the EPDS screening tool. With these challenges in

mind, the first three eligible women who met the inclusion criteria and who volunteered to participate were included.

Data collection.

The aim of the qualitative methodology was to understand how culture and gender operates and intersects with other factors such as immigration in the onset of perinatal depressive symptoms. Interpretive description helped guide the data collection and analysis of the qualitative data (Thorne, Kirkham, & MacDonald-Emes, 1997). Interpretive description is well suited for investigating the experiences of meaning of prenatal depressive symptoms and how they are shaped by culture and gender. Interpretive descriptive does more than report the participants' experiences; it engages the researcher in a rigorous analysis of the potential meanings within the data. The theoretical perspective that guided the interpretive process was based on concepts and the analysis of intersectionality (Hankivsky & Christoffersen, 2008); that is, how gender, race, and class together shape human experiences in ways that have greater impact than can be provided by any single angle of view. Because the researcher understands that culture is not static and is influenced by gender, race, and class, the theoretical approach of intersectionality kept in the foreground how the experiences of prenatal depressive symptoms are shaped through interacting social and economic influences. An interpretive account of the interviews was generated through informed questioning, reflective techniques, and critical examination (Thorne et al., 1997).

After obtaining informed consent, in-depth interviews were led by the researcher in Punjabi or English, as preferred by the participant. Two of the interviews were conducted in Punjabi and one was conducted in English. The data collection and analysis occurred concurrently. Face-to-face interviews were the preferred method and the interviews were

semi-structured, with open-ended questions that prompted the participants to recount their experiences with depressive symptoms. An interview guide (as outlined in Appendix G) was used by the interviewer to ensure that key areas were discussed. On the whole, participants were encouraged to discuss their experiences of prenatal depressive symptoms in regards to factors that may have contributed to their experience. Interviews were audio-taped and transcribed verbatim to English as needed. Fieldnotes were written after each observation and interview and during the data analysis. The notes assisted in the documentation of the researcher's personal perspectives, reflections, decisions, and progress during the study.

For the face-to-face interviews, the setting was considered to be a vital component for promoting a safe environment where participants could feel comfortable to openly express their thoughts and feelings (Holloway & Wheeler, 2009; Polit & Beck, 2012). Therefore, the sites of the interviews were determined by participants. The settings for all three participants were the participants' homes. In considering the possible depth of interviews and the aim of the research project, interview times of 30 to 60 minutes were designated, though each participant had an interview of a different duration. Every effort was made to complete interviews in one sitting.

Data analysis.

The interview data from each interview, along with the fieldnotes, were analyzed promptly after the interviews. The transcribing of data after each interview allowed for data immersion and preparation for subsequent interviews. The researcher reviewed and reread all translated transcriptions several times to ensure accuracy and credibility. The time, location, comments, and fieldnotes were attached to each interview to keep the interviews organized.

As the researcher was of South Asian background, it was integral that the researcher was aware of the assumptions and views that would be brought forward to this research from her cultural experiences. Sharing the same ethnic origin could have acted as a strength, since the participants may have felt more related to the researcher due to the shared understandings. To avoid the researcher's presumptions for any understanding of the participants' views and accounts, without further explanation, the participants were encouraged to elaborate on their experiences as much as possible. In addition, being a female researcher of South Asian descent but not from an Indian origin may have acted as a barrier during the interview process. South Asian women born in India and those born in Western countries often have two very different upbringings, and the degree of familiarity with the Punjabi language may also vary widely between the two groups of women. Because two of the interviews were conducted in Punjabi, the above factors may have contributed to the depth depot which the issues were explored by the interviewees.

It was crucial to accurately reflect and report the participants' experiences and to refrain from incorporating personal views and biases that might have been present in the interpretations. The words and phrases used by the participants in describing their issues had to be obtained so that committee members and others could understand the analysis. That is, the interviewees provided the evidence, rather than the researcher's own views and assumptions becoming part of the interpretation of their experiences.

For the interviews conducted in Punjabi, the first step in the analysis included the verbatim transcription of the interview data from Punjabi to English. Transcribing to the truest representation was essential for the interview. Care was taken to retain Punjabi vocabulary that does not have comparable English words with definitions that allowed for the

full meaning of the Punjabi word. An attempt was made to include both words and selected non-verbal cues in the transcription, to obtain the fullest and richest data (Holloway & Wheeler, 2009). The context of the language and the participant's choice of words was taken into account. Each transcript contained a numeric identifier of the participant and did not include any identifying information.

The next step in the analysis involved identification of prominent patterns, themes, and events in the interviews (Rubin & Rubin, 2005). The researcher had to be cognisant of the concept of culture that operates through the participant's disclosure of their lived experiences. Potential cultural meanings of patterns, themes, and experiences were looked for. Specific pieces of data, such as words or expressions, were coded through open coding, and the codes were compared with one another, with codes of similar meaning being grouped and sorted. When no further codes could be generated, or data saturation occurred, the codes were grouped into categories (Holloway & Wheeler, 2009). The associations between categories were analyzed. This was an intricate process involving reading and rereading the transcripts to produce more abstract and refined ideas about the domains of interest within the interviews (Holloway & Wheeler, 2009).

Transcripts were analyzed using an intersectional perspective to understand the simultaneous interaction of social, biological, and structural conditions that shape one's mental health (Vissandjee et al., 2007). Contributing factors, as discussed by the participants, were categorized, when relevant, into broader cultural themes of gender, class, and traditional customs. Thematic analysis goes further than just examining the similarities among participants but inquires into natural variation and focuses on the content of the participant's experiences and the imbedded meanings (Holloway & Wheeler, 2009; Polit & Beck, 2012).

Through this process, an accurate depiction of women's experiences can be formed, based on their interviews (Holloway & Wheeler, 2009).

The identified themes emerged exclusively from the interviews. Themes were related to explicit terms asked in questions and to those in the coding list. Themes also emerged from exploring the specific quotations and terms used by interviewees (Rubin & Rubin, 2005). Cultural themes were identified to provide more insight into how culture was expressed by each participant. During the analysis, it was important to consider that, while many South Asian immigrant women may share similar cultural aspects due to their common ethnic backgrounds, cultural factors can have several meanings for South Asian immigrant women, some of which may be quite similar or dramatically different from one another. The interviews were compared with each other to reveal their parallels and differences. This assisted in revealing specific concepts and key themes.

Credibility.

Credibility is necessary for generating rigorous qualitative research (Polit & Beck, 2012). Various measures were taken throughout the research process to achieve good credibility. Although member checking was to be carried out when the interview data was synthesized, the three participants did not wish to provide any feedback on the themes, and the analyses developed from the qualitative data. Summarizing, paraphrasing, and probing was used during the interviews to ensure that the participants' meanings were understood correctly (Holloway & Wheeler, 2009). The fieldnotes and verbatim transcriptions assisted in maintaining the accuracy of the participants' narratives; in addition, the audio-tapes were reviewed multiple times to avoid transcription errors. Peer review occurred throughout the analysis, in regards to coding and theme identification, with consults with the supervisor

(Holloway & Wheeler, 2009). Disconfirming cases or responses were included at the end of the data collection, to challenge and strengthen the researcher's interpretations. The suggested alternative explanations were considered to enhance the credibility of the findings.

Chapter 4: Results and Discussion

Quantitative Methodology

Results.

The characteristics of the Punjabi- and English-speaking prenatal registrants are summarized in Table 1. English-speaking registrants were significantly older than the Punjabi-speaking registrants or the Punjabi-speaking registrants with an interpreter ($p < 0.05$). Nevertheless, the magnitude of the differences in mean ages was negligible (6 months 22 days). A significant difference was found in the reported level of education between the three groups ($X^2 = 563.32$, $p < 0.001$). Almost three-quarters of the English-speaking women reported to have partially or fully completed some college or university. The percentage of Punjabi-speaking women reporting the same level of education was markedly lower, especially for women needing an interpreter (35.7%). The Punjabi-speaking group needing interpreters reported having the lowest amount of education, with 43% of this group having only some high school. A similar percentage of women in both the Punjabi-speaking with interpreter and the English-speaking group reported having financial worries.

Table 3: Associated Factors of Depressive symptoms in Fraser Health Prenatal Registrants

Associated factor	OR (95% CIs)
Ethnic/Language Group	
Punjabi-speaking with interpreter*	1.99 [1.54-2.59]
Punjabi-speaking	1.29 [0.88-1.90]
English-speaking (ref)	1
Age	0.97 [0.98-1.01]
Financial worries	
Yes*	4.57 [3.90-5.35]
No (ref)	1
Education	
High school partial completion*	2.03 [1.62-2.05]
High school graduation*	1.29 [1.04-1.60]
College partial completion*	1.35 [1.11-1.63]
College graduation (ref)	1
*p < 0.05	

Table 3 shows that even after controlling for potentially confounding factors, the Punjabi-speaking with an interpreter group had two times the odds of reporting of depressive symptoms compared with their English-speaking counterparts. No statistically significant difference in reporting depressive symptoms was found between Punjabi-speaking women who did not need an interpreter and English-speaking women. Prenatal registrants who reported financial worries had four and a half times the odds of reporting depressive symptoms. In addition, prenatal registrants who had not completed high school had two times the odds of reporting depressive symptoms than those registrants who had completed their post-secondary education.

Table 4: Associated Factors of Depressive Symptoms in Punjabi-speaking with Interpreter Women

Associated Factor	OR (95% CIs)
Age	1.03 [0.98-1.09]
Financial worries*	2.06 [1.17-3.61]
Education	
High school partial completion	1.49 [0.76-2.92]
High school graduation	1.96 [0.94-4.08]
College partial completion	1.67 [0.74-3.79]
College graduation (ref)	1
*p < 0.05	

To examine the presence of any demographic factors associated with the reporting of depressive symptoms in the Punjabi-speaking with interpreter group, we conducted a logistic regression of this subgroup (Table 4). Our results suggest that among Punjabi-speaking women needing an interpreter, those reporting financial worries had over twice the odds of also reporting depressive symptoms. Education on all levels was found to have no statistically significant association in the reporting of depressive symptoms in the Punjabi-speaking with interpreter group. While no statistical significance was reached, the point-estimates indicate that education on all three levels is still associated with the reporting of depressive symptoms within this group. The point estimates are suggestive of associations that are almost similar, if not stronger, in magnitude, than the English-speaking women group (Table 5). In particular, those who have only completed high school graduation appeared to have almost two times the odds of reporting depressive symptoms than those who had graduated from college.

Table 5: Associated Factors of Depressive Symptoms in English-Speaking Women

Risk Factor	OR (95% CIs)
Age	1.00 [0.98-1.01]
Financial worries*	5.03 [4.25-5.94]
Education	
High school partial completion*	2.47 [1.92-3.17]
High school graduation	1.24 [0.94-4.08]
College partial completion*	1.37 [1.12-1.67]
College graduation (ref)	1
*p < 0.05	

Similar to the Punjabi-speaking group, financial worries was the strongest associated factor in the reporting of depressive symptoms among the English-speaking women. The impact of financial worries was significantly greater in the English-speaking women compared to the Punjabi-speaking women with interpreter group. English-speaking women reporting financial worries had five times the odds of reporting depressive symptoms. In addition, within this group, education was significantly associated with the reporting of depressive symptoms. Notably, English-speaking women who had only completed partial high school education had more than twice the odds of reporting depressive symptoms than those who had completed post-secondary education.

Summary

This study is one of the few Canadian studies to investigate prenatal depressive symptoms among South Asian immigrant women. The findings suggest that South Asian immigrant women are at a higher risk for perinatal depression. Punjabi-speaking women, particularly those who need interpreters, are more likely to report prenatal depressive symptoms compared to English-speaking women. Indeed, the findings are similar to the

literature that suggests immigrant women are at a higher risk of prenatal depression than non-immigrant women (Miszkurka et al., 2010; Onozawa et al., 2003; Zelkowitz et al., 2004).

Unique to this study are the findings that being a South Asian immigrant woman with poor English language skills is strongly associated with the reporting of depressive symptoms.

These results suggest that South Asian immigrant women are at a high risk of prenatal depressive symptoms and that demographic factors play a role in this risk. The process of migration and the associated impacts of gender, class, and cultural environments likely intersect to create circumstances that increase the susceptibility of South Asian immigrant women to perinatal depression.

Financial uncertainties in context.

For Punjabi-speaking women, worrying about finances was significantly associated with reporting depressive symptoms in pregnancy. This is not surprising since previous studies on prenatal depression have found immigrant women to be more likely to have a low income compared to Canadian-born women (Mechakra-Tahiri et al., 2007; Miszkurka et al., 2010). Financial uncertainties can have a negative effect on the mental health status of South Asian immigrants (Ahmad et al., 2004; Miszkurka et al., 2010). A lack of job opportunities results in economic dependence and feelings of helplessness. As South Asian immigrant women are often faced with employment challenges and economic insecurities at the time of immigration (Mehrotra & Calasanti, 2010), stress and anxiety can be heightened and have an especially harmful effect during pregnancy. Employment is a challenging adjustment for many South Asian immigrant women. Traditionally, South Asian immigrant women do not work in their country of origin and rely on the males in their households to be the primary income earners. In Canada, due to financial constraints and employment conditions, men

may be forced to work long hours at labor-intensive jobs. Nevertheless, women are often still expected to fulfill culture-specific gendered roles within the home. Patriarchal practices within the family can result in increased stress and responsibility for South Asian immigrant women, to increase their risk for depression during the sensitive perinatal period. Since their income is an important contribution to the household, many women are reluctant or unable to take medical leave to allow for self-care (Ahmad et al., 2004). Due to the financial situation, male spouses are also forced to work strenuously and may be unavailable to provide support to their wives during the perinatal period. Some South Asian immigrant women also face immense pressure as they are required to save their earnings to sponsor their spouse or other family members who remain in their country of origin. All of these circumstances illustrate how the cultural context of women's lives is shaped by the intersection of patriarchal practices, marital relationships, and economic realities of new immigrant women and their families. These dynamics affect the lives of women in specific ways during pregnancy. The findings in this study indicate that depressive symptoms in pregnancy provide an entry point for disentangling the various factors that can be addressed in promoting healthy pregnancy outcomes.

Unexpectedly, reporting being worried about finances had a strong association with the reporting of prenatal depressive symptoms among English-speaking women. Compared to the Punjabi-speaking women with interpreter group, financial worries had a significantly greater impact on the reporting of depressive symptoms among English-speaking women. The significance of finances on depressive symptoms coincides with much of the literature, which suggests that socio-economic status is associated with depressive symptoms in perinatal depression (Benoit et al., 2007; Leigh & Milgrom, 2008; Milgrom et al., 2008). The

large difference between the impact of finances among the Punjabi-speaking with interpreter and English-speaking group; however, may be explained by considering the household makeup. Although marital and household status is not assessed in the prenatal registration form, throughout the Fraser Health region, females head most of the lone-parent families (Fraser Health Authority, 2011a). Of the lone-parent families headed by women, 28% have low income, in comparison to 15% of the lone-parent households headed by men (Fraser Health Authority, 2011a). Thus, financial worries may become a large stressor in the lives of women in single-parent households. In Fraser Health, the largest percentages of lone-parent families reside in Hope and New Westminster, which are predominantly English-speaking communities (Fraser Health Authority, 2011a). The city of Hope also has the lowest average incomes in Fraser Health (Fraser Health Authority, 2011a). Accordingly, many English-speaking women in lone-parent households may lack financial resources. Women left on their own to make ends meet, with a baby on the way, face significant economic hardship that is a major burden in their lives. For South Asian immigrant women whose spouses have not arrived in Canada, their extended family, if present, may play a role in alleviating the financial tensions.

Education in context.

In the overall regression model of the entire sample of prenatal registrants, the association of education with the reporting of depressive symptoms was statistically significant. In the separate regression analysis; however, education was not statistically associated with prenatal depressive symptoms in the Punjabi-speaking with interpreter group. The lack of statistical significance in the Punjabi-speaking with interpreter group may have been due to a smaller sample size and a lack of heterogeneity in the education levels. In

comparison, the English-speaking group had a significantly larger sample size and a large variability in the levels of education. Taken together, the findings indicate that education must be taken into account in the analysis of prenatal depressive symptoms in South Asian immigrant women.

Income and education are key indicators of socio-economic status. Past work confirms that South Asian immigrant women are susceptible to having a lower socio-economic status, compared to their Canadian-born and English-speaking counterparts (Mechakra-Tahiri et al., 2007; Morrow et al., 2008). Socio-economic status is greatly influenced by the migration process; a process that is experienced differently for immigrant women and immigrant men (Ralston, 1991). Immigrant women who originate from countries having large gender inequalities, will either take up the opportunities offered to them in the host society or find themselves in contexts where the inequalities continue. Many immigrant women, especially those who are less educated and facing language barriers, not only depend on their husbands legally and economically, but they tend to be more isolated than immigrant men, in terms of participating in mainstream society (Ralston, 1991). As a result, women have fewer chances to learn or improve their use of English (Ralston, 1991).

While education was not found to be statistically significantly associated with prenatal depressive symptoms in the Punjabi-speaking with interpreter group, the results suggest that women who have less education are more likely to report depressive symptoms in pregnancy. Certainly, the opportunities for obtaining employment is lower for those who have less education and cannot speak English; finances, as a consequence, are more likely to be a concern for these women. The affiliation to their home country's culture may be stronger for those who indicate a need for an interpreter (Vissandjee, Desmeules, Cao,

Abdool, & Kazanjian, 2004). Thus, the cultural affiliation should be analyzed in conjunction with migration, gender, and socio-economic conditions (Vissandjee et al., 2004). Language spoken inside and outside the home can also be linked to the progressive integration into the community at large (Vissandjee et al., 2004). South Asian immigrant women who lack an educational background and speak limited English in Canada may face challenges that affect their progression into Canadian society. This could include access to community resources, health information, and at times, even completion of daily living activities. Length of stay in Canada is just one of the factors that may affect the degree to which one overcomes these barriers.

Qualitative Methodology

This section presents the findings from the three interviews with the participants who met the eligibility criteria, including a positive response to the Whooley Depression Screen and an EPDS score of 12 or higher. Using an interpretive descriptive approach, themes were generated and coded. By adopting the process of informed questioning and intellectual inquiry, deep insight was gained into the meanings and patterns that emerged from the data. Data was further analyzed through an intersectional lens to understand the simultaneous interaction of social, biological, and structural dimensions that shape the mental health of South Asian immigrant women. Participant responses were interpreted to examine specifically the points of intersection between, culture, migration, and gender.

Description of the sample.

The sample consisted of three pregnant South Asian immigrant women who resided in an urban community in British Columbia. Participants were labelled as Participant one

(P1), Participant two (P2), and Participant three (P3) with all of their identifying information removed to ensure their privacy and anonymity. This was the first pregnancy for all three women. The ages of the women were 25, 34, and 36 years. All women identified their religious and ethnic background as Sikh, Punjabi. Their country of origin was India and they were from the northern state of Punjab. Length of stay in Canada varied for the women, and ranged from less than five years, five to ten years, and more than ten years. The highest level of education for all three women was high school, which was completed in Punjab, India. The three participants had unique marital circumstances and experiences. Participant one (P1), the youngest of the three, had arrived to Canada within the last year and had been married for over a year. Participant two (P2) was currently in her second marriage, as her first husband had passed away. Lastly, Participant three (P3) had previously been divorced and was currently re-married.

Themes.

Drawing from the data of the three participants, and descriptions and factors related to their perinatal depressive experiences, five themes were generated: (1) Disruption of Family and Social Supports, (2) Triggers of Depression: the Intersection between Biology and Life Events, (3) Social and Structural Conditions, (4) Psychosocial Stressors: Immigration Process, and (5) South Asian Cultural Roles and Dynamics.

(1) Disruption of family and social supports.

Where is my family?

Among South Asians, raising children is a family affair. Both the immediate and extended families are important primary sources of social support. Hence, arriving to a foreign country with no personal extended family can be a challenging experience that

contributes to feelings of loneliness (Zelkowitz et al., 2004). Social isolation was reported by all participants. Participant one, a recent immigrant, described her feelings and thoughts:

P1: I just miss my family in India (pause) We had quite a large family and here all day I am on my own, because husband is at work and that's why...Those who come new here they should have some sort of family here close around them... like for one year everyone should feel like there is someone close to them and then you will like it here because for me it is extremely hard.

Migrating to Canada consequently led to a separation of social supports and cultural norms. Depression in pregnancy was found to be highly prevalent in immigrant women without social support (Miszkurka, Goulet, & Zunzunegui, 2012). Pregnancy is considered one of the most vulnerable times in a woman's life. The lack of family support during this time was a significant underlying contributor to stress and feelings of desolation in the participants. Most commonly, in their home countries, South Asian women look to their own mothers and female relatives for support and guidance during the perinatal period. Extended family plays an essential role in the lives of pregnant South Asian immigrant women, providing them with a sense of community and caring. Participant one reflected on how her prenatal experience would have differed in India since she would have received constant care from female family members during her pregnancy.

P1: ...over there it was better and everyone would have cared for me, like even now I am on my own and so sometimes I do not feel like making anything and my husband is at work, so my heart feels like what do I do now, if I was in India someone would have made me something.

Essentially, in India, pregnancy and an expected birth is a family affair. It is customary for family to share with the nurturing of the baby right from the womb. Support

from family is a common expectation within the South Asian culture. Not receiving familial assistance and guidance can be a source of dismay and sadness. For Participant three, despite sponsoring her family members to Canada, she received little help and this caused her much distress.

P3: Even now in this position I'm doing everything by myself, everything. I went to doctor it's so hard to drive everything right ...Just offer things like even if my mum was going to offer me oh you know what don't do this and everything I'll, I'll try to manage, not that kind of support from my family. That's always another stress.

As the family unit is such a critical component in the South Asian community, family dynamics can create much tension in one's life. Participant three further elaborated on the impact of these circumstances on her emotional and mental state:

P3: During pregnancy having a hard time just living with my family I don't have anyone to share all my things what I feel when my baby kicked, when, when other things right?

It's so hard, you're just sitting alone and you don't have talking to anyone having fun or those things, no. It is so hard I feel all the time sad, emotional, you know, when you, um, during the whole pregnancy like feel like always sad, always sad, always alone. The family means like they support you, never makes you feel alone right?

Spousal support.

In their country of origin, most women turn to their mothers and female relatives as the first line of support; after migration, women look to their husbands more for support. Spousal support is crucial to South Asian immigrant women in the perinatal period, especially for those who lack family or social supports and their greater sense of dependency lies with the spouse. Since little family support was present for them in Canada, the women

in the study spoke about their husbands being their emotional and practical support during this perinatal period.

P1: ... meaning when he comes home from work, he'll talk to me, he will always ask me about my day, how was it, what did you do like and like you're not too tired are you, and like if I don't feel like making something because I feel like he is home from work tired too and I want to make him something even though I am really tired but he will be like if you can't make anything that's okay, I will do it on my own ... and in general he never tells me what to do and to do work.

At the same time, for all the participants, structural and social conditions resulting from the immigration process made it challenging to receive the spousal support they specifically required. For example, since the immigration experience, particularly for individuals from developing nations, is often not without financial struggle, spouses of these women were required to work long hours to make ends meet. The lack of presence led to deepened isolation among the women. In the case of Participant three, issues with immigration prevented her husband from entering Canada. She was anxiously waiting for his arrival, which contributed further to her vulnerability, especially since she lacked all other social supports.

P3: ...so my husband is not here right, not that kind of support, not emotionally support from anyone. I just need him like so badly because the only thing, I was crazy about the pregnancy I was crazy with having a baby. Crazy, crazy, crazy. Because too much loneliness in my life, always, not anyone, my family not too close to me, they don't even try to understand anything right? So his family also same thing so I need someone who now always stay with me till my baby can stay with me all the time.

Despite the fact that her husband was in India, she was also upset that he was not providing her with the emotional support that she longed for.

P3: He's there and still he's again like I haven't like he doesn't call me that much ... he always call me after four days, five days. But still in twenty-four hours just one minute. Just call me like one minute but he said like all this, oh he working too tired.

Although practical and structural reasons could explain why her husband was not present in Canada, she felt let down that he failed to meet her support expectations, which led to issues within their relationship. A general lack of awareness of perinatal depression may have contributed to the little support from her husband. Relationship issues have been identified as a risk factor for perinatal depression (Bowen & Muhajarine, 2006b; Miszkurka et al., 2012). For Participant three, the marital troubles intersected with cultural elements including stigma and judgment from the South Asian community as this was her second marriage. Leading to greater distress was the multiplicative effects of the factors.

(2) Triggers of depression: The intersection between biology and life events.

History of mental illness.

The link between life events and depression has been well-established. Two of the participants had pre-existing histories of depression in relation to previous stressful events in their lives. Participant two had lost her first husband shortly after marriage and acknowledged how his death continuously affected her emotional state during this pregnancy.

P2: I in 2005 got married then, but arrived to Canada in 2007, and he (husband) passed away in 2009... He had kidney failure... that's why because of that I get a little upset during this pregnancy... although everything was okay with these (current inlaws) lot.

Participant two did not directly associate her experiences with depression. Instead, she saw it as situational and related it to the physical symptoms she dealt with; it was these physical changes in pregnancy that triggered the depressive symptoms.

P2: I had depressive symptoms only in the starting when I was starting to feel very sick then I found it difficult to make food and eat it ... I felt very nauseated and found it very difficult and tears would come ... I would cry often and think why did I get pregnant ?... like I should not have gotten married ... like why did this happen, that happened ... it was these kind of things that would bother me and come to my mind.

The loss of Participant three's father had immense emotional and physical implications. She recalled the experience when she was hospitalized due to a state of shock once she heard the news of her father's death:

P3: ... my dad passed I was in Canada when he passed in India ... at the time I was in a coma for a week I didn't know anything I was in hospital in a coma ... everything done in India my dad's funeral was done and everything was done and I was out of it And after, after time I woke up like where am I? So that time was stress, stressful for me. From that time even when my dad passed he was my real close, my life right?

The same participant experienced a history of emotional abuse as a young adult. The abuse had eventually led to a suicidal attempt. She recounted the incident:

P3: And I start crying and that was the time I took, you know, I had a lot of pills ... And then, and then they took me in the hospital.

Later on in her life, her divorce led to a re-occurrence of depression.

P3: I was in a depression, stress all the time because of my past life, bad time in seven years that experience with him (ex-husband).

Conception.

A sense of excitement for the future baby was present for all three participants. This pregnancy was the first for each of them. While the process of conceiving was not discussed by each participant, two of the participants mentioned that becoming pregnant did not come as easily as they expected. Research indicates that fertility problems alone can lead to depression. Most women have expectations as to how their life is supposed to be with their partner. These depressive feelings can be further worsened for South Asian immigrant women, as many women in South Asian nations are thought to be primarily responsible for the conception process (Niaz & Hassan, 2006). Culturally, South Asian women may be quick to be blamed for fertility mishaps due to the patriarchal nature of the culture and to the lack of knowledge about the biological process (Niaz & Hassan, 2006). Although Participant two did not elaborate much on her experience in having difficulties getting pregnant, Participant three reported the barriers she encountered, especially since conception was a lengthy and tough course for her. The cultural pressures and expectations for South Asian women in regards to fertility can internalize their feelings of let down and can be emotionally debilitating. Participant three referred to her feelings during the conception process and the insecurities it brought out in regards to her relationship:

P3: ...at the time I'm like was trying to have a baby and ... The thing is when I see the doctors they said oh you have, she, she's over stressed always even in India we try two year ... and meetings with the doctors to learn about things like how we're going to conceive right? So a lot of things but they always said like you are over stressed always. You are over stressed, you're over worried, just need to forget about everything just enjoy your life, just this and that. Always think like if I never get pregnant maybe he's going to leave me too. I always think like, okay, his ex wife has a baby so he's going to go one day to his ex wife again right? And maybe it was my

fault and I always pray to god like where's my fault, where I'm wrong right? And keep trying and we were, we done it two times IUI in India ... Didn't work.

Cultural expectations for females around fertility can extend beyond the conception process and expand further to newborn gender. Females are not only seen as being accountable for getting pregnant, they are also considered to be the ones responsible for the gender of the infant. Traditionally, boys have been considered more worthy than girls within the South Asian culture as there is a desire to continue the family name and maintain family assets in the family (Lynam et al., 2000). While the current tendency is straying from the traditional thinking, some South Asian immigrant women continue to face pressure to give birth to a boy (Bina, 2008). This study examined this concept in relation to the women's experiences with perinatal depression. Although the infants were not yet born, the participants were asked whether or not newborn gender was something that they held important. Interestingly, all three of the women reported that it did not matter to them or their families if their newborn was a boy or a girl. This may have been due to the pregnancy, which was their first, and most likely not their last, or may have indicated a real shift in the cultural views.

The new baby: A sense of hope.

All three participants viewed their current depressive symptoms as being resolved in the postpartum period with the birth of their baby. Culturally, this perception can be attributed to the lack of understanding of the biological components of mental illness. While stigma around mental illnesses has existed across all cultures, this stigma has a stronger presence within minority cultures including the South Asian culture (Department of Health, Government of Western Australia, 2006; Hussain & Cochrane, 2002). For many South

Asians, mental illness is perceived as a disorder that one is in control of (Hussain & Cochrane, 2002). For the participants, hope was envisioned through the new baby. The upcoming newborn was perceived as a resolution to the loneliness they were experiencing. Participant one gave details about how she perceived life would be after having a baby:

P1: First, I am now living on my own and then I will be busy with the baby, then my thoughts will not be around what I should do and I will feel like I have someone to interact with, meaning I will be busy, like if I want to go for a walk right now there is no-one, but then I will have a baby to walk with, meaning your life will be busy, one thing meaning you have a purpose, that you have to do something for this baby, if you can understand this ... and then maybe my sadness will go away a little when there is someone else in the home, family will be made and then on its own your mood will change a little.

In the minds of these women, the baby would alleviate their depressive symptoms and feelings of isolation. Participant three felt so alone that she saw the future baby as her companion and hoped this would change her moods.

P3: I need someone who now always stay with me until my baby can stay with me all the time. So in that time right I'm going to share feelings with my baby, I'm always going to be happy with my baby right.

Expressions of depressive symptoms.

Perinatal depression is a combination of complex physical, mental, and emotional distress. On the whole, when describing their experiences, the women were more likely to talk about social and contextual factors as opposed to specific depressive symptoms. When asked specifically to describe their emotions; however, their portrayal of depressive symptoms coincided with the literature on perinatal depression. Participant one expressed her feelings and the progression of the symptoms in her pregnancy:

P1: I, in the beginning, was okay, I felt upset but it was okay (pause) now like before I didn't have that many changes, like getting angry, nothing like this ... now I get more, now I start to get very angry like from the past 2-3 months it's been getting more, wasn't like this before ... sad I used to stay even in the beginning but then it was not as bad ... now I become sad and like I get very angry ... these changes now.

Participant three spoke about the constant stress and sadness she faced:

P3: It's hard, it's always hard, always stress, always start thinking, always emotional thinking so bad, always stressful, always stressful...I can't even go to sleep all this pain in this place, all this pain in this place, always start thinking. It is so hard I feel all the time sad, emotional, you know, when you, um, during the whole pregnancy like feel like always sad, always sad, always alone.

(3) Social and structural conditions.

With the participants' responses, the role of socio-demographic factors in perinatal depression illustrated aspects of the structural contexts of their lives. All three participants arrived in Canada into social conditions that made settlement very challenging. Essentially, their socio-economic status in society decreased upon arrival. In a Western nation like Canada, high school education and the ability to communicate in English are necessities for successful integration into society. None of the women pursued any education beyond high school in India and only one of the three was able to effectively communicate in English. Upon arrival to Canada, a large emphasis was placed on employment instead of education. These social and structural conditions overlap and can contribute to spousal dependency, a longing for more interactions with extended family, and menial jobs. Participant one expressed her feelings of frustration and inadequacy:

P1: I feel like if I know it (English) in a proper way it would be different, like my husband will say many times that you don't know it, you don't try to learn and so this

is why I don't know it, I do feel like why don't I know it I should know ... but I will take classes, however, because of pregnancy I was unable to go, then I started to work and because of that there is a problem and I was unable to take classes.

Gender inequality becomes heightened as the relative lack of power in society for South Asian immigrant women results in dependency on spouses and decreased self-esteem, which contribute to depression (Tewary, 2005). Participant one described her reliance on her husband:

P1: I don't go out on my own, first thing is I only go out with my husband because of his day offs, and then we are out he will tell me to talk, and to me I feel like if you are with me you should be the one to talk why should I talk.

Participant three commented that she wanted to pursue education when she arrived in Canada, but structural conditions prevented her from doing so. Instead, she was forced to work:

P3: I feel like to go to school that time but not allowed from them (aunt & uncle) because my mum and dad was in India so even my dad said if you want to come back ... you know, fine you're just going to come back and go to school here (India). I was like I like the country everything, you know, so I was like no, I'm gonna, I want to stay here ... I'm just gonna suffer, its fine right.

Due to their lack of education and, for most, their lack of English language skills, the participants were currently employed in basic labor jobs that were physically demanding at times. All of the women reported cutting back on their work hours due to pregnancy and a sense of economic helplessness existed. Gender inferiority is deeply imbedded and South Asian immigrant women are often at the bottom of the social hierarchal ladder, which increases their vulnerability. Fall, Goulet, and Vézina (2013) also suggested that women who

had stopped working during pregnancy had lower levels of education than working women, and they experienced greater financial issues and major depressive symptoms. For some participants, the depressive symptoms worsened because of their isolation; their husbands were forced to work long hours in laborious jobs due to their income circumstance.

Participant one said:

P1: All day I am on my own, because husband is at work and that's why... he does driving, drives a taxi and so sometimes can work 14 hours

She spoke about the economical constraints she faced due to being an immigrant:

P1: ... here now after arriving like my husband was working on his own first and now like I work also (pause) and so because of this, everything we do we have to think about it, over there we depend on our parents with everything, you can spend wherever you want, here we have to think about it, buying this, is it necessary? staying home on our own, like in the beginning we don't have a lot.

Their lives in India were very much different as they were from wealthy families in India and had few worries about money. Participant one commented:

P1: In India we had a business, quite a big one, and here that is why we find it difficult ... it was like there, mummy and papa used to buy us so many things and so for me it was like I once I am abroad I will send them back things too but (chuckle) I found after coming here that you barely survive yourself, what would you send them.

Immigrant women who lack finances are more vulnerable to depression than Canadian women (Miszkurka et al., 2012). Structural conditions from the migration process intersect with cultural norms to increase the strain and tension experienced by South Asian immigrant women. Participant one explained how challenging and frustrating she found it to work in Canada, since most women in Punjab are housewives and not required to work.

P1:... even when you first start going to work you find it very difficult like because you have never worked in India, those who had been doing a job there feel fine but those who don't ... like because when I first newly arrived I started working at a Indian clothing store but I only managed to survive 2 hours of standing and then I came home because I found it very hard ... those who have a business they are okay, but we feel like why should we do this? Why do we have to do this? we are just going to go back to India ... those that are used to it are fine.

She acknowledged that, due to cultural norms, women in India are often unaware of how difficult it can be to move abroad.

P1: ... because all those that come from India do not know that much, the ones here they understand and know how hard money is earned and everything is made slowly and gradually.

After experiencing migration, the women in Canada perceived life to be accompanied with many stressors, which were at the intersection of their cultural, social, and structural conditions.

P1: Life changes a lot ... like over there (India) you can't even tell when you day started and when it ended, you have no tension, here if you are working there is tension, if you aren't going to work then it's also tension because then it's like how will you run your house.

(4) Psychosocial stressors: Immigration process.

For immigrants, the migration experience can be a daunting and stressful journey. The immigrant population may be more vulnerable to mental illnesses due to various barriers that they must overcome when they arrive in the foreign country (Zelkowitz et al., 2004). In the interviews, the women brought up the challenges they faced or were currently still experiencing from their migration to Canada. The subthemes that were brought forth by the

participants included a push to migrate to Canada based on a false perception of reality and the current Canadian immigration policies around sponsorship. The desire to move abroad to a nation like Canada existed for all of the women. When asked about what was contributing to her depressive state, Participant one spoke mostly about the migration process to Canada. Specifically, she described how she had an idealistic and romanticized perception about life in Canada, which she realized soon after landing was far from reality.

P1: Everyone over there has a craze that Canada has something and everyone feels like they want to go and go ... and now that I have come here you miss everyone and ... over there you have this life ... here like now I've been here for one year but daily no day goes by that I do not think about my life in India and how good it was there ... like the people who come new here they feel like yes these are the things that you think about... like our whole lives here will be always like this, what will happen.

Participant one had strongly wished to move to Canada, and her main motive in her arranged marriage was to marry a male who had a visa to Canada. This kind of mentality is a cultural norm for many South Asians in India; a man who is a Canadian permanent resident is deemed to be a more desirable potential partner.

P1: Everything only happened within 10 days between us, we didn't know each other because my only choice was that I wanted to go abroad.

In general, Canada is viewed as a more opportunistic country than India. After arriving in Canada, all three women were either in the process or planning the sponsorship process for their in-laws and family members to migrate from India to Canada. This was a great deal of responsibility for the women. As Participant one explained, despite wanting to sponsor her in-laws, she and her husband were confronted with many barriers, such as limited finances and the current migration policies.

P1: ... Now they have made it so hard to bring someone down like you have to have insurance. Medical insurance, and so like it is very hard for us to be able to do that for them, like first off my father in-law has a heart problem and so because of that like if he comes here and has a problem it would be really difficult because of the medical costs ... also the medical may not get passed in the beginning and if it does if he has a health issue here it would be hard due to coverage. Because if you now bring them on a super visa basis meaning on a bringing them down permanently basis, then they have made it after 13 years they can come down and if you sponsor on a visitor basis you have to buy insurance, so it's quite difficult if we bring them down (pause) now baby is coming and we have to think about that too, meaning now he drives a taxi and you know with the taxi work sometimes it gets slow.

Current immigration policies can be a hindrance to re-uniting families and for the social support that many South Asian immigrant women require. Issues with immigration prevented Participant three's husband from being with her during this pregnancy. She held onto the hope that he would be present for the birth of their first child:

P3: He's planning but he has a little immigration problem too but he's planning to come to be in time for baby born right.

On the other hand, immigration laws and policies may have become stricter over time due to the misuse of the Canadian immigration system by some. Participant three had witnessed this first-hand in the past. She disclosed her unfortunate experience with her ex-husband, where she was expected to support him in sponsoring his entire family to Canada. She finally put a stop to it when she realised she was being used only for this purpose, after wanting to conceive.

P3: I bring his brother here, his family here and . . . Sponsor them right ... And then and after it's like, you know what your whole family is here so can we have a baby now? He says I don't want it I don't want any, can you adopt my sister's baby? I was

like what and he said don't tell your parents ... and then I was like first I said no I want my own baby, no, he always think about like bring the whole family here. Like he not think like I'm his wife or like the person like I'm the person he needs the stamp right so I'm the stamp for the parcels. He's going to call everyone here right ... So and I was like, okay, fine I'll adopt her and then I agree and I did all those paper work everything I sponsored and my mum figure out and she's like no, we never allow you to do that we need your own baby. You can have your own right? He's going to leave you one day what are you going to do after ten years he's going to leave you ... he's going to bring his whole family over and he's going to leave you ... and my mum told him no, we not allow her to do that, we can cancel the sponsorship, he was upset. And then he took his stuff, he moved.

The migration process intersects with various cultural norms and expectations. As family plays such a significant role in the lives of South Asians, the individuals who are abroad are expected and feel obliged to do everything in their power to sponsor their family members to Canada. Often, these kinds of cultural pressures and expectations create much stress, tension, and problems within relationships, especially for South Asian immigrant women.

(5) South Asian cultural roles and dynamics.

Traditional cultural elements, like gender roles, newborn gender, and societal pressures were raised by the women in the context of their experience with perinatal depression. For South Asian immigrant women, cultural elements can bring forth gender-specific expectations and duties (Lynam et al., 2000). The role of females after marriage was discussed by the participants. Participant one remarked about post-marriage changes, especially with regards to how in-laws are to be respected and treated:

P1: ... After marriage there is quite a difference, first you think no everyone just says life changes after marriage, and there is no change, but then you realize so many

things change ... you have to think about your in-laws, your kids ... About in-laws ... ummm like how you are going to talk with them, like if you are living in India meaning like how are you going to live with them, if you are living here then you meaning like with your husband you're not going to say anything that is against his parents, like you have to think like that ... because for such a long time you live with your own parents and you have such an attachment and you want to do everything for them, and for your husband like he might not like this, like they are my family and now I am married and I should be thinking about his parents ... although meaning my husband never says anything like this but I feel on my own that this is the way it should be ... we are going to sponsor them but after 1 to 2 years.

Like other South Asian immigrant women, these cultural expectations were obvious to her and represented the values with which she had been raised, even though her husband did not explicitly demand these of her.

P1: Always my father used to say you can't do this, you are to do this when you are at your in-laws meaning they used to give us these teachings ... but this is something from the start we all knew that we have to act like this and if yes we do something wrong it will be an insult to our parents ... for us from the start there is a base built in the environment you are brought up in and so you begin thinking like this ... parents are going to tell you to do this and not to do this, everything else is just second nature.

Because maintaining family ties is such a significant component of the South Asian culture, males are often expected to live with their parents after marriage. While residing in extended households does not necessarily amount to relationship problems, in some instances, issues can arise for the daughter-in-law or wife, because of the many adjustments that have to be made. Participant two was in a situation where she initially had to live with her husband's extended family while she awaited his sponsorship to Canada. She attributed some of these living arrangements to contributing to her depressive symptoms.

P2: Reasons for my mood changes?... well in the beginning I never felt at home when I first got married here ... like I was not used to it ... and like just leaving mum and dad and also my husband back in India ... coming here I didn't like it ... everything had changed ...

... at first it was not okay, now slowly slowly everything is okay ... until my husband was not here, now he is here and it is okay and there are no issues. At first, it didn't seem right to me coming living with this family ... leaving my other family and coming here ... it was challenging ... but although no ... in India I had adjusted to the idea and had made my mind come to terms with everything ... but still you know there is still the challenges when you go to another family and settle there.

Participant three spoke about the many conformities she made for her first husband. He had originated from a family that was more traditional in nature and less educated, compared to her family that she considered to be more liberal.

P3: My in-laws they're people, they're from village, but the guy he is like normal ... So he was fine and but those in-laws they're like kind of typical people. So but I always try to readjust always try to readjust if they don't like me to wear any skirts or stuff I always wear suits right so always manage.

In particular, she discussed the expectations and roles she fulfilled in her first marriage as the daughter-in-law and wife:

P3: Early in the morning so wake up around two o'clock or something right... I made his lunch and my lunch and his brother's every day. Went to the work fourteen hours work over time and came from work doing all like clean the house because when they left, they left after me a mess, everything. Cleaned everything ... I clean the house, made dinner, seven days in a week I made all the time different food ... I done all those things like proper housewife if he didn't like to let me to wear any skirts like that never, never ever, I always follow his rules right? Always cooking, everything proper and still I never make him happy, never ever.

Cultural dynamics, roles, and obligations in patriarchal environments may create challenging contexts that can be detrimental to the mental wellbeing of South Asian immigrant women.

Participant three associated much of her depressive state to the cultural factors related to being a South Asian immigrant woman. As she spoke about her perception of the life of a South Asian woman, the concept of gender differences arose:

P3: I think about all the issues like women don't have their own life I don't think they have their own life. Even they try to live their own but, you know, around people they don't allow to you. All this force you to ... So always like, I think worse life for the South Asian woman, if I think about my experience like, you know, always ... not even able to share with anything with anyone. Girls like even if, even they try to share anything with anyone they just, just always lose it's always like, you know, lose the thing because they, they never appreciate that the girls is right they're fine. Always they think like the girls are wrong.

Customarily, many South Asians believe that males serve as a greater asset to families, because they are considered as the providers for their parents (Lynam et al., 2000). Consequently, in various South Asian households, males are often given liberties and freedoms, whereas females are discriminated against and raised in a more conservative manner (Niaz & Hassan, 2006). This societal thinking stems from generations of patriarchal customs, traditions, and ways of living in South Asian communities (Bina, 2008; Niaz & Hassan, 2006). Participant three discussed how females are perceived and treated in an inferior manner, in comparison to males:

P3: Guys, whatever, they want to do is fine ... If a girl want to go out a lot of things like why, why she's going out, why always she's going out right? Why she's doing that, why she's doing that? It's a guy, it's okay, it's okay. Our culture is like the same

way, it is ... My brother he has so many girlfriends he's fine, he's fine, he's okay, right? If I have one friend but still need to explain what kind of friendship I have. Still I'm like in this age second time I'm married everything I'm having a baby but still I'm, even my relative like if I talk about my guy friend right?

Community gossiping and interference among South Asians was another notion that surfaced from the participants. Participant three explained that she rarely shared her feelings with others from the South Asian community as they tended to make assumptions and judgments about her.

P3: You're not even going to share things outside in my culture they start making fun of me, something wrong with the girl, she's lying, that's why the first time, you know, lost and then, you know, she having problem with the second, they, they don't even try to understand anything, they start, you know, talking ... Always like in our culture it's too much they don't, they don't care about their family, they always interfere in other people's family.

This notion was elaborated upon further in regards to her current situation. Divorce is socially frowned upon among South Asians especially if you are female. For Participant three, it was especially difficult since she is a pregnant female who was divorced and married for the second time to a man who is not present.

P3: Of course, it just make, whole family talks ... it always happen ... like why your husband is not here, why... A lot of questions like oh my god what the hell like sometimes you just that makes me more upset ... And I told them like that makes me more upset if he's trying to come ... If you don't even think it you never even think about it ... they push you to think that ... like my god what should I say like, you know, well he's busy, he's doing his work, he's trying to come here but why you guys keep asking me this is my life, my family, my baby, my husband, if he want to come he's going to come. If he doesn't want to come it's okay why are you guys so worried about it? You might not take care of me you guys not paying for me

anything, you guys are not going to buy anything for me and handle my life or anything it's okay I'll handle my life my way so they just push you so much. Do he call, why didn't call, and they're like okay, this is ... So, so much stress in our culture.

For many South Asian immigrant women, the cultural context can create conditions in which women succumb to becoming secondary citizens within their community. The complex cultural dynamics within the South Asian community can contribute to feelings of stress, tension, and sadness in immigrant women.

Summary

The perinatal period is a vulnerable period for all women. For South Asian immigrant women, in particular, it is the intersection of pregnancy with culture, gender, immigration, and socio-demographic conditions that places them at high risk for perinatal depression. The simultaneous interaction of these factors, as illustrated by the three study participants, create circumstances in which South Asian immigrant women are significantly vulnerable for perinatal depression and other mental health issues.

Chapter 5: Final Perspectives

The Mixed Methods Approach

Relatively little research has focused on prenatal depression and South Asian immigrant women in Canada. Analysis of perinatal depression in this particular group needs to move beyond the traditional biomedical lens, to recognize the social and cultural contexts of depressive symptoms that create risks associated with perinatal depression. As one of the small number of Canadian studies examining prenatal depressive symptoms among South Asian immigrant women, this study provides insight into the unique experiences of these women.

The prevalence rates for prenatal depressive symptoms are markedly higher in South Asian immigrant women. Consistent with other work on immigrant women and perinatal depression, these findings show that South Asian immigrant women are more susceptible to perinatal depression. The secondary data analysis of the Fraser Health Prenatal Registration database illustrates the high risk for perinatal depression among South Asian immigrant women, compared to their non-immigrant counterparts. The results highlight the importance of addressing socio-demographic factors; specifically, financial worries and education levels among pregnant South Asian immigrant women. Through screening, targeting, and accounting for the social determinants, nurses and other healthcare providers can work towards the overall prevention and early intervention treatment of perinatal depression within this population.

While the quantitative results bring attention to the association of socio-demographic variables with prenatal depressive symptoms, the dynamics of perinatal depression within South Asian immigrant women cannot be entirely explained through socio-demographic

factors, especially since these social and structural conditions are a result of the larger cultural context and the migration process. The South Asian immigrant women's cultural environments are not static, but are constantly changing lived experiences. The research design that was comprised of a combination of methods provided a more comprehensive understanding of the phenomenon of perinatal depression. Through the mixed methods approach, the prevalence of prenatal depressive symptoms can be examined in a large geographical area, while inquiring about how symptoms become manifest among individual South Asian immigrant women.

While the perinatal period is especially important for all women, the importance can be heightened for South Asian immigrant women. The intersection of pregnancy with culture, gender, immigration, and socio-demographic conditions places South Asian immigrant women at a high risk for developing depression. Through the interviews with South Asian immigrant women who were experiencing prenatal depressive symptoms, the qualitative research approach contributed to in-depth knowledge of the intersecting dimensions of their lives in terms of their mental health and well-being. The focus was on the women's experiences and perceptions of the social support system, their challenges with migration, and other contextual factors. The findings suggest that women who have immigrated without an extended family and have a lower socio-economic status could be more at risk for developing mental health disorders. More consideration should be given to their ability to access social supports, their relationship expectations, and their establishment and maintenance of their support system. Socially prescribed gender roles and interpersonal relations in the cultural context can put South Asian immigrant women at a greater risk. As cultural domains are so diverse, some women are more susceptible to culturally defined

gender specific roles and perceptions. The interactions of multiple conditions and cultural contexts, as shown in the qualitative findings in this study, create circumstances where South Asian immigrant women are significantly vulnerable to depression in the perinatal period.

Public Health Interventions

Targeting perinatal depression in South Asian immigrant women is a complex task requiring various degrees of intervention. Primary measures, like providing education and information, create more awareness about mental health disorders in the perinatal period. Secondary interventions, like screening for perinatal depression, ensure that vulnerable individuals are identified. Finally, tertiary approaches, like counselling and peer support, can be used to address the specific mental healthcare needs of South Asian immigrant women.

Systems level interventions.

Community awareness.

Raising awareness in the South Asian community about perinatal depression is a key to reducing its prevalence in this population. Healthcare professionals, in partnership with mental health agencies, should specifically reach out to this group of women with tailored interventions. Community awareness campaigns, such as health fairs in Punjabi and discussions in local cultural media channels, can increase the understanding of perinatal depression in the local South Asian community. Liaising with South Asian community groups for the sake of educating community members can also help to, address the particular cultural issues related to gender dynamics, reduce the stigma of mental illness, and encourage women to seek help when symptoms occur.

Early screening.

The findings reinforce the critical role played by nurses in preventing perinatal depression. Routine screening for depression in pregnancy by PHNs is a critical component in the process. Specifically, this study highlights the importance of perinatal depression screening in South Asian immigrant women. Healthcare professionals, such as family physicians, obstetricians, and gynecologists play a large role in the process. These healthcare professionals are often first to come into contact with the women. Physicians and PHNs must also collaborate to allow for appropriate follow-up and referrals. Screening for perinatal depression needs to occur at all levels of healthcare.

This study supports the BC provincial strategy for addressing perinatal depression (BC Women's Hospital and Health Centre, 2006), which emphasizes early identification, screening, and treatment of depression in the pre- and post-natal period. Early identification of women who may be at risk for perinatal depression is important so they may receive support and become connected to treatment services for their mental well-being. Depressive symptoms often arise in pregnancy and extend into the postnatal period (Field, 2011; Oppo et al, 2009; Reid, Power, & Cheshire, 2009). According to the BC Perinatal Depression Framework and the Fraser Health Best Beginnings Perinatal Depression Protocol, prenatal depression screening is recommended at 28-32 weeks gestation. While the Fraser Health prenatal registration program screens all women for vulnerabilities and depression in pregnancy, due to differences in prenatal registration times, the depression screening does not always happen at 28-32 weeks. Efforts must be made to encourage pregnant women to register early to meet the recommended screening interval.

Recently, the effectiveness of screening for depression in all adults has been questioned (Canadian Task Force on Preventive Health Care et al., 2013). The Canadian

Task Force on Preventative Health Care argues that routine screening for depression is not recommended for clients who have no apparent symptoms since adverse effects are associated with premature treatment and the performance of screening tools (Canadian Task Force on Preventive Health Care et al., 2013). The elimination of screening based only on the risk from false positives may not be justified; however, developing more effective screening methods for depression would clearly be a beneficial objective. Mental health and other healthcare professionals need to be equipped with the appropriate tools and knowledge to effectively diagnose and manage depression. Because the recommendations are mainly derived from primary healthcare providers, they may not necessarily be relevant for population-based screening by PHNs.

These findings support the continuous use of the Fraser Health prenatal registration program to target vulnerable women. The prenatal registration forms used in this study have since been revised to include more in-depth questions around risk factors based on feedback from PHNs. The revised prenatal registration form includes questions around length of stay in Canada, the presence of social supports, and income assistance, which may further assist in identifying women who experience challenges with the migration process. Obtaining data on ethnicity and migration, along with other social determinants of health (i.e., income and education), is essential for developing gender and culturally sensitive public health interventions to reduce the health disparities in different groups. In particular, close attention must be given to the reporting of financial worries, independent of one's language. Today, women who are identified as being vulnerable, based on certain risk factors (i.e., immigration status, finances, social supports, and depression), are entered into a central system to ensure

they receive close public health follow-up during the perinatal period. The protocol is essential for the timely identification of women at risk for perinatal depression.

Community and individual level interventions.

Health promotion.

The BC Provincial Perinatal Depression Framework directs PHNs to address the intersecting dimensions of women's lives (BC Women's Hospital and Health Centre, 2006). Based on identified risk factors, PHNs use collaborative care planning to connect women to resources and health supports. Part of the perinatal depression framework includes the NEST-S plan that guides PHNs to focus on key areas – Nourishment, Exercise, Sleep, Time for self, and Support for women's health that can affect their mental well-being. Workplace challenges, including the multiple roles and responsibilities of PHNs, can create difficulties for PHNs in meeting all aspects of the framework. Although perinatal depression frameworks are in place, nurses must be provided with the educational tools, training, principles, supports, and resources to identify and assist women at risk. PHNs should be supported in carrying out home visits and maintaining regular contact with vulnerable, pregnant women to promote their mental health. Home visitation services can address instrumental barriers like the lack of transportation and possible stigma in accessing services for mental health. One-to-one contact allows nurses to assess social isolation, build trusting relationships, and identify potential concerns in the home environment. Nurses require training for the provision of culturally sensitive care in order to be cognisant of certain cultural dynamics that may be influencing the emotional health of South Asian immigrant women. Nurses also need to be conscious of gender and interpersonal relations that exist within the context of South Asian immigrant women. By connecting and increasing their access to information, resources, and

community programs, PHNs can empower and strengthen the self-capacity of South Asian immigrant women who may be experiencing perinatal depression.

Developing psycho-therapy intervention programs in the public health units will help to expand the evidence-based initiatives that foster maternal mental wellness. To ensure maximum efficacy, practice-based PHN programs should be developed in partnership with mental healthcare professionals. Program objectives need to focus on self-coping measures, maintaining healthy relationships, managing stress, building support networks, setting goals, and accessing psychosocial resources. The provision of intervention programs by PHNs should be in various languages to increase the accessibility across vulnerable populations. Public health programs available in Punjabi will help to prevent and alleviate perinatal depressive symptoms in South Asian immigrant women.

Policy Development

This study draws attention to the critical need to understand the intersecting dimensions of language, culture, migration, education, and financial factors. South Asian immigrant women may be particularly vulnerable to prenatal depression given the “multiple risk factors” that are associated with reporting depressive symptoms while pregnant. Population-based health interventions are needed to disseminate health risks by addressing the foundational social, economic, and environmental conditions. Policies can create supportive structures for assisting South Asian immigrant women to integrate successfully and independently in the society at large. For example, funding for accessible language and educational services to South Asian immigrant women will work towards addressing language barriers and building self-capacity in women, which will decrease their dependency on others. Increasing their English language skills can enhance their ability to interact with

the healthcare system and be used to find gainful employment. With the aim of increasing rates of employment and training for employment following migration among South Asian immigrant women, their financial constraints must be tackled. Affordable housing options need to be available for immigrant families to assist their settlement in Canada.

Canadian immigration policies need to be adjusted for the re-unification of family members, especially as social supports have been shown to be fundamental for South Asian immigrant women during the perinatal period. The new qualifying criteria for permanent residency sponsorship in Canada have become so stringent that most immigrants cannot meet the requirements. The new eligibility criteria requires an applicant to have a financial threshold that is 30% above the minimum necessary income for three consecutive years. Also, applicants are required to be financially responsible for medical and any provincial social benefit coverage for a sponsored individual for the next 20 years (Government of Canada, 2013). These new conditions mean that only upper-class immigrant families will be able to be reunited with their families. The sponsorship processes should be more accessible to immigrants, especially those with low income or those who are unable to meet the financial requirements as they are at a high risk for various health conditions and detrimental social circumstances. For South Asian immigrant women, the changes to the sponsorship policy may further deepen their vulnerabilities.

Narrowing the existing service gaps is a large part of the BC Provincial Perinatal Depression Framework's strategic plan. Current community mental health services in the Fraser Health region are not all specific to reproductive mental health, are unavailable in a variety of languages, and are inaccessible in a timely manner. As Fraser Health has a large South Asian immigrant population, these findings support the need to allocate more

resources and funds to preventative and treatment options for this particular population. Due to the high risk of perinatal depression in South Asian immigrant women, a greater emphasis should be made to developing accessible reproductive mental health services that are specific to this population. All services should be culturally relevant, and services in Punjabi (i.e., clinician support, counselling, and support groups) should be accessible to this population.

Limitations

The results of this study should be interpreted with caution. The data is cross-sectional and does not offer insight into the nature and course of perinatal depression over time. Although the data captures one of the largest samples of Punjabi women who are pregnant in BC, the findings have a limited generalizability since only data from Fraser Health Authority is included. The secondary data is from 2009 to 2010, and after this period, no central database is available. The prenatal registration form is a self-report form and the screening is completed on self-report measures. The prenatal registration forms also did not assess for the presence of pre-existing mental illnesses; hence, it is unknown whether these depressive symptoms arose in the perinatal period or were due in part to recurrent and untreated depression or other mental illnesses. Moreover, some of the data was missing; in particular, the education variable had a high percentage of missing data (7.5%). A post-hoc power analysis (Appendix H) confirmed that the lack of sample size and homogeneity of education status among the Punjabi-speaking with interpreter group was underpowered to detect statistically significant differences in the education variable. In this case, a Type II error may have been made. Based on the overall analyses of the total sample of prenatal registrants; however, education was statistically significantly associated with the reporting of depressive symptoms.

Some Punjabi-speaking women with language barriers may have misunderstood the Whooley Depression Screen questions on the form and incorrectly answered positively to the depression questions. Although the tool has a high sensitivity (96%), the specificity is only 57%, meaning that a certain percentage of women will be identified as false positives (Whooley et al., 1997). Depression within the South Asian culture is often somatised, and physical distress may be combined with mental distress (Fenton & Sadiq-Sangster, 1996; Gupta, 2010; Templeton et al., 2003). Since the Whooley Depression Screen does not contain any somatic symptoms, the tool may lack cultural sensitivity and semantic equivalence. Semantic equivalence ensures that the meaning of each item is the same in each culture, after being translated to the other language (Cox & Holden, 2003). Regardless of the potential for misinterpretation and misreading/reporting of depressive symptoms, the difference between the two groups is significant enough that it cannot be entirely attributed to false cases.

Recruitment and time-line challenges limited the number of interviews for the qualitative component. As the researcher is a second-generation South Asian, some indirect influence may have been exerted on the participants' responses during the interviews. Nevertheless, as a South Asian, my presence may have also increased the participants' level of comfort, because of our common cultural understanding. On the other hand, as a second-generation, as opposed to a first-generation South Asian, my presence may have created an outsider perception and decreased the participants' degree of openness. The participants may have been hesitant to fully disclose their personal experiences with a South Asian researcher from the same ethnic community.

Recommendations for Future Research

The high prevalence risk that South Asian immigrant women have for prenatal depressive symptoms has been demonstrated in this study, using two, established screening devices. To further support these findings, studies are needed to explore the prevalence of perinatal depression among South Asian immigrant women with additional validated instruments. New research should continue to assess and evaluate the effectiveness of depression screening tools for women in the perinatal period to determine which tools are more culturally relevant and accurate for a given population group and setting.

This study provides insight into the context of depressive symptoms in pregnancy for South Asian immigrant women. As the study was only focused on the prenatal period, additional longitudinal studies would be needed to examine maternal and fetal outcomes. A longitudinal study can follow women's depressive symptoms for the entire perinatal period and provide a greater understanding of depression in pregnancy and in the postpartum period. Further examination of the intersecting risk factors and their relation to the recovery process of perinatal depression may also reveal valuable findings about the reproductive mental healthcare needs of women.

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Appendix A: Prenatal Registration Form (Version 2)



PRENATAL REGISTRATION FORM (Please Print)

Your completed registration form will be returned to the Public Health Nurse at your local health unit.
The information you provide on this form becomes part of your confidential individual health record.

INFORMATION ABOUT YOU									
Today's Date (y/m/d)			Care Card Number			Birth Date (y/m/d)			
Last Name			First Name			Age			
Street Address									
City					Postal Code				
Name of Doctor or Midwife					Phone # of Doctor or Midwife				
City of Doctor or Midwife					Name of Obstetrician				
What is your due date? (y/m/d)					Is this your first pregnancy?		<input type="checkbox"/> Yes		<input type="checkbox"/> No
How many months pregnant were you at your first prenatal doctor or midwife visit?					<input type="checkbox"/> 1-3 months		<input type="checkbox"/> 4-6 months		<input type="checkbox"/> 7-9 months
Do you have other children?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
What country were you born in?			<input type="checkbox"/> Canada		<input type="checkbox"/> Other (name of country)				
Did you come to Canada as a refugee?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
How long have you lived in Canada?			<input type="checkbox"/> Born in Canada		<input type="checkbox"/> Less than 5 years		<input type="checkbox"/> 5-10 years		<input type="checkbox"/> More than 10 years
Do you speak English?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
What language do you speak most?			<input type="checkbox"/> English		<input type="checkbox"/> Punjabi		<input type="checkbox"/> Mandarin		<input type="checkbox"/> Cantonese
			<input type="checkbox"/> Farsi		<input type="checkbox"/> French		<input type="checkbox"/> Vietnamese		<input type="checkbox"/> Other (name of language)
Do you need an interpreter?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
Do you identify as having Aboriginal heritage?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
Have you completed high school?			<input type="checkbox"/> Yes		<input type="checkbox"/> No				
Are you attending a pregnancy support program such as Pregnancy Outreach Program or Healthiest Babies Possible?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
Do you have someone you can talk to when you are upset or worried or just need to talk?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
Do you have someone who can help you out with transportation, housing, childcare or other personal needs?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
Are you finding it very difficult to live on your total household income?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
During the past month have you often been bothered by feeling down, depressed or hopeless?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
During the past month have you often been bothered by little interest or pleasure in doing things?							<input type="checkbox"/> Yes		<input type="checkbox"/> No
Please tick ONE of the check boxes about tobacco			<input type="checkbox"/> I have never smoked cigarettes			<input type="checkbox"/> I currently smoke cigarettes			
			<input type="checkbox"/> I quit smoking less than 1 year ago			<input type="checkbox"/> I quit smoking more than 1 year ago			
How often do people smoke around you?			<input type="checkbox"/> Daily		<input type="checkbox"/> Weekly		<input type="checkbox"/> Monthly		<input type="checkbox"/> Less than Monthly
			<input type="checkbox"/> Never						
Are you planning to breastfeed your baby?			<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> Not decided yet		
YOUR CONTACT INFORMATION									
Your Phone Number			Home:			Work:			Cell:
If you do not have a phone - how can we reach you?									
Is it okay to leave a message at home?			<input type="checkbox"/> Yes		<input type="checkbox"/> No		Which phone number is best to reach you at?		
			<input type="checkbox"/> Home		<input type="checkbox"/> Work		<input type="checkbox"/> Cell		
When is the best time to call during the day?			<input type="checkbox"/> Anytime		<input type="checkbox"/> Morning		<input type="checkbox"/> Afternoon		<input type="checkbox"/> I am not available by phone during the day
PUBLIC HEALTH NURSE COMPLETES SECTION BELOW									
Name of PHN					Health Unit		Eligibility Pathway		
Signature of PHN					Date				

Appendix B: Prenatal Registration Form (Version 1)

If you live in Fraser Health and would like to register for the *Fraser Health Best Beginnings Program* - please complete this questionnaire. Your completed questionnaire will be returned to your local Public Health Nurse. The Public Health Nurse may call you to give you information or connect you to supports that are right for you. The information you give us is kept confidential.

INFORMATION ABOUT YOU

Today's Date: _____ (day/month/year) Care Card Number: _____

First Name _____ Last Name _____

Your Birth date: _____ (day/month/year) Age: _____

Your Street Address: _____

City: _____ Postal Code: _____

Name of your doctor/midwife: _____ City: _____

If you know your doctor's phone number please record here () _____

What language do you speak most: ☐ English ☐ Punjabi ☐ Other (name other language): _____

Do you need an interpreter? ☐ Yes ☐ No

Do you identify yourself as having Aboriginal heritage? ☐ Yes ☐ No

If so, we encourage you to tell us as there may be additional services available for people with Aboriginal ancestry

Information about your schooling (please check one of the boxes below)

☐ I have completed some high school ☐ I have completed some college or university

☐ I have graduated from high school ☐ I have graduated from college or university

INFORMATION ABOUT YOUR PREGNANCY

What is your due date? _____ (day/month/year)

How many months pregnant were you when you first saw your doctor or midwife? _____ Months

During the past month have you often been bothered by feeling down, depressed or hopeless? ☐ Yes ☐ No

During the past month have you often been bothered by little interest or pleasure in doing things? ☐ Yes ☐ No

Do you often worry about having enough money for housing, food or baby supplies? ☐ Yes ☐ No

Please check one of the boxes below related to tobacco use:

☐ I have never smoked cigarettes ☐ I currently smoke cigarettes

☐ I quit smoking less than 1 year ago ☐ I quit smoking more than 1 year ago

Does anyone smoke around you on a regular basis? ☐ Yes ☐ No

Are you planning to breastfeed your baby? ☐ Yes ☐ No ☐ I have not decided yet

Your Phone Number: Home: _____ Work: _____ Cell: _____

If you do not have a phone, how can we reach you? _____

Is it okay to leave a message at home? ☐ Yes ☐ No

Which phone number is best? ☐ Home ☐ Work ☐ Cell

When is the best time to call during the day? ☐ Anytime ☐ Morning ☐ Afternoon

Appendix C: Edinburgh Perinatal Depression Scale (EPDS)



EDINBURGH PERINATAL DEPRESSION SCALE¹ (EPDS)

NAME	CARE CARD NUMBER
DATE OF BIRTH	
BABY'S DATE OF BIRTH	PHONE

As you are pregnant or have had a baby within the last year, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **in the past 7 days**, not just how you feel today. Here is an example already completed:

I have felt happy:

- ☐ Yes, all the time
☒ Yes, most of the time
☐ No, not very often
☐ No, not at all

This would mean: "I have felt happy most of the time" during the past week
Please complete the other questions in the same way.

In the past 7 days:

- I have been able to laugh and see the funny side of things
 - ☐ As much as I always could
 - ☐ Not quite so much now
 - ☐ Definitely not so much now
 - ☐ Not at all
- I have looked forward with enjoyment to things
 - ☐ As much as I ever did
 - ☐ Rather less than I used to
 - ☐ Definitely less than I used to
 - ☐ Hardly at all
- I have blamed myself unnecessarily when things went wrong
 - ☐ Yes, most of the time
 - ☐ Yes, some of the time
 - ☐ Not very often
 - ☐ No, never
- I have been anxious or worried for no good reason
 - ☐ No, not at all
 - ☐ Hardly ever
 - ☐ Yes, sometimes
 - ☐ Yes, very often
- I have felt scared or panicky for no very good reason
 - ☐ Yes, quite a lot
 - ☐ Yes, sometimes
 - ☐ No, not much
 - ☐ No, not at all
- Things have been getting on top of me
 - ☐ Yes, most of the time I haven't been able to cope at all
 - ☐ Yes, sometimes I haven't been coping as well as usual
 - ☐ No, most of the time I have coped quite well
 - ☐ No, I have been coping as well as ever
- I have been so unhappy that I have had difficulty sleeping
 - ☐ Yes, most of the time
 - ☐ Yes, sometimes
 - ☐ Not very often
 - ☐ No, not at all
- I have felt sad or miserable
 - ☐ Yes, most of the time
 - ☐ Yes, quite often
 - ☐ Not very often
 - ☐ No, not at all
- I have been so unhappy that I have been crying
 - ☐ Yes, most of the time
 - ☐ Yes, quite often
 - ☐ Only occasionally
 - ☐ No, never
- The thought of harming myself has occurred to me
 - ☐ Yes, quite often
 - ☐ Sometimes
 - ☐ Hardly ever
 - ☐ Never

Administered/ Reviewed by: _____ Date: _____ Score: _____

¹Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh postnatal depression scale. *British Journal of Psychiatry* 150:782-786.

²Source: K.L. Wisner, K. L., Parry, B. L., & Piontek, C.M. (2008). Postpartum depression. *New England Journal of Medicine*, 347(3), 194-199.





Instructions for Using the Edinburgh Postnatal Depression Scale

This form may be completed in a variety of contexts where public health nurses connect with women during the perinatal period. These include, but are not limited to Prenatal Screening, Perinatal Depression Follow-up, and CHC with postnatal women.

The EPDS may be done using several methods as appropriate to the individual woman and context of the interaction. Examples include: telephone, in person, or handed out to women to complete and discuss with a PHN or their primary care provider. The method will depend on the situation and relevant Best Beginnings Program Protocols.

1. Ask the mother to provide a response that comes closest to how she has been feeling in the previous seven (7) days.
2. All the items must be completed.
3. Try to avoid the possibility of the mother discussing her answers with others. (Answers come from the mother or pregnant woman).

Scoring

- | | |
|--|--|
| <p>1. I have been able to laugh and see the funny side of things</p> <p>0 As much as I always could</p> <p>1 Not quite so much now</p> <p>2 Definitely not so much now</p> <p>3 Not at all</p> | <p>6. Things have been getting on top of me</p> <p>3 Yes, most of the time I haven't been able to cope at all</p> <p>2 Yes, sometimes I haven't been coping as well as usual</p> <p>1 No, most of the time I have coped quite well</p> <p>0 No, I have been coping as well as ever</p> |
| <p>2. I have looked forward with enjoyment to things</p> <p>0 As much as I ever did</p> <p>1 Rather less than I used to</p> <p>2 Definitely less than I used to</p> <p>3 Hardly at all</p> | <p>7. I have been so unhappy that I have had difficulty sleeping</p> <p>3 Yes, most of the time</p> <p>2 Yes, sometimes</p> <p>1 Not very often</p> <p>0 No, not at all</p> |
| <p>3. I have blamed myself unnecessarily when things went wrong</p> <p>3 Yes, most of the time</p> <p>2 Yes, some of the time</p> <p>1 Not very often</p> <p>0 No, never</p> | <p>8. I have felt sad or miserable</p> <p>3 Yes, most of the time</p> <p>2 Yes, quite often</p> <p>1 Not very often</p> <p>0 No, not at all</p> |
| <p>4. I have been anxious or worried for no good reason</p> <p>0 No, not at all</p> <p>1 Hardly ever</p> <p>2 Yes, sometimes</p> <p>3 Yes, very often</p> | <p>9. I have been so unhappy that I have been crying</p> <p>3 Yes, most of the time</p> <p>2 Yes, quite often</p> <p>1 Only occasionally</p> <p>0 No, never</p> |
| <p>5. I have felt scared or panicky for no very good reason</p> <p>3 Yes, quite a lot</p> <p>2 Yes, sometimes</p> <p>1 No, not much</p> <p>0 No, not at all</p> | <p>10. The thought of harming myself has occurred to me</p> <p>3 Yes, quite often</p> <p>2 Sometimes</p> <p>1 Hardly ever</p> <p>0 Never</p> |

Enter the score on the Best Beginnings Prenatal Program Checklist.

Refer to Best Beginnings Perinatal Protocol for Interventions relevant to the score.

Appendix D: Power Analysis

Total Punjabi Speaking Sample

```
> #####
> # Power Analysis for 2 groups that have
> #   unequal sample sizes and
> # when the prevalence rates (proportion)
> # of the condition for two groups
> # are known
> #####

The following are the things you already have
> #   Sample size for Punjabi (Punjabi_n) = 887
> # Sample size for non-Punjabi (X_Punjabi_n) = 7423
> #   Proportion of Punjabi with depression (Punjabi_%) = .40
> # Proportion of non-Punjabi with depression (X_Punjabi_%) = .24
> # P-value (or significance/alpha level) desired = .05
>
> # STEP 1: calculate effect size (es); change only the proportion, i.e. .24 and .40
>
> es = (2*asin(sqrt(.40)))-(2*asin(sqrt(.24)))
> es
[1] 0.345493
>
> # STEP 2: calculate power; note that the value for power should be set to "NULL";
> # everyth
> library (pwr)
> pwr.2p2n.test(h = es, n1=887, n2 = 7423, sig.level = .05, power = NULL)

      difference of proportion power calculation for binomial distribution (arcsine
transformation)

      h = 0.345493
      n1 = 887
      n2 = 7423
      sig.level = 0.05
      power = 1
      alternative = two.sided

NOTE: different sample sizes
```

Subgroup Analysis: Punjabi Speaking with Interpreter

```
> # The following are the things you already have
> #   Sample size for Punjabi (Punjabi_n) = 556
> # Sample size for non-Punjabi (X_Punjabi_n) = 7423
> #   Proportion of Punjabi with depression (Punjabi_%) = .40
> # Proportion of non-Punjabi with depression (X_Punjabi_%) = .24
> # P-value (or significance/alpha level) desired = .05
>
> # STEP 1: calculate effect size (es); change only the proportion, i.e. .40 and .24
>
> es = (2*asin(sqrt(.40)))-(2*asin(sqrt(.24)))
> es
[1] 0.345493
>
> # STEP 2: calculate power; note that the value for power should be set to "NULL";
> # everyth
> library (pwr)
> pwr.2p2n.test(h = es, n1=556, n2 = 7423, sig.level = .05, power = NULL)

      difference of proportion power calculation for binomial distribution (arcsine
transformation)

      h = 0.345493
      n1 = 556
```

```

      n2 = 7423
sig.level = 0.05
  power = 1
alternative = two.sided

```

NOTE: different sample sizes

Subgroup Analysis: Punjabi Speaking Requiring No Interpreter

```

> # The following are the things you already have
> #   Sample size for Punjabi (Punjabi_n) = 331
> # Sample size for non-Punjabi (X_Punjabi_n) = 7423
> #   Proportion of Punjabi with depression (Punjabi_%) = .40
> # Proportion of non-Punjabi with depression (X_Punjabi_%) = .24
> # P-value (or significance/alpha level) desired = .05
>
> # STEP 1: calculate effect size (es); change only the proportion, i.e. .40 and .24
>
> es = (2*asin(sqrt(.40)))-(2*asin(sqrt(.24)))
> es
[1] 0.345493
>
> # STEP 2: calculate power; note that the value for power should be set to "NULL";
> # everyth
> library (pwr)
> pwr.2p2n.test(h = es, n1=331, n2 = 7423, sig.level = .05, power = NULL)

      difference of proportion power calculation for binomial distribution (arcsine
transformation)

```

```

      h = 0.345493
      n1 = 331
      n2 = 7423
sig.level = 0.05
  power = 0.9999861
alternative = two.sided

```

NOTE: different sample sizes

Appendix E: Telephone Script for Public Health Nurses (PHNs)

Recruitment of Subjects

PHN - My colleague, Raman Sanghera is also a public health nurse and completing her Masters of Nursing degree through the University of British Columbia (UBC). As part of this degree, she is conducting a study on depression in pregnancy and after having a baby, in South Asian immigrant women.

Since you are experiencing some mood and emotional changes in your pregnancy, as indicated by a positive answer to the depressive questions on the prenatal registration form, and your score on the EPDS scale, she would like the opportunity to speak with you about your feelings. Taking part in this study is voluntary and will not affect any of the care you receive in any way. If you decide to take part in this study, only Raman and her supervisory committee at UBC School of Nursing will have access to the data. Your name or other information will not be used on any publications or reports. Would it be possible for her to contact you?

P - No, [participant is not interested]

OR

P - Yes,

PHN - Obtain Contact Information:

Name:

Telephone number:

Address/fax number:

*please inquire preferred for method of delivery of consent form (i.e., mail, drop off, fax)

Review of Study Details

- Raman will be undertaking all interviews
- The interview would last from about half an hour to one hour, and would be arranged at a time and place that is most convenient for you. If you would not like face to face interviews, a telephone interview can be arranged.
- Involvement in this interview is entirely voluntary and there are no known or anticipated risks to participation in this study.

- The questions are quite general (for example, How are your moods?).
- You may decline to answer any of the interview questions you do not wish to answer and may terminate the interview at any time.
- With your permission, the interview will be tape-recorded to facilitate collection of information, and later transcribed for analysis.
- All information you provide will be considered confidential.
- The data collected will be kept in a secure location
- If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please feel free to contact her supervisor, Dr. Sabrina Wong at (604) 827-5584.
- After all of the data have been analyzed, you will receive an executive summary of the research results.

With your permission, Raman would like to email/mail/fax you an information letter which has all of these details along with contact names and numbers on it to help assist you in making a decision about your participation in this study.

Appendix F: Participant Informed Consent Form

1



PARTICIPANT INFORMED CONSENT and INFORMATION FORM - INTERVIEWS

Exploring Perinatal Depression in South Asian Immigrant Women Study

Principal Investigator: Raman Sanghera, RN, BSN,
Fraser Health Authority - Health Promotion & Prevention
University of British Columbia – Masters in Nursing
604-783-4030

Co-Principal Investigator: Sabrina Wong, RN, PhD
Associate Professor, UBC School of Nursing and Centre
for Health Services and Policy Research
604-827-5584

INTRODUCTION

You are being invited to take part in an interview about your experiences with depressive symptoms or mood changes in pregnancy.

YOUR PARTICIPATION IS VOLUNTARY:

Your participation is voluntary, you decide whether or not to take part in this study. Before you decide, it is important for you to understand what the research involves. If you do decide to take part in this study, you can still withdraw at any time and without giving any reasons for your decision. If you do not wish to participate, you do not have to provide any reason for your decision. This study will not affect your care in any way.

WHO IS CONDUCTING THIS STUDY?

This study is part of Raman Sanghera's Masters degree in nursing at the University of British Columbia. Direct quotes may be published in a thesis or in oral or written publications but your name will not be linked with these quotes. No identifying information will be present in the published results.

BACKGROUND:

One in five women in British Columbia will experience some form of depression related to pregnancy or childbirth. Little research has been done on understanding depression in pregnancy or after birth, specifically among South Asian immigrant women. In particular, how culture might be related to depression in pregnancy or after birth, has not been looked at.

10/08/2012

FHA Research Ethics Board APPROVED: 2012 August 24

WHAT IS THE PURPOSE OF THE STUDY?

The reason we are doing this research is to explore South Asian immigrant women's experiences with mood changes during pregnancy.

WHO MAY PARTICIPATE?

You can take part in this study if you are an immigrant to Canada from India, have registered for the Fraser Health –Best Beginnings Program, reside in Surrey, and are currently experiencing depressive symptoms or mood changes.

WHAT DOES THE STUDY INVOLVE?

Participants will take part in a face-to-face or telephone interview. It will last around 30 to 60 minutes. Face to face interviews can either occur at your home, or at your local public health unit. The interview will be audio-recorded.

WHAT ARE THE BENEFITS AND RISKS OF THE STUDY?

There are no direct benefits to participating in this study. What we learn from your experiences may assist in the delivery of more culturally sensitive services for those who are depressed in pregnancy. There are no known physical risks to your health. Due to the sensitive manner of this topic there may be some emotional risks. There is a possibility that you may feel some emotional distress when discussing your feelings during the interviews. The following resources are available to you if needed: Fraser Health Public Health services 604 592-2000, Crisis Line # 604 951 8855, and Fraser Mental Health Services 604 953 4995.

WHAT WILL THE STUDY COST ME?

Participation in this study will not result in any expenses to you. As a token of appreciation for your time, you will receive a \$25 gift certificate.

WILL MY TAKING PART IN THIS STUDY BE KEPT CONFIDENTIAL?

We respect your privacy and maintain confidentiality. The information that we gather from this research project will be kept private. The information from this study will be kept in a secure, locked location. Only members of the research team (the researcher and three committee members) will be able to look at the information. It will not be shared with or given to anyone except the research team. Any information about you will have a number on it instead of your name. Your name or any identifying information will not be published in any reports, etc. Confidentiality will be breached only if you report harm towards yourself or others. In this case, it is my legal obligation to let your doctor or health care provider, know to make sure you get the care and help you need. We will keep a copy of this research consent form and also give you a copy for your records. The information from the interviews including audio-recordings will be stored at UBC up to five years and then destroyed. At the end of the five years, paper copies will be shredded and audio tapes will be demagnetized.

10/08/2012

FHA Research Ethics Board APPROVED: 2012 August 24

WHO DO I CONTACT IF I HAVE ANY QUESTIONS ABOUT THE STUDY DURING MY PARTICIPATION?

If you have any questions about this study, please contact myself (Raman Sanghera) at (604) 783-4030. You may also contact my supervisor Dr. Sabrina Wong at the School of Nursing at the University of British Columbia at Sabrina.wong@nursing.ubc.ca or at (604) 827-5584. If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Subject Information Line in the UBC Office of Research Services at (604) 822-8598.

YOUR RIGHTS:

By signing this form, you do not give up your legal rights.

10/08/2012

FHA Research Ethics Board APPROVED: 2012 August 24

Punjabi

PARTICIPANT INFORMED CONSENT FORM-INTERVIEWS**ਹਿੱਸਾ ਲੈਣ ਵਾਲੇ ਦੀ ਜਾਣਕਾਰੀ ਲੈਣ ਸੰਬੰਧੀ ਸਹਿਮਤੀ ਫਾਰਮ-ਇੰਟਰਵਿਊ**

Exploring Perinatal Depression in South Asian Immigrant Women Study
ਇੰਮੀਗ੍ਰੇਂਟ ਦੱਖਣ-ਏਸ਼ੀਆਈ ਔਰਤਾਂ ਨੂੰ ਬੱਚੇ ਦੇ ਜਨਮ ਸਮੇਂ ਹੋਣ ਵਾਲੇ ਡਿਪਰੈਸ਼ਨ ਸੰਬੰਧੀ ਅਧਿਐਨ ਦੀ
ਖੋਜ-ਪੜਤਾਲ

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 ਯੂਨੀਵਰਸਿਟੀ ਆਫ ਬ੍ਰਿਟਿਸ਼ ਕੋਲੰਬੀਆ- ਮਾਸਟਰਜ਼ ਇਨ ਨਰਸਿੰਗ
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ਸਹਿ ਜਾਂਚ ਕਰਤਾ: ਸਬਰੀਨਾ ਵੱਗ
 ਐਸੋਸੀਏਟ ਪ੍ਰੋਫੈਸਰ, ਯੂ.ਬੀ.ਸੀ. ਸਕੂਲ ਆਫ ਨਰਸਿੰਗ

ਜਾਣ ਪਛਾਣ

ਆਪ ਨੂੰ ਇੱਕ ਇੰਟਰਵਿਊ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਸੱਦਾ ਦਿੱਤਾ ਜਾਂਦਾ ਹੈ ਜਿਸ ਵਿੱਚ ਤੁਸੀਂ ਗਰਭ ਕਾਲ ਦੌਰਾਨ ਹੋਣ ਵਾਲੇ ਉਦਾਸੀ ਰੋਗ (ਡਿਪਰੈਸ਼ਨ) ਦੇ ਚਿੰਨ੍ਹਾਂ ਜਾਂ ਮੂਫ਼ ਪਰਿਵਰਤਨ ਸੰਬੰਧੀ ਅਨੁਭਵ ਸਾਂਝੇ ਕਰ ਸਕਦੇ ਹੋ।

ਤੁਹਾਡਾ ਹਿੱਸਾ ਲੈਣਾ ਤੁਹਾਡੀ ਆਪਣੀ ਮਰਜ਼ੀ ਹੈ:

ਇਸ ਪ੍ਰੋਜੈਕਟ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣਾ ਤੁਹਾਡੀ ਆਪਣੀ ਮਰਜ਼ੀ 'ਤੇ ਨਿਰਭਰ ਕਰਦਾ ਹੈ। ਇਸ ਲਈ ਇਹ ਫ਼ੈਸਲਾ ਤੁਹਾਡੇ ਉੱਤੇ ਹੈ ਕਿ ਤੁਸੀਂ ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ ਜਾਂ ਨਹੀਂ। ਇਸ ਤੋਂ ਪਹਿਲਾਂ ਕਿ ਤੁਸੀਂ ਇਸ ਬਾਰੇ ਫ਼ੈਸਲਾ ਕਰੋ, ਇਹ ਸਮਝਣਾ ਤੁਹਾਡੇ ਲਈ ਜ਼ਰੂਰੀ ਹੈ ਕਿ ਇਸ ਖੋਜ ਵਿੱਚ ਆਖਿਰ ਕੀ ਹੈ। ਇਹ ਸਹਿਮਤੀ ਫਾਰਮ ਤੁਹਾਨੂੰ ਇਸ ਅਧਿਐਨ ਬਾਰੇ ਦੱਸੇਗਾ, ਖੋਜ ਕਿਉਂ ਕੀਤੀ ਜਾ ਰਹੀ ਹੈ, ਅਧਿਐਨ ਦੇ ਦੌਰਾਨ ਤੁਹਾਡੇ ਨਾਲ ਕੀ ਹੋਵੇਗਾ, ਇਸ ਦੇ ਸੰਭਾਵਿਤ ਲਾਭ, ਖ਼ਤਰੇ ਅਤੇ ਤਕਲੀਫ਼ਾਂ ਆਦਿ। ਜੇ ਤੁਸੀਂ ਇਸ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ ਤਾਂ ਤੁਹਾਨੂੰ ਇਸ ਫਾਰਮ ਉੱਤੇ ਹਸਤਾਖਰ ਕਰਨ ਨੂੰ ਕਿਹਾ ਜਾਵੇਗਾ। ਜੇ ਤੁਸੀਂ ਸਾਂਝੇ ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਫ਼ੈਸਲਾ ਕਰਦੇ ਹੋ, ਫਿਰ ਵੀ ਤੁਸੀਂ ਕਿਸੇ ਵੀ ਸਮੇਂ ਅਤੇ ਬਿਨਾਂ ਕੋਈ ਕਾਰਨ ਦੱਸਿਆਂ, ਪਿੱਛੇ ਹਟ ਸਕਦੇ ਹੋ। ਜੇ ਤੁਸੀਂ ਹਿੱਸਾ ਨਹੀਂ ਲੈਣਾ ਚਾਹੁੰਦੇ, ਤੁਹਾਨੂੰ ਇਸ ਵਿੱਚ ਹਿੱਸਾ ਨਾ ਲੈਣ ਦੇ ਫ਼ੈਸਲੇ ਦਾ ਕੋਈ ਕਾਰਨ ਦੱਸਣ ਦੀ ਲੋੜ ਨਹੀਂ ਹੈ ਅਤੇ ਤੁਹਾਨੂੰ ਕਿਸੇ ਮੈਡੀਕਲ ਕੇਅਰ ਦੇ ਲਾਭ ਦਾ ਜਾਂ ਵਰਤਮਾਨ ਵਿੱਚ ਜਿਹੜੇ ਲਾਭ ਤੁਸੀਂ ਲੈ ਰਹੇ ਹੋ ਜਾਂ ਜਿਹੜੇ ਲਾਭਾਂ ਦੇ ਤੁਸੀਂ ਹੱਕਦਾਰ ਹੋ, ਉਹਨਾਂ ਦਾ ਕੋਈ ਨੁਕਸਾਨ ਨਹੀਂ ਹੋਵੇਗਾ।

ਅਧਿਐਨ ਕੌਣ ਕਰਵਾ ਰਿਹਾ ਹੈ:

ਇਹ ਅਧਿਐਨ ਯੂਨੀਵਰਸਿਟੀ ਆਫ ਬ੍ਰਿਟਿਸ਼ ਕੋਲੰਬੀਆ ਵਿੱਚ ਚੱਲ ਰਹੀ ਮੇਰੀ ਨਰਸਿੰਗ ਦੀ ਮਾਸਟਰਜ਼ ਡਿਗਰੀ ਦਾ ਇੱਕ ਹਿੱਸਾ ਹੈ। ਤੁਹਾਡੀਆਂ ਕਹੀਆਂ ਗੱਲਾਂ ਬੀਸਿਸ ਵਿੱਚ ਪ੍ਰਕਾਸ਼ਿਤ ਕੀਤੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ ਜਾਂ ਮੂੰਹ-ਜੁਬਾਨੀ ਜਾਂ ਲਿਖਤੀ ਰੂਪ ਵਿੱਚ ਦੱਸੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ, ਪਰ ਇਨ੍ਹਾਂ ਗੱਲਾਂ ਨਾਲ ਤੁਹਾਡਾ ਨਾਮ ਇਸਤੇਮਾਲ ਨਹੀਂ ਕੀਤਾ ਜਾਵੇਗਾ। ਪ੍ਰਕਾਸ਼ਿਤ ਹੋਣ ਵਾਲੇ ਨਤੀਜਿਆਂ ਵਿੱਚ ਤੁਹਾਡੀ ਸ਼ਨਾਖਤ ਸੰਬੰਧੀ ਕੋਈ ਜਾਣਕਾਰੀ ਨਹੀਂ ਹੋਵੇਗੀ।

ਪਿਛੋਕੜ

ਬ੍ਰਿਟਿਸ਼ ਕੋਲੰਬੀਆ ਵਿੱਚ ਹਰ ਪੰਜ ਔਰਤਾਂ ਵਿੱਚੋਂ ਇੱਕ, ਬੱਚੇ ਦੇ ਜਣੇਪੇ ਸਮੇਂ ਜਾਂ ਗਰਭ ਨਾਲ ਸੰਬੰਧਤ ਕਿਸੇ ਨਾ ਕਿਸੇ ਤਰ੍ਹਾਂ ਦੀ ਉਦਾਸੀ ਦਾ ਅਨੁਭਵ ਕਰਦੀ ਹੈ। ਔਰਤਾਂ, ਖਾਸ ਤੌਰ 'ਤੇ ਇੰਮੀਗ੍ਰੇਂਟ ਦੱਖਣ-ਏਸ਼ੀਆਈ ਔਰਤਾਂ, ਵਿੱਚ ਬੱਚੇ ਦੇ ਜਨਮ ਪਿੱਛੋਂ ਜਾਂ ਗਰਭ ਕਾਲ ਦੌਰਾਨ ਉਦਾਸੀ ਰੋਗ ਨੂੰ ਸਮਝਣ ਲਈ ਕੋਈ ਖੋਜ ਨਹੀਂ ਕੀਤੀ ਗਈ ਹੈ। ਗਰਭ ਕਾਲ ਦੌਰਾਨ ਜਾਂ ਬੱਚੇ ਦੇ

ਜਨਮ ਪਿਛੋਂ ਹੋਣ ਵਾਲੇ ਉਦਾਸੀ ਰੋਗ ਨਾਲ ਵਿਸ਼ੇਸ਼ ਤੌਰ 'ਤੇ ਸਭਿਆਚਾਰ ਕਿਵੇਂ ਸੰਬੰਧਤ ਹੈ, ਇਸ ਵੱਲ ਤਾਂ ਉੱਕਾ ਹੀ ਦੇਖਿਆ ਨਹੀਂ ਗਿਆ।

ਅਧਿਐਨ ਦਾ ਉਦੇਸ਼ ਕੀ ਹੈ?

ਇਹ ਅਧਿਐਨ ਇਸ ਲਈ ਕੀਤਾ ਜਾ ਰਿਹਾ ਹੈ ਤਾਂ ਕਿ ਇੰਮੀਗ੍ਰੇਂਟ ਦੱਖਣ-ਦੇਸ਼ੀਆਈ ਔਰਤਾਂ ਵਿੱਚ ਗਰਭ ਕਾਲ ਦੌਰਾਨ ਹੋਣ ਵਾਲੇ ਮੁਢ ਪਰਿਵਰਤਨ ਨਾਲ ਸੰਬੰਧਤ ਅਨੁਭਵਾਂ ਬਾਰੇ ਖੋਜ ਪੜਤਾਲ ਕੀਤੀ ਜਾ ਸਕੇ।

ਇਸ ਵਿੱਚ ਕੌਣ ਕੌਣ ਹਿੱਸਾ ਲੈ ਸਕਦਾ ਹੈ?

ਜੇ ਤੁਸੀਂ ਭਾਰਤ ਤੋਂ ਕੈਨੇਡਾ ਆਏ ਹੋ, ਜੇ ਤੁਸੀਂ ਫ਼ਰੇਜ਼ਰ ਹੇਲਥ ਦੇ Best Beginnings Program (ਬੈਸਟ ਬਿਗਿਨਿੰਗਜ਼ ਪ੍ਰੋਗਰਾਮ) ਵਿੱਚ ਗਰਭ ਸਮੇਂ ਖੁਦ ਨੂੰ ਰਜਿਸਟਰ ਕਰਵਾਇਆ ਹੈ, ਜੇ ਤੁਸੀਂ ਸਹੂ ਵਿੱਚ ਰਹਿੰਦੇ ਹੋ ਅਤੇ ਜੇ ਅੱਜ ਕੱਲ੍ਹ ਤੁਸੀਂ ਮੁਢ ਪਰਿਵਰਤਨ ਜਾਂ ਉਦਾਸੀ ਦੇ ਚਿੰਨ੍ਹ ਅਨੁਭਵ ਕਰਦੇ ਹੋ, ਤਾਂ ਤੁਸੀਂ ਇਸ ਵਿੱਚ ਹਿੱਸਾ ਲੈ ਸਕਦੇ ਹੋ।

ਇਹ ਅਧਿਐਨ ਕਿਵੇਂ ਹੋਵੇਗਾ?

ਹਿੱਸਾ ਲੈਣ ਵਾਲੇ ਆਹਮੇ-ਸਾਹਮਣੇ ਜਾਂ ਟੈਲੀਫ਼ੋਨ ਉੱਪਰ ਇੰਟਰਵਿਊ ਦੇਣਗੇ। ਇਹ ਲਗਭਗ 30 ਤੋਂ 60 ਮਿੰਟ ਤਕ ਚੱਲੇਗੀ। ਆਹਮੇ-ਸਾਹਮਣੇ ਇੰਟਰਵਿਊ ਤੁਹਾਡੇ ਘਰ ਵਿੱਚ ਹੋ ਸਕਦੀ ਹੈ ਜਾਂ ਤੁਹਾਡੇ ਲੋਕਲ ਹੋਲਥ ਯੂਨਿਟ ਵਿੱਚ। ਇੰਟਰਵਿਊ ਦੀ ਆਡੀਓ ਰਿਕਾਰਡਿੰਗ ਕੀਤੀ ਜਾਵੇਗੀ।

ਇਸ ਅਧਿਐਨ ਦੇ ਫ਼ਾਇਦੇ ਅਤੇ ਖ਼ਤਰੇ ਕੀ ਹਨ?

ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਵਾਲੇ ਨੂੰ ਸਿੱਧਾ-ਸਿੱਧਾ ਕੋਈ ਲਾਭ ਨਹੀਂ ਹੋਵੇਗਾ। ਤੁਹਾਡੇ ਅਨੁਭਵ ਤੋਂ ਜੋ ਕੁਝ ਸਿੱਖਣ ਨੂੰ ਮਿਲੇਗਾ, ਉਹ ਤੁਹਾਡੇ ਨਾਲ ਦੀਆਂ ਔਰਤਾਂ ਨੂੰ ਇਸ ਗੱਲ ਵਿੱਚ ਮਦਦ ਕਰੇਗਾ ਕਿ ਉਹ ਗਰਭ ਦੌਰਾਨ ਉਦਾਸੀ ਰੋਗ ਦਾ ਸ਼ਿਕਾਰ ਹੋ ਰਹੀਆਂ ਔਰਤਾਂ ਨੂੰ ਬੱਚੇ ਦੇ ਜਣੇਪੇ ਲਈ ਸਭਿਆਚਾਰਕ ਤੌਰ 'ਤੇ ਵਧੇਰੇ ਸੰਵੇਦਨਸ਼ੀਲ ਸੇਵਾਵਾਂ ਦੇ ਸਕਣ। ਇਸ ਦਾ ਤੁਹਾਡੀ ਸਿਹਤ ਉੱਤੇ ਕੋਈ ਅਸਰ ਨਹੀਂ ਹੋਵੇਗਾ। ਇਸ ਵਿਸ਼ੇ ਦੇ ਸੰਵੇਦਨਸ਼ੀਲ ਹੋਣ ਕਰਕੇ ਸ਼ਾਇਦ ਕੁਝ ਭਾਵਨਾਤਮਕ ਖ਼ਤਰੇ ਹੋ ਸਕਦੇ ਹਨ। ਇਹ ਸੰਭਾਵਨਾ ਹੈ ਕਿ ਇੰਟਰਵਿਊ ਦੌਰਾਨ ਆਪਣੇ ਅਨੁਭਵ ਸਾਂਝੇ ਕਰਦੇ ਸਮੇਂ ਤੁਸੀਂ ਭਾਵਨਾਤਮਕ ਤੌਰ ਉੱਤੇ ਕਮਜ਼ੋਰ ਮਹਿਸੂਸ ਕਰ ਸਕਦੇ ਹੋ। ਜੇ ਚਰਚਤ ਹੋਵੇ ਤਾਂ ਤੁਸੀਂ ਹੇਠ ਲਿਖੇ ਵਸੀਲਿਆਂ ਨਾਲ ਸੰਪਰਕ ਕਰ ਸਕਦੇ ਹੋ: ਫ਼ਰੇਜ਼ਰ ਹੇਲਥ ਪਬਲਿਕ ਹੋਲਥ ਸਰਵਿਸ-604 592 2000, ਕ੍ਰਾਈਸਿਸ ਲਾਈਨ# 604 591 8855 ਅਤੇ ਫ਼ਰੇਜ਼ਰ ਸੈਂਟਰਲ ਹੋਲਥ ਸਰਵਿਸ -604 953 4995.

ਇਸ ਅਧਿਐਨ ਲਈ ਮੈਨੂੰ ਕਿੰਨਾ ਖ਼ਰਚਾ ਕਰਨਾ ਪਵੇਗਾ?

ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਤੁਹਾਨੂੰ ਕੋਈ ਖ਼ਰਚਾ ਨਹੀਂ ਕਰਨਾ ਪਵੇਗਾ। ਤੁਸੀਂ ਆਪਣਾ ਕੀਮਤੀ ਸਮਾਂ ਦੇਣ ਬਦਲੇ ਧੰਨਵਾਦ ਵਜੋਂ 25 ਡਾਲਰ ਦਾ ਗਿਫ਼ਟ ਸਰਟੀਫਿਕੇਟ ਪ੍ਰਾਪਤ ਕਰੋਗੇ।

ਕੀ ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਮੇਰਾ ਸ਼ਾਮਲ ਹੋਣਾ ਗੁਪਤ ਰੱਖਿਆ ਜਾਵੇਗਾ?

ਅਸੀਂ ਤੁਹਾਡੀ ਗੁਪਤਤਾ ਅਤੇ ਭੇਤਦਾਰੀ ਦੀ ਕਦਰ ਕਰਦੇ ਹਾਂ। ਇਸ ਖੋਜ ਪ੍ਰੋਜੈਕਟ ਤੋਂ ਇਕੱਠੀ ਕੀਤੀ ਗਈ ਜਾਣਕਾਰੀ ਨੂੰ ਨਿੱਜੀ ਰੱਖਿਆ ਜਾਵੇਗਾ। ਇਸ ਅਧਿਐਨ ਤੋਂ ਹਾਸਲ ਕੀਤੀ ਜਾਣਕਾਰੀ ਨੂੰ ਸੁਰੱਖਿਅਤ ਅਤੇ ਤਾਲੇ ਅੰਦਰ ਰੱਖਿਆ ਜਾਵੇਗਾ। ਸਿਰਫ਼ ਖੋਜ ਟੀਮ ਦੇ ਮੈਂਬਰ (ਖੋਜ ਕਰਤਾ ਅਤੇ ਕਮੇਟੀ ਦੇ ਤਿੰਨ ਮੈਂਬਰ) ਹੀ ਇਸ ਜਾਣਕਾਰੀ ਨੂੰ ਦੇਖ ਸਕਦੇ ਹਨ। ਕਮੇਟੀ ਮੈਂਬਰਾਂ ਤੋਂ ਇਲਾਵਾ ਇਹ ਕਿਸੇ ਵੀ ਹੋਰ ਵਿਅਕਤੀ ਨਾਲ ਇਹ ਸਾਂਝੀ ਨਹੀਂ ਕੀਤੀ ਜਾਵੇਗੀ ਅਤੇ ਨਾ ਹੀ ਕਿਸੇ ਨੂੰ ਦਿੱਤੀ ਜਾਵੇਗੀ। ਤੁਹਾਡੇ ਨਾਲ ਸੰਬੰਧਤ ਜਾਣਕਾਰੀ ਦਾ ਨੰਬਰ ਹੋਵੇਗਾ, ਨਾਮ ਨਹੀਂ। ਤੁਹਾਡਾ ਨਾਮ ਜਾਂ ਤੁਹਾਡੀ ਪਹਿਚਾਣ ਸੰਬੰਧੀ ਕੋਈ ਜਾਣਕਾਰੀ ਕਿਸੇ ਰਿਪੋਰਟ ਵਿੱਚ ਪ੍ਰਕਾਸ਼ਤ ਨਹੀਂ ਹੋਵੇਗੀ। ਗੁਪਤਤਾ ਕੇਵਲ ਉਸੇ ਵੇਲੇ ਭੰਗ ਹੋਵੇਗੀ ਜੇ ਤੁਸੀਂ ਆਪਣੇ ਆਪ ਨੂੰ ਜਾਂ ਕਿਸੇ ਹੋਰ ਨੂੰ ਨੁਕਸਾਨ ਪਹੁੰਚਣ ਦੀ ਸੂਚਨਾ ਦਿੰਦੇ ਹੋ। ਅਜਿਹੇ ਕੇਸ ਵਿੱਚ, ਮੇਰਾ ਇਹ ਕਾਨੂੰਨੀ ਫ਼ਰਜ਼ ਬਣਦਾ ਹੈ ਕਿ ਤੁਹਾਡੇ

ਡਾਕਟਰ ਜਾਂ ਸਿਹਤ ਸੰਭਾਲ ਪ੍ਰਦਾਨ ਕਰਨ ਵਾਲੇ ਨੂੰ ਦੱਸਿਆ ਜਾਵੇ ਤਾਂ ਕਿ ਤੁਹਾਨੂੰ ਲੋੜੀਂਦੀ ਮਦਦ ਅਤੇ ਧਿਆਨ ਦਿੱਤਾ ਜਾ ਸਕੇ। ਇਸ ਖੋਜ ਸੰਬੰਧੀ ਸਹਿਮਤੀ ਫਾਰਮ ਦੀ ਇੱਕ ਕਾਪੀ ਅਸੀਂ ਆਪਣੇ ਕੋਲ ਰੱਖਾਂਗੇ ਅਤੇ ਇੱਕ ਕਾਪੀ ਤੁਹਾਡੇ ਰਿਕਾਰਡ ਲਈ ਤੁਹਾਨੂੰ ਦਿੱਤੀ ਜਾਵੇਗੀ। ਇਸ ਇੰਟਰਵਿਊ ਤੋਂ ਹਾਸਲ ਜਾਣਕਾਰੀ ਅਤੇ ਰਿਕਾਰਡਿੰਗ ਯੂ.ਬੀ.ਸੀ. ਵਿਚ 5 ਸਾਲਾਂ ਲਈ ਰੱਖੀ ਜਾਵੇਗੀ ਅਤੇ ਫਿਰ ਇਸ ਨੂੰ ਨਸ਼ਟ ਕਰ ਦਿੱਤਾ ਜਾਵੇਗਾ। ਪੰਜ ਸਾਲਾਂ ਬਾਅਦ ਸਾਰੇ ਕਾਗਜ਼ਾਤ ਟੁਕੜੇ-ਟੁਕੜੇ ਕਰ ਦਿੱਤੇ ਜਾਣਗੇ ਅਤੇ ਆਡੀਓ ਰਿਕਾਰਡਿੰਗ ਨੂੰ ਗੈਰ-ਉਪਭੋਗੀਕ੍ਰਿਤ ਕਰ ਦਿੱਤਾ ਜਾਵੇਗਾ। ਆਡੀਓ ਰਿਕਾਰਡਿੰਗ ਦਾ ਕੋਈ ਦੂਸਰਾ ਉਪਯੋਗ ਕਰਨ ਦੀ ਕੋਈ ਯੋਜਨਾ ਨਹੀਂ ਹੈ।

ਮੇਰੇ ਇਸ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਦੇ ਦੌਰਾਨ ਅਧਿਐਨ ਸੰਬੰਧੀ ਜੇ ਮੇਰਾ ਕੋਈ ਸਵਾਲ ਹੋਵੇ ਤਾਂ ਮੈਂ ਕਿਸ ਨਾਲ ਸੰਪਰਕ ਕਰਾਂ?

ਇਸ ਅਧਿਐਨ ਸੰਬੰਧੀ ਜੇ ਤੁਹਾਡਾ ਕੋਈ ਸਵਾਲ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਮੈਨੂੰ (ਰਮਨ ਸੰਘੇੜਾ) (604) 783-4030 ਉੱਤੇ ਸੰਪਰਕ ਕਰੋ। ਤੁਸੀਂ ਮੇਰੇ ਸੁਪਰਵਾਈਜ਼ਰ ਡਾ. ਸਬਰੀਨਾ ਵੈਂਗ ਨਾਲ ਯੂਨੀਵਰਸਿਟੀ ਆਫ਼ ਬ੍ਰਿਟਿਸ਼ ਕੋਲੰਬੀਆ ਦੇ ਸਕੂਲ ਆਫ਼ ਨਰਸਿੰਗ ਵਿੱਚ Sabrina.wong@nursing.ubc.ca ਜਾਂ (604)827-5584 'ਤੇ ਸੰਪਰਕ ਕਰ ਸਕਦੇ ਹੋ। ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਸ਼ਾਮਲ ਹੁੰਦੇ ਸਮੇਂ ਖੋਜ ਵਿੱਚ ਹਿੱਸਾ ਲੈਣ ਵਾਲੇ ਵੱਜੋਂ ਜੇ ਤੁਹਾਡਾ ਆਪਣੇ ਅਧਿਕਾਰਾਂ ਜਾਂ ਅਨੁਭਵਾਂ ਸੰਬੰਧੀ ਕੋਈ ਸਵਾਲ ਹੈ ਤਾਂ ਯੂ.ਬੀ.ਸੀ. ਦੇ ਰਿਸਰਚ ਸਰਵਿਸਿਜ਼ ਆਫਿਸ ਵਿੱਚ ਰਿਸਰਚ ਸਬਜੈਕਟ ਇਨਫਾਰਮੇਸ਼ਨ ਲਾਈਨ 'ਤੇ (604) 822-8598 'ਤੇ ਸੰਪਰਕ ਕਰ ਸਕਦੇ ਹੋ।

ਤੁਹਾਡੇ ਅਧਿਕਾਰ:

ਇਸ ਫਾਰਮ ਉੱਤੇ ਹਸਤਾਖਰ ਕਰਨ ਨਾਲ ਤੁਹਾਡੇ ਕੋਈ ਕਾਨੂੰਨੀ ਅਧਿਕਾਰ ਖਤਮ ਨਹੀਂ ਹੁੰਦੇ।

ਇੰਮੀਕ੍ਰੈਂਟ ਦੱਖਣ-ਏਸ਼ੀਆਈ ਔਰਤਾਂ ਨੂੰ ਬੱਚੇ ਦੇ ਜਨਮ ਸਮੇਂ ਹੋਣ ਵਾਲੇ ਡਿਪਰੈਸ਼ਨ ਸੰਬੰਧੀ ਅਧਿਐਨ ਦੀ ਖੋਜ-ਪੜਤਾਲ

ਹਿੱਸਾ ਲੈਣ ਲਈ ਸਹਿਮਤੀ ਫ਼ਾਰਮ

ਇਸ ਫ਼ਾਰਮ ਉੱਤੇ ਹਸਤਾਖਰ ਕਰਦਿਆਂ ਮੈਂ ਇਸ ਗੱਲ ਨਾਲ ਸਹਿਮਤ ਹਾਂ ਕਿ:

- 1) ਤੁਸੀਂ ਮੈਨੂੰ ਆਪਣੇ ਇਸ ਅਧਿਐਨ ਬਾਰੇ ਵਿਸਤਾਰ ਵਿਚ ਦੱਸ ਦਿੱਤਾ ਹੈ। ਤੁਸੀਂ ਮੇਰੇ ਸਾਰੇ ਸਵਾਲਾਂ ਦੇ ਜਵਾਬ ਦੇ ਦਿੱਤੇ ਹਨ।
- 2) ਇਸ ਅਧਿਐਨ ਦੇ ਸਾਰੇ ਸੰਭਾਵਿਤ ਨੁਕਸਾਨ ਅਤੇ ਫ਼ਾਇਦੇ (ਜੇ ਕੋਈ ਹੋਣ) ਮੈਨੂੰ ਦੱਸ ਦਿੱਤੇ ਗਏ ਹਨ।
- 3) ਮੈਨੂੰ ਹੁਣ ਅਤੇ ਭਵਿੱਖ ਵਿਚ ਇਸ ਅਧਿਐਨ ਸੰਬੰਧੀ ਕਿਸੇ ਵੀ ਤਰ੍ਹਾਂ ਦੇ ਸਵਾਲ ਪੁੱਛਣ ਦੀ ਆਜ਼ਾਦੀ ਹੈ।
- 4) ਮੈਂ ਇਹ ਸਮਝਦਾ/ਸਮਝਦੀ ਹਾਂ ਕਿ ਮੇਰੇ ਬਾਰੇ ਵਿੱਚ ਕੋਈ ਜਾਣਕਾਰੀ ਕਿਸੇ ਨੂੰ ਨਹੀਂ ਦਿੱਤੀ ਜਾਵੇਗੀ ਅਤੇ ਨਾ ਹੀ ਮੇਰੀ ਆਗਿਆ ਬਿਨਾ ਪ੍ਰਕਾਸ਼ਿਤ ਕੀਤੀ ਜਾਵੇਗੀ।
- 5) ਮੈਂ ਇਸ ਸਹਿਮਤੀ ਫ਼ਾਰਮ ਦੇ ਸਾਰੇ 1 ਤੋਂ 3 ਤਕ ਪੰਨੇ ਪੜ੍ਹ ਅਤੇ ਸਮਝ ਲਏ ਹਨ। ਇਸ ਅਧਿਐਨ ਵਿੱਚ ਸ਼ਾਮਲ ਹੋਣ ਲਈ ਮੈਂ ਸਹਿਮਤ ਹਾਂ ਜਾਂ ਸਹਿਮਤੀ ਦਿੰਦੀ ਹਾਂ।

ਹਿੱਸਾ ਲੈਣ ਵਾਲੇ ਦਾ ਨਾਮ

ਹਸਤਾਖਰ ਅਤੇ ਮਿਤੀ

ਖੋਜ ਕਰਤਾ ਦਾ ਨਾਮ

ਹਸਤਾਖਰ ਅਤੇ ਮਿਤੀ



August 10, 2012

To Whom It May Concern:

This letter is to confirm that Fraser Health Translation Services has contracted translation from English to Punjabi of the following documents:

**PARTICIPANT INFORMED CONSENT
and
INFORMATION FORM-INTERVIEWS – Exploring Perinatal Depression in South
Asian Immigrant Women Study**

These documents have been approved by the FHA Research Ethics Board on August 24, 2012. Contracted services include translation of the documents by a translator and proofreading by another proofreader who works with: *Words & Voices South Asian Media Services Inc.*; owned by Vijay Vaibhav Saini.

Should you need anything further, please don't hesitate to contact me.

Jas Cheema
Leader, Fraser Health Diversity Relations

Appendix G: Semi-Structured Interview Topic Guide and Script

Thank you very much for agreeing to this interview today. You are being invited to take part in this study because you have had some mood changes during your pregnancy. We would like to know more about what these mood changes mean to you. The interview will take about half an hour to one hour of your time. It is important for you to know that anything you tell me will be kept confidential and will not have your name attached to it. There are no right or wrong answers; you are free to speak about your experiences. If you are not comfortable with any of the questions at any point in time, you do not have to answer them. If you would like to stop the interview, we can, and you do not have to give me a reason. If you are comfortable with this, I would like to start off with some background questions.

1. Tell me about your background. Where were you born and when did you move to Canada?
2. Are you going to school or working or both?
3. Can you tell me about your feelings during pregnancy? How have these feelings changed over the course of your pregnancy?
4. How are your moods, in general? Do you have many ups and downs? Have the ups and downs been different during your pregnancy?
5. Tell me more about why you think you are feeling these mood changes?
6. Does your family understand how your moods can change? Are they supportive?
7. How have cultural traditions/ ways of life affected your health?
8. What changes can be made around you to make it easier for you and to make you feel better?

Thank you so much again for sharing your time with me. If you have any more comments and thoughts or concerns that you would like to share with me, please contact me. Before we finish, I have one last question for you. Would you be interested in looking over some of the written results of this study before it is finalized to see if it accurately reflects what you shared with me?

Appendix H: Power Analysis – Education Variable

```
#####
# Power Calculation for proportions
# Note: These calculations are for
# simple logistic regression. When a study
# is underpowered to detect differences when
# there's only one variable, it will be severely # underpowered for multivariable logistic
regression #####
```

```
install.packages("pwr")
library(pwr)
```

```
# graduated coll (proportion=14/94) vs some high school (proportion=43/190) effect_size =
(2*asin(sqrt(14/94)))-(2*asin(sqrt(43/190)))
effect_size
```

```
pwr.2p2n.test(h = effect_size, n1=(94),n2=190, sig.level = .05, power =
NULL)
```

```
# graduated coll (proportion=14/94) vs high school grad (proportion=25/197) effect_size =
(2*asin(sqrt(14/94)))-(2*asin(sqrt(25/197)))
effect_size
```

```
pwr.2p2n.test(h = effect_size, n1=(94),n2=197, sig.level = .05, power =
NULL)
```

```
# graduated coll (proportion=14/94) vs some college (proportion=16/65) effect_size =
(2*asin(sqrt(14/94)))-(2*asin(sqrt(16/65)))
effect_size
```

```
pwr.2p2n.test(h = effect_size, n1=(94),n2=65, sig.level = .05, power = NULL)
#####3
3
```

AND THE RESULTS are:

```
#####
# Power Calculation for proportions
# Note: These calculations are for simple logistic regression. When a study is underpowered
to detect differences when there's only one variable, it will be severely underpowered for
multivariable logistic regression
#####
```

```
install.packages("pwr")
Installing package(s) into 'C:/Program Files/R/R-2.13.1/library'
(as 'lib' is unspecified)
Warning in install.packages :
package 'pwr' is in use and will not be installed
library(pwr)
```

```
# graduated coll (proportion=14/94) vs some high school
(proportion=43/190)
effect_size = (2*asin(sqrt(14/94)))-(2*asin(sqrt(43/190)))
effect_size
[1] -0.1991647
```

```
pwr.2p2n.test(h = effect_size, n1=(94),n2=190, sig.level = .05, power
= NULL)
```

```
difference of proportion power calculation for binomial distribution (arcsine
transformation)
```

```
h = 0.1991647
n1 = 94
n2 = 190
```

```

    sig.level = 0.05
    power = 0.3519662
    alternative = two.sided

NOTE: different sample sizes

# graduated coll (proportion=14/94) vs high school grad
(proportion=25/197)
effect_size = (2*asin(sqrt(14/94)))-(2*asin(sqrt(25/197)))
effect_size
[1] 0.06394372

pwr.2p2n.test(h = effect_size, n1=(94),n2=197, sig.level = .05, power
= NULL)

    difference of proportion power calculation for binomial distribution (arcsine
transformation)

      h = 0.06394372
     n1 = 94
     n2 = 197
sig.level = 0.05
  power = 0.0803017
alternative = two.sided

NOTE: different sample sizes

# graduated coll (proportion=14/94) vs high school grad
(proportion=16/65) effect_size =
(2*asin(sqrt(14/94)))-(2*asin(sqrt(16/65)))
effect_size
[1] -0.2458771

pwr.2p2n.test(h = effect_size, n1=(94),n2=65, sig.level = .05, power =
NULL)

    difference of proportion power calculation for binomial distribution (arcsine
transformation)

      h = 0.2458771
     n1 = 94
     n2 = 65
sig.level = 0.05
  power = 0.3317485
alternative = two.sided

NOTE: different sample sizes

```