A MIXED METHODS INQUIRY INTO INFLUENCES ON IMMIGRANT WOMEN'S POSTPARTUM MENTAL HEALTH AND ACCESS TO SERVICES

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Lay Abstract

Immigrant women have a 2-3 times higher risk for postpartum depression (PPD) than native-born women. This study explored the factors that contribute to PPD among immigrant women in Canada and how health services can help them get the care they need, from the perspective of immigrant women and care providers. This study found increased PPD risk when women lacked social support, had physical health issues, and faced challenges such as low income and lack of English language skills. Working with care providers could help address these challenges or make it more difficult to get care. Immigrant women had more difficulty getting services when they lacked knowledge about the health care system, faced social, financial, and language-based barriers to care, and experienced barriers when using available services. The findings from this research can inform the design and delivery of health care to best meet the needs of immigrant women with PPD.

Abstract

Immigrant women are at greater risk for postpartum depression (PPD) compared to non-immigrant women and experience multiple barriers to accessing health services to address their needs. This mixed method study explored the multi-level factors that contribute to the postpartum mental health of immigrant women in Canada and their ability to access requisite health services. In the quantitative phase, data from a longitudinal prospective cohort survey of women were used to examine predictors of PPD over the first postpartum year for a sample of women who delivered at two hospitals in Toronto, Ontario. In the qualitative phase, an interpretive descriptive design shaped by an integrated knowledge translation approach was used to understand the factors immigrant women living in Scarborough, Ontario (a region of Toronto) perceive as contributing to their postpartum emotional health and the factors immigrant women and care providers perceive as influencing access to health services. Across quantitative and qualitative findings, factors contributing to PPD among immigrant women included a lack of social support, individual and community-level challenges faced in terms of the social health determinants, physical health status, and client-provider relationships. Factors contributing to reduced access to health services included: lack of system knowledge, social health determinants, organizational and system barriers, limited access to treatment, and a need for service integration and system navigation support. Immigrant women in Canada experience numerous health inequities that increase their risk for PPD and prevent them from accessing service supports to address PPD concerns. The Canadian health care system needs to be responsive to individual needs in order to facilitate equitable access and address the health needs of Canadian immigrant women and their families. The diversity and proportion of immigrants in Canada calls for a linguistically and culturally supportive health care system with a strategic approach to enhancing accessibility to address health inequities.

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List of Abbreviations

EPDS	Edinburgh Postnatal Depression Scale
GEE	Generalized Estimating Equations
IKT	Integrated Knowledge Translation
KU	Knowledge User
PHC	Primary Health Care
PHN	Public Health Nurse
PPD	Postpartum Depression
SW	Social Worker
TOMIS	The Ontario Mother and Infant Study
TTC	Toronto Transit Commission

Declaration of Academic Achievement

Ms. Rebecca Ganann is the lead researcher for the original mixed methods study on which this thesis is based. Responsibilities of the lead researcher included: contributions to the study conception and design, and primary responsibility for all data collection, data analysis, and interpretation of data. Ms. Ganann is also the primary author of the three manuscripts included in this thesis, which report the results of the study. Responsibilities of the primary author include: drafting the manuscripts, revising the manuscripts, and final approval of the version of the manuscript to be submitted for publication.

Drs. Wendy Sword, Bruce Newbold, Lehana Thabane, Margaret Black, and Ms. Leigh Armour and Ms. Bernadette Kint are co-authors of the three manuscripts included in this thesis. Each contributed to the study conception and design, data interpretation, manuscript revision, and final approval of the version to be submitted for publication.

Chapter 1

Introduction

The immigrant population in Canada continues to grow each year (Government of Canada, 2015). Most recent data from the Government of Canada indicate that between 2008 and 2013, Canada took in 1,545,702 immigrants (Government of Canada, 2015). The largest share of immigrants (53.3%) chose to reside in Ontario and nearly one third of newcomers (32.8%) chose to live in the Toronto metropolitan area (Statistics Canada, 2014). In the 2006 Canadian census, more than half (54%) of all women in their reproductive ages were immigrants (Toronto Public Health (Surveillance & Epidemiology), 2011). When we consider that immigrant women in Toronto, on average, have 2.0 lifetime births compared to 1.2 for Canadian-born women (Toronto Public Health (Surveillance & Epidemiology), 2011), the need for programs and policies to appropriately support immigrant women's perinatal health needs within the City of Toronto becomes readily apparent.

Immigrant Health and Access to Health Services

Research on immigrant health in Canada is predominately limited to observational studies that examined longitudinal health outcomes, mental health concerns both upon arrival and in the long term, and preventable conditions, such as infectious or chronic disease risk and prevalence (Ali, 2002; DesMeules et al., 2004; Dunn & Dyck, 2000; Hyman, 2004). There have been very few gender- and immigration class-specific analyses to examine differences between those who are landed or family class immigrants versus conventional refugees and asylum-seekers.

Several Canadian studies on immigrant health have demonstrated a "healthy migrant" effect, in which immigrants on the whole are healthier upon arrival in Canada than their native-born counterparts (De Maio, 2010; Kinnon, 1999). Although a "healthy migrant" effect is found in the overall immigrant population, differences between immigrant subgroups by immigration status and place of origin are masked (Ali, McDermott, & Gravel, 2004; Guendelman et al., 1999; Kinnon). The healthy migrant effect is also less evident when examining mental health, which may be substantially shaped by pre- and post-migration experiences, particularly if immigrants have experienced trauma in their past (Hyman, 2004; Mulvihill, Mailloux, & Atkin, 2001).

A systematic review on the health transition of immigrants in Canada examined the impact of length of time on experiences with particular health conditions and found the "healthy migrant effect" disappeared with length of time in Canada (2 to 10 years) (De Maio, 2010). Newbold (2009) similarly found deteriorations in immigrants' health status in the first two years post-arrival in Canada. More specifically, refugees experienced the lowest levels of self-reported health upon arrival and were more likely to continue to have lower levels of health compared to other immigrant family and economic subgroups. Post-migration factors can mitigate effects of resettlement on health. For example, having employment or receiving settlement support services positively impacts mental health status, whereas perceived economic hardship or experiencing discrimination negatively impacts mental health (Maximova & Krahn, 2010).

Immigration as a social determinant of health. The social determinants of health have been defined as economic and social factors that contribute to health inequities, and include Aboriginal status, early life experiences, education, employment, unemployment and working conditions, food security, housing, income and income distribution, and social exclusion (Public Health Agency of Canada, 2004). Neighbourhood-level factors and social context also can act as determinants of health and accessing care (Browning & Cagney, 2003; Mohnen, Groenewegen, Volker, & Flap, 2011; Pickett & Pearl, 2001). Although not included in the previous list, immigration is increasingly being recognized as a social determinant of health in Canada (Butler-Jones, 2008). It has been suggested that health and social policies, together with the social determinants of health, may create systemic barriers to health service accessibility for new immigrants (Steele, Lemieux-Charles, Clark, & Glazier, 2002).

Immigrants' access to health services. Health services accessibility can act as a determinant of both health and service utilization. Health services utilization is dependent upon several factors such as the physical, economic and social accessibility of services and perceived benefits of accessing them (Kabakian-Khasholian & Campbell, 2005). Canadian researchers have found overall service utilization for health and social services to be lower for new immigrants than for Canadian-born counterparts, and attribute this to barriers in accessing care rather than solely a “healthy migrant” effect (Ali et al., 2004; DesMeules et al., 2004; Weinfeld, n.d.). Types of health services accessed are often different among immigrant newcomers as compared to Canadian-born individuals, with newcomers using inconsistent care providers such as walk-in clinics or emergency departments early post-arrival (Leduc & Proulx, 2004). Among immigrants who have been in Canada for variable lengths of time, immigrants often experience improved access to more regular providers with increased time in Canada, however, many immigrants remain without a family physician for extended periods (Leduc & Proulx, 2004).

Immigrants often face complex challenges in terms of access to health and social services. Compared to non-immigrants, immigrants have been found to be at greater risk for impaired health due to lack of knowledge of available health and social services, as well as lack of access to private health insurance plans to cover costs not included within federal and provincial health care plans (Carr, 2006; Raphael, 2004; Yu, Huang, Schwalberg, & Kogan, 2005). Financial barriers are not the only challenges often faced by new immigrants (Kinnon, 1999); language difficulties, reliance on informal and formal interpretation support, lack of literacy, limited access to culturally competent care, lack of mobility and transportation, time and distance issues, and wait times are all issues that create barriers to care (Bender, Harbour, Thorp, & Morris, 2001; Carr, 2006; Kinnon, 1999; McLafferty & Grady, 2005; Williams & Hampton, 2005). In addition, immigrant communities often lack knowledge about health, health promotion, and health seeking behaviours, which can further contribute to unmet care needs (Kinnon, 1999).

It has been found that immigrant women experience multiple barriers to such care at both individual and system levels (Kinnon, 1999; Oxman-Martinez et al., 2005). Individual factors such as language, gender relations, and power dynamics can impact immigrant women's health and access to care (Abdool, Vissandjee, DesMeules, & Payne, 2002; Oxman-Martinez et al., 2005). Systemic barriers may include long wait times for enrolment in a provincial health plan, limited coverage for health services and access to health care for refugees through the Interim Federal Health plan, and limitations of socially delivered prescription drug plans (Statistics Canada, 2003; Steele et al.). System-level factors that also contribute to health service accessibility include acceptability, appropriateness, and continuity of health care services (Statistics Canada, 2015), as well as physical, economic, social, linguistic, and cultural accessibility (Kinnon, 1999; Public Health Agency of Canada, 2004). Compared to immigrant men, immigrant women are more likely to experience an intersectional influence of lower levels of income, employment, education, and literacy, which has even greater consequences for health and access to health services (Kinnon, 1999; Marshall, Urrutia-Rojas, Mas, & Coggin, 2005).

Barriers to care for immigrants in Canada are dramatically reduced when an immigrant speaks one of Canada's official languages (Statistics Canada, 2003; Yu et al., 2005). Health workers in Toronto that serve immigrant populations, including physicians, registered nurses, and community workers, have recognized that inadequate interpretation services within their organizations created challenges in meeting the needs of the diverse populations that they served (Steele et al., 2002). This is particularly meaningful for immigrant women as gender differences in language proficiency exist where immigrant women in Canada are less likely than immigrant men to converse in either of Canada's official languages (Statistics Canada, 2003). Consequences of such communication challenges impact health, health service provision, access to and utilization of care, provider and patient satisfaction, and individual ability to advocate for self and family (Health Canada, 2006; Kinnon, 1999).

Immigrant Women's Postpartum Mental Health and Access to Health Services

There are some Canadian studies (Dennis, Janssen, & Singer, 2004; Dennis & Ross, 2006; Ganann, Sword, Black, & Carpio, 2011; Mechakra-Tahiri, Zunzunegui, & Seguin, 2007; Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008; Sword, Krueger, & Watt, 2006; Zelkowitz et al., 2008) that examined immigrant women's postpartum health and access to services but overall the research in this area remains sparse. While some of the factors that influence the health of postpartum immigrant women have been identified, it is less clear how these factors interact to impact postpartum mental health and the ability to access health services.

Immigrant postpartum mental health. All women are vulnerable to mood disorders during the postpartum period (Dennis & Chung-Lee, 2006; Registered Nurses' Association of Ontario, 2005). Postpartum depression (PPD) is a serious, disabling condition experienced across all cultures, however, presenting symptomatology and prevalence rates vary significantly across groups of women (Goldbart, 2006). Immigrant women are at increased risk of experiencing postpartum mood disorders compared to non-immigrant women (Fung & Dennis, 2010). For immigrant women, multiple intersecting social, cultural, and systemic factors (e.g., lack of social support, lower socioeconomic status, cultural interpretations of mental health, lack of health system knowledge) contribute to an increased prevalence of PPD (Fung & Dennis, 2010). Moreover, immigrant women have greater difficulty accessing resources to support and respond to these challenges compared to women born in Canada (Butler-Jones, 2008). The poorer postpartum health status and increased risk for PPD experienced by immigrant women has implications not only for the women’s own health but also for the health of their partners (Paulson & Bazemore, 2010) and their families (Brand & Brennan, 2009).

A systematic review of international PPD prevalence rates in developed countries found rates as high as 42% among first generation immigrant women versus 10-15% among native-born women (Collins, Zimmerman, & Howard, 2011). A cross-sectional survey of postpartum women in Ontario found poorer health status and greater likelihood of risk for PPD at 1 month postpartum among immigrant women compared to Canadian-born women (Sword, Watt, & Krueger, 2006). Several other Canadian studies also have found higher rates of PPD among immigrant women compared to native-born (Dennis et al., 2004; Dennis & Ross, 2006; Ganann et al., 2011; Stewart et al., 2008; Zelkowitz et al., 2008).

Other sub-groups of women in Canada appear to be particularly vulnerable to PPD. In addition to higher prevalence rates of PPD among immigrant women compared to Canadian-born women, higher prevalence rates also have been found among urban-dwelling women in Canada compared to those living in rural, semi-rural, and semi-urban areas (Vigod et al., 2013). In Toronto, approximately 6.9% of the population is comprised of new immigrants who arrived in Canada in the previous 5 years (Statistics Canada, 2014); immigration within the previous 5 years has been found to be predictive of PPD early post-delivery (Dennis et al., 2004). Furthermore, among immigrant women in Canada, visible minority women experienced higher rates of PPD than non-minority women (Mechakra-Tahiri et al., 2007).

Immigrant women in Canada also have been found to have less social support than their Canadian-born counterparts (Stewart et al., 2008). Social isolation can contribute to PPD and poor coping postpartum (Martinez-Schallmoser, Telleen, & MacMullen, 2003). Many immigrant women experience a lack of social support when childrearing in a new country; social class and ethnicity can further compound challenges adjusting to motherhood and maintaining emotional health (Liamputtong & Naksook, 2003). Lack of social support not only contributes to PPD but also can influence women's ability to access care for PPD. A number of international ethno-specific qualitative studies have suggested that immigrant women may not access care if they attribute their health problem to their own behaviour or if they perceive that it reflects poorly on themselves or their families (Davis, 2001; Fonte & Horton-Deutsch, 2005; Granot et al., 1996; Liamputtong & Naksook, 2003; Meleis, Lipson, Mueke, & Smith, 1998). For example, immigrant Muslim women may not admit to experiencing mental health issues, such as PPD as they may identify PPD as a spiritual result of moving away from Allah's will (Fonte & Horton-Deutsch, 2005). Furthermore, cultural perceptions of mental health concerns, and postpartum "depression" specifically, can influence whether women access care depending on the cultural acceptability of mental health conditions (Dennis & Chung-Lee, 2006).

Access and barriers to perinatal health services. A systematic review that examined access, use, and quality of maternal health care for immigrant women internationally found higher health risk profiles for immigrant women compared to native born women, together with reduced access to and use of maternal health services and less optimal care (Almeida, Caldas, Ayres-de-Campos, Salcedo-Barrientos, & Dias, 2013). In one Canadian study, postpartum immigrant women were found to be more likely than Canadian-born women to identify care or help needs for an emotional health concern (Ganann et al., 2011). Another Canadian study found that immigrant women were as likely as Canadian-born women to be able to access care for health-related issues and more likely to accept public health nurse services in the first 6 weeks postpartum (Sword, Watt, et al., 2006). However, immigrant women were found to be less likely than their Canadian-born counterparts to have their care needs met (Ganann et al., 2011). A small pilot study found that immigrant women may not be receiving optimal postpartum care in hospital and in the community, resulting in unmet care needs (Katz & Gagnon, 2002). Indeed, immigrant women in Canada were more likely to rate community health services poorly compared to Canadian-born women (Ganann et al., 2011).

A large international study highlighted several barriers to postpartum service utilization, including staff insensitivity, women’s perceptions of wellness, and their beliefs that symptom severity did not warrant consultation with a health practitioner (Kabakian-Khasholian & Campbell, 2005). Research on barriers to prenatal care provides additional insight into barriers to accessing postpartum care. In a qualitative systematic review that examined barriers to prenatal care for marginalized women in developed countries, decisions to seek care were based on weighing potential gains and losses considering personal resources (e.g., time, money, support) and perceptions of service provision (e.g., quality, trust, cultural competency) (Downe, Finlayson, Walsh, & Lavender, 2009).

Several studies have examined barriers to accessing care among women experiencing PPD, including some immigrant groups (Dennis & Chung-Lee, 2006). Barriers include lack of knowledge about PPD and availability of services, limited ability to disclose negative emotions, culturally-based myths, and lack of access to health care for PPD, in general, and to preferred therapies such as non-pharmacologic treatment (Dennis & Chung-Lee, 2006). The PPD experience can differ amongst immigrant groups. For example, immigrant women from certain cultural backgrounds, such as Hispanic, Asian and African, commonly express PPD distress through somatic complaints (Bashiri & Spielvogel, 1999; Evagorou, Arvaniti, & Samakouri, 2015). As such, these women may be more likely to access health care services if symptoms of PPD are conceptualized as a physical issue, whereas it may not be culturally acceptable to seek formal support for emotional complaints (MacKinnon & Howards, 2001; Meleis et al., 1998; Posmontier & Horowitz, 2004).

Summary

The prenatal and postpartum periods are times of particular vulnerability in terms of physical and emotional health for all women, and immigrant women in particular (Fung & Dennis, 2010). While there is a large body of literature that has examined PPD, most studies examined issues amongst the overall postpartum population, leaving a gap in our understanding of immigrant women's unique needs in terms of postpartum mental health and access to health services. A systematic review exploring PPD, facilitators and barriers to immigrant and refugee women's health seeking behaviour identified a gap in research exploring needs, issues, and specific risk factors for PPD among immigrant women, as well as few studies examining interpersonal and organizational barriers to care (O'Mahony & Donnelly, 2010).

Immigrant women in Canada have been found to be more likely to receive less prenatal care, have less social support, experience PPD, and have more difficulty accessing the care or help needed in the postpartum period than their Canadian-born counterparts (Ganann et al., 2011; Stewart et al., 2008). Some significant barriers to the health of immigrant women have been identified (e.g., lack of official language skills, lack of culturally appropriate care, and lack of social support) (Butler-Jones, 2008; Fung & Dennis, 2010; Kinnon, 1999), but despite growing needs within the Canadian population for supports to immigrant women postpartum, to date there has been insufficient research examining the individual, community, and system level factors that influence the perinatal health of immigrant women and their ability to access postpartum health care services. There is a need to further explore immigrant women's perceptions of and access to health services to better understand the influences of conceptualizations of health, perceptions of the role of health care in health promotion and prevention, and individual level or system level barriers to care and their subsequent impact on service utilization (Mulvihill et al., 2001). Understanding immigrant mothers' perspectives is essential to planning and delivering services that address their PPD needs, barriers to care, and preferred approaches to PPD support (Bodelai, Celmins, & Viloria-Tan, 2014; O'Mahony & Donnelly). It also is necessary to better understand service provider perceptions of the multi-level facilitators and barriers to health and community health care services in the postpartum period as there has only been one qualitative study of healthcare workers' perceptions of barriers to care for immigrant women with PPD (Teng, Robertson Blackmore, & Stewart, 2007). A better understanding of immigrant women's and service provider's perceptions of postpartum mental health, as well as access to care, can help to determine key policy and programming priorities to address existing barriers and support health among immigrant women.

Purpose Statement and Research Questions

The purpose of the study was to identify the factors that contribute to immigrant women's postpartum mental health, including facilitators and barriers to accessing requisite services from the perspective of immigrant women using a mixed methods approach. During each phase of the research, the factors that influence health and access to care were examined at individual and community levels (Eyles, 2008), allowing for an exploration of the interrelationship between individual compositional characteristics and community contextual features contributing to PPD. Specific research questions were developed in collaboration with the integrated knowledge translation (IKT) research team and included:

Quantitative question:

1) What are the factors that predict PPD among immigrant women living in Toronto, Ontario at 6 weeks, 6 months, and 1 year postpartum? (see Chapter 2)

Qualitative questions:

1) How do first generation immigrant women living in Scarborough (a region of Toronto), Ontario explain the factors that are predictive of PPD and access to health services? (see Chapter 3)
2) What do first generation immigrant women living in Scarborough (a region of Toronto), Ontario see as the role of health services in best supporting immigrant women with PPD and their families? (see Chapter 3)
3) What do service providers see as the challenges they face in terms of providing accessible services for immigrant women with PPD living in Scarborough (a region of Toronto), Ontario? (see Chapter 4)

Mixed method question:

1) How do first generation immigrant women and their health care providers interpret the factors predictive of Canadian immigrant women's postpartum mental health and access to health care services? (see Chapter 5)

Research Approach

The study used a mixed methods concurrent triangulation design (Tashakkori & Teddlie, 2003). Mixed methods approaches are increasingly being used to recognize the complexity of human lives as they are embedded within rich contexts (Tashakkori & Teddlie, 2003). Mixed methods approaches can help explore not only the existence of predictive factors that influence health but also individuals' personal experiences in living with and acting on these factors (Brown, 2003). Accordingly, a mixed methods approach was chosen in order to allow for the examination of both the factors that influence the health of postpartum immigrant women and their access to care for mental health concerns as well as how these factors may interact to impact health and access to health services.

In the quantitative phase of the study, data from a longitudinal prospective cohort survey of women were used to examine predictors of PPD over the first postpartum year for a sample of women who delivered at two hospitals in Toronto, Ontario. In the qualitative phase of the study, an interpretive descriptive design (Sullivan-Bolyai, Bova, & Harper, 2005) was used to understand in greater depth the factors immigrant women living in Scarborough, a region of Toronto, Ontario perceive as contributing to their postpartum emotional health and the factors immigrant women and care providers perceive as influencing access to mental health services. Scarborough is a region of Toronto and was selected as the study site due to the large immigrant population, existing relationships between the researcher and service providers, and identified perinatal mental health service gaps in the area. Health care services in this study were defined as first-contact health services for women experiencing PPD (e.g., family physicians, nurse practitioners, public health nurses), other services supportive of women experiencing PPD (e.g., social workers, newcomer support workers, PPD program support workers, respite support), and specialty services such as psychiatrists.

Data analyses for the quantitative and qualitative phases of the study were conducted concurrently. Triangulation across quantitative and qualitative study phases occurred at the stage of integration and advanced interpretation after single-method (i.e., quantitative or qualitative) and single-data source (i.e., qualitative provider data or qualitative women data) analysis. Approaching data analyses in this manner enabled interpretations not readily apparent from a single-method or single-data source alone and facilitated a more complete understanding of complex social phenomenon (Begley, 1996; Happ, Dabbs, Tate, Hricik, & Erlen, 2006; Sandelowski, 2000).

Integrated Knowledge Translation (IKT)

An integrated knowledge translation approach was used in this study throughout all stages of research ranging from jointly identifying research questions and planning implementation approaches to contextualizing findings. Funding agencies have recently emphasized the need to further engage stakeholders in research teams and knowledge exchange processes (Canadian Health Services Research Foundation, 2008; Canadian Institutes of Health Research, 2007). In the creation of the research team, researchers must consider integration of a variety of stakeholders, such as policymakers, practitioners, and community members. The involvement of diverse stakeholders ensures that multiple perspectives are represented and sheds light on the complexity of the particular situation being researched (Genat, 2009).

Community-based IKT approaches (also known as participatory research) have increasingly been used to examine the social determinants of health, providing critical insight into the development of interventions that are both culturally and contextually relevant and facilitating knowledge exchange (Savage et al., 2006). The involvement of community members as co-researchers in research that explores social inequities is important to both conducting relevant research and ultimately to informing policies and programs to address the social determinants of health (Choudhry et al., 2002). IKT approaches can provide effective mechanisms to increase our understanding of factors contributing to health disparities, such as those experienced by immigrant women, and to develop policies and programs to address them. This is achieved by challenging the traditional knowledge creation process and focusing on co-creation of socially constructed knowledge (Evans, Hole, Berg, Hutchinson, & Sookraj, 2009; Olshansky et al., 2005).

By basing IKT implementation efforts on local environment and contexts (Doebbeling & Flanagan, 2011), the perspective of organizational and service providers can provide unique insight into service delivery factors, shedding light on structures and processes (Doebbeling & Flanagan, 2011) and population health-based service delivery decisions (Maynard, 1997). Moreover, IKT that engages local service providers in research related to enhancing service delivery can facilitate integration of changes within existing community systems, strengthen community ownership, and enhance sustainability of change beyond the research project (Wallerstein & Duran, 2010).

When conducting this research it was important to explore quality of and barriers to care from the perspective of clients and barriers to providing accessible care from the perspective of service providers because numerous factors (e.g., individual, team, organizational) can contribute to quality of care (Lantis, Green, & Joyce, 2002), service delivery models, and implementation of practice change (Grol & Grimshaw, 2003). The qualitative phase of this research used a community-based IKT approach that engaged stakeholders in immigrant health throughout the research process. Use of an IKT approach helps ensure that any policies and programs informed by this research will be more acceptable to immigrant postpartum women and their providers (Carlisle & Cropper, 2009). Narrowing the gap between research and practice is important for transformation to health systems, with a focus on organization-wide change (Doebbeling & Flanagan, 2011).

To better understand influences on health services delivery it is beneficial to include service providers and administrators as co-researchers. In the case of this study, co-researchers included community-based direct care providers and administrators from organizations that serve immigrant women, several of whom are immigrant women who have experienced PPD themselves. Our community co-researchers held relevant local knowledge and possessed social influence important to the success of the project (Carlisle & Cropper, 2009; Genat). The research team attempted to recruit immigrant women with a history of PPD from the Scarborough community at large to participate as co-researchers but was unsuccessful.

Issue identification and IKT team formation. Early in 2010, in response to a request made to the Rouge Valley Community Advisory Panel for services for women with postpartum mood disorders in Scarborough, Ontario, a group of stakeholder service providers met to discuss how to address local service gaps for PPD. It was agreed that services for women with postpartum mood disorders or who are having difficulty adjusting to parenting are limited in Scarborough, a district of Toronto. A working group called the Scarborough Postpartum Support Network was established, with representatives from the Rouge Valley Health Care System, the Scarborough Hospital, TAIBU Community Health Centre, Catholic Cross-cultural Services, Aisling Discoveries Child and Family Centre, Postpartum Support International, Toronto Public Health, and Diversity Midwives.

Group membership has grown over time in an attempt to be inclusive of all relevant and interested stakeholders; additional members identified through professional networks were invited to and joined the team.

The overall goal of the Scarborough Postpartum Support Network was to develop and implement a collaborative program in Scarborough that screens, identifies, and treats all women with perinatal mood disorders and provides support to them and their families. The group identified a lack of services and supports for women at risk for or affected by postpartum mood disorders and their families, as well as a lack of community knowledge of postpartum mood disorders and available services to support women and families experiencing them. An important contextual factor that shaped service delivery approaches is that, between 2003 and 2007, 75.0 – 77.2% of total live births in Scarborough were to immigrant women, many of whom experience high levels of social isolation and limited knowledge of system supports (Toronto Public Health, 2011). The group recognized a number of issues that further contributed to this issue in Scarborough: stigmatization of mental health issues, particularly within a highly culturally diverse population; very limited access to assessment and treatment services, resulting in treatment delays or no treatment access; and a lack of integration among existing services.

In June of 2010, a Manager from Toronto Public Health and the student researcher (McMaster University, School of Nursing) met to discuss the possibility for collaboration and to discuss the research project. Prior to initiating graduate studies, the student researcher was employed as a Public Health Nurse at Toronto Public Health within the Healthy Families division, worked extensively with immigrant families new to Canada, and had collaborated with the Manager on a previous programming initiative. Based on discussion and ascertainment of mutual interests, the Manager invited the student researcher to join the Scarborough Postpartum Support Network and collaborate to address mutual research questions with a goal of increasing understanding of the factors contributing to PPD among immigrant women and their service support needs.

While all Scarborough Postpartum Support Network members supported the research, a subset of self-selected members of the group agreed to partner as co-researchers in an IKT research approach to examine the issue of PPD and health services access and delivery for immigrant women in Scarborough. The co-researchers represented both direct service providers and administrators from a variety of service organizations. This collaborative, action-oriented approach to research was implemented with the ultimate goal of addressing service gaps and implementing positive changes to existing service delivery models within the Scarborough community. Our IKT team comprised the student researcher, the student’s supervisory committee, and community co-researchers at service provider and administrator levels. In addition to the student researcher’s interest in researching postpartum immigrant women’s health and access to health service, each stakeholder on the IKT team identified mutual research interests and their own role in supporting women with postpartum mood disorders and their families.

Thesis Content

This thesis is presented in a sandwich thesis format. Following this introductory chapter are three distinct manuscripts (Chapters 2, 3, and 4), which address the aforementioned quantitative and qualitative research questions.

Chapter 2 is a manuscript entitled *Predictors of postpartum depression among immigrant women in the year after birth*. The purpose of this quantitative phase of the study was to examine individual- and community-level factors predictive of postpartum depression among immigrant women in an urban setting in Ontario, Canada within the first year postpartum. At the time of writing, this manuscript had been accepted for publication in the Journal of Women's Health and is forthcoming.

Chapter 3 is a manuscript entitled *Factors influencing mental health and health services accessibility in immigrant women with postpartum depression.* The purpose of this qualitative phase of the study was to explore factors immigrant women in one urban setting in Canada identify as contributing to PPD and access to health services, as well as the role of health services supports for immigrant women with PPD. At the time of writing, it has been submitted to the Archives of Women's Mental Health journal is under peer review.

Chapter 4 is a manuscript entitled *Provider perspectives on facilitators and barriers to accessible service provision for immigrant women with postpartum depression: A qualitative study.* The purpose of this qualitative phase of the study was to explore provider perspectives on multi-level facilitators and barriers to optimally providing accessible services to immigrant women with PPD. At the time of writing, it has been submitted to the Research in Nursing & Health journal and is under peer review.

The concluding chapter of this thesis (Chapter 5) is a discussion that synthesizes findings across the all of the research conducted as part of this dissertation and addresses the mixed methods research question. Additionally, it summarizes implications for practice, policy, and research.

Chapter 2

Predictors of Postpartum Depression Among Immigrant Women in the Year after Childbirth[1]

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[1] Ganann, R., Sword, W., Thabane, L., Newbold, B., & Black, M. (2015) Predictors of postpartum depression among immigrant women in the year after childbirth. *Journal of Women's Health, MS ID JWH-2015-5292; Accepted August 26, 2015, forthcoming).*

Abstract

Immigrant women are at increased risk for postpartum depression (PPD). The factors that influence PPD among immigrant women are poorly understood. The purpose of this study was to identify individual- and community-level factors predictive of postpartum depression (PPD) among immigrant women living in a large Ontario city at 6-weeks, 6-months, and 1-year postpartum. The study involved a secondary analysis of a prospective cohort study, The Ontario Mother and Infant Study III. This study included 519 immigrant women who were recruited from two hospitals in one urban city and delivered full-term singleton infants. Women completed a written questionnaire in hospital, followed by structured telephone interviews at 6-weeks, 6-months, and 1-year after hospital discharge. Generalized estimating equations were used to explore factors associated with PPD, measured using the Edinburgh Postnatal Depression Scale (EPDS) and two thresholds for depression (≥12 and ≥9). Rates of PPD at all time points were 8-10% for EPDS scores of ≥12. For EPDS scores of ≥9, rates of PPD more than doubled at all time points. A lack of social support was strongly associated with PPD in all analyses. Living in Canada for ≤2 years, poor perceptions of health, and lower mental health functioning were other important predictors of PPD. Living in communities with a high prevalence of immigrants and low income also was associated with PPD. Complex individual and community-level factors are associated with PPD in immigrant women.

Understanding these contextual factors can inform a multi-faceted approach to addressing PPD.

Introduction

The prenatal and postpartum periods are times of emotional health vulnerability for women (Dennis & Chung-Lee, 2006; Registered Nurses' Association of Ontario, 2005), and for immigrant women in particular (Fung & Dennis, 2010). Immigrant women in Canada have been found to be more likely to experience postpartum depression (PPD), have less social support, receive less prenatal care, and have more difficulty accessing the care or help needed in the postpartum period than their Canadian-born counterparts (Ganann, Sword, Black, & Carpio, 2011; Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008).

A systematic review of international rates and risk factors for PPD in developed countries found rates as high as 42% among first generation immigrant women versus 10-15% among native-born women (Collins, Zimmerman, & Howard, 2011). Several studies conducted in Canada have found higher rates of PPD among immigrant women as compared with their Canadian-born counterparts (Dennis, Janssen, & Singer, 2004; Dennis & Ross, 2006; Ganann et al., 2011; Stewart et al., 2008; Zelkowitz et al., 2008). In a cross-sectional survey of postpartum women in Ontario, Canada, immigrant women reported poorer health status and were more likely to be at risk for PPD at 1 month postpartum than Canadian-born women (Sword, Watt, & Krueger, 2006). Rates of PPD also have been found to be higher among immigrant women from minority groups compared to Canadian-born or non-minority immigrant women (Mechakra-Tahiri, Zunzunegui, & Seguin, 2007). There is a large body of literature that has examined predictors of PPD; however, most studies have focused on issues amongst the general postpartum population while few attempted to fill the gaps in our understanding of immigrant women's unique postpartum mental health predictors.

A low level of social support is a major risk factor for PPD among postpartum women; this risk is magnified among immigrant women (Collins et al., 2011; Stewart et al., 2008). Additional risk factors for this population include stressful life events (Collins et al., 2011), pre-migration histories (Collins et al., 2011; Zelkowitz et al., 2008), marital quality (Zelkowitz et al., 2008), prenatal depression and somatic symptoms (Zelkowitz et al., 2008), and greater support needs (Collins et al., 2011). A lack of social support has been found to negatively impact coping with motherhood, with some immigrant women feeling isolated despite living with their spouses (Liamputtong & Naksook, 2003). The presence of social support may not necessarily lower risk for PPD as some immigrant women find family unsupportive of their postpartum emotional health needs and care seeking (O'Mahony, Donnelly, Raffin Bouchal, & Este, 2012).

This lack of social support is reflected in the social determinants of health, which are defined as economic and social factors that contribute to health inequities; these include education, employment, unemployment and working conditions, food security, housing, income and income distribution, and social exclusion (Public Health Agency of Canada, 2004). Community-level factors and social context can also act as determinants of health and health-seeking behaviours (Browning & Cagney, 2003; Mohnen, Groenewegen, Volker, & Flap, 2011; Pickett & Pearl, 2001). In their review of PPD in immigrant women, Fung and Dennis (2010) identified that these women face unique and layered challenges with respect to social health determinants. Unfortunately, there has been little research attempting to increase understanding of the association between these complex factors and depression in immigrant women (Fung & Dennis, 2010).

The Diagnostic and Statistical Manual of Mental Disorders (DSM V) defines PPD as a major depressive episode with an onset of pregnancy or within 4 weeks of delivery (American Psychiatric Association, 2013), however, many women do not experience depressive symptoms until later after childbirth (Goodman, 2004). Indeed, researchers and clinicians have expanded the definition of PPD to include any depression without psychotic features occurring within the first year postpartum (Cox & Holden, 2003). PPD research focused on immigrant women has almost exclusively examined only the early postpartum period (i.e., the first 6 weeks). In addition, no previous study has examined the influence of community-level factors on postpartum mental health. The purpose of this study was to identify both individual- and community-level factors that are associated with PPD among immigrant women living in a large Ontario city at 6 weeks, 6 months, and 1 year postpartum.

Methods

Study Design

The study involved a secondary analysis of a sub-set of data from a prospective cross-sectional cohort study, The Ontario Mother and Infant Study (TOMIS) III (Sword et al., 2009). In the primary study, participants completed a structured self-reported Mother's Questionnaire prior to postpartum discharge from hospital. A structured questionnaire was subsequently administered by telephone 6-weeks, 6-months, and 1-year following hospital discharge. The secondary analysis examined data collected from immigrant women recruited from two hospitals in one urban area. For further methodological details of the primary study, see Sword and colleagues (2009).

Sampling and Recruitment

The primary study recruited women from 11 hospitals across the five geographic regions of Ontario as determined by the Ontario Hospital Association (Sword et al., 2009). These included Level I or II community hospitals, Level II teaching hospitals, and Level III teaching hospitals. Of the 11 sites sampled in the primary study, the two Toronto sites were selected for this secondary analysis based on having the highest proportions of immigrant women among all study sites, as well as the greatest geographic density of study participants to support community-level analyses. One site is a Level II community hospital, while the other is a Level III hospital. Women were recruited prior to hospital discharge following the birth of their baby.

Eligibility Criteria

Postpartum women were eligible to participate in the primary study if they had given birth to a full-term (≥37 week gestation) live, singleton infant and assumed care of their infant upon discharge from the hospital, were competent to give consent, and could be contacted by telephone. Women were ineligible to participate in the study if their infant required an NICU or special care nursery admission for over 24 hours, if they were under the age of 16 years, or if they did not communicate in one of the study languages (English, French, Spanish, and Chinese).

Ethical Considerations

Ethics approval for this study was obtained from the Hamilton Health Sciences/Faculty of Health Sciences Research Ethics Board as well as from the research ethics board of each participating hospital.

Data Collection

The Mother's Questionnaire was developed and translated into the four study languages: English and French, Canada's two official languages, as well as Chinese and Spanish. Chinese and Spanish were chosen, as they were the two other most prevalent other languages in an earlier cohort study of 1250 women in Ontario (Sword et al., 2009). The questionnaire included demographic data as well as data related to infant health and feeding, maternal health complications (prenatally and postpartally), care provider prenatally and during delivery, number of pregnancies and live births, details regarding delivery, perceptions of services, concerns at time of discharge from hospital, support at home, and postal code, which was used to determine census tract of residence and examine community level prevalence data. The response options for demographic data were based on categories used by Statistics Canada for marital status, family income, education level, self-perceived culture or ethnicity, and language spoken at home. Women were identified as immigrants through a question that asked whether they were born in or outside of Canada, but did not differentiate between immigration classes. If women were born outside of Canada, they were asked how long they had lived in Canada and their country of birth.

The follow-up questionnaire was administered in the four study languages. It included questions about infant and maternal health, hospital re-admissions (maternal/child), feeding practices, learning needs, employment status, history of depression, perceptions of health services in hospital in labour and delivery and on the postpartum unit, as well as of postpartum health services in the community. A number of validated instruments were included in the questionnaire (Sword et al., 2009). Self-perceived health status was asked as a single 5-point scale question, which has been shown to be a valid measure of health (Bowling, 2005). Beyond the global self-perceived health question, women were asked if in the time since hospital discharge or the last interview they had experienced numerous specific health issues (e.g., exhaustion, backache, bowel or bladder continence issues, sexual function).

The questionnaire also incorporated psychometrically tested research instruments, including the Edinburgh Postnatal Depression Scale (EPDS) and Duke-UNC Functional Social Support Questionnaire. The EPDS is a commonly used 10-item tool for detecting depression in the postpartum period and not a diagnostic instrument (Cox, Holden, & Sagovsky, 1987). However, a systematic review of the validity of the EPDS found ‘convincing diagnostic evidence’, based on a summary of positive predictive values, that the EPDS is able to detect episodes of major depression and combined depression (major and minor) with a cut-off score of 12/13 and combined depression with cut-off points of 9/10 (Gibson, McKenzie-McHarg, Shakespeare, Price, & Gray, 2009). The EPDS has also been translated into several languages and validated for the purpose of identifying women with PPD (Cox et al., 1987). The psychometric properties of the EPDS are: sensitivity 86%, specificity 78%, positive predictive value 73%, split-half reliability 0.88, and alpha coefficient 0.87 (Cox et al., 1987). EPDS scores range from 0 to 30 with higher scores indicative of higher levels of depression (Cox et al., 1987). The specificity and sensitivity of this instrument has been tested in diverse countries and cultures; different diagnostic cut off scores may be appropriate for different cultural groups (e.g., a cut-off of 9 or 10 when translated into Chinese) (Zubaran, Schumacher, Roxo, & Foresti, 2010). The Duke-UNC Functional Social Support Questionnaire has been validated as a measure of social support; its subscales measure the provision of confidant, affective, and instrumental support (Broadhead, Gehlbach, de Gruy, & Kaplan, 1988).

Other validated instruments included in the structured interview guides were the 12-item Short-Form Health Survey (Ware, Kosinski, & Keller, 1996), Sandvik's Severity Index for Urinary Incontinence (Sandvik, Seim, Vanvik, & Hunskaar, 2000), the Incontinence Impact Questionnaire (Hanley, Capewell, & Hagen, 2001), the Lifestyle Scale of the Fecal Incontinence Quality of Life Scale (Rockwood et al., 2000), and the Female Sexual Function Index (Rosen et al., 2000). A modified Ambulatory Health Care Record (Guerriere et al., 2006), in the TOMIS III study named the Mother and Infant Care Record (Sword et al., 2009), was used to capture service use by participants. It included questions about health care received in home and in the community following hospital discharge, as well as medications, medical tests, purchase of supplies and equipment, travel and costs associated with postpartum health care needs for themselves and their infants.

Quantitative Data Analysis

Descriptive statistics were calculated for participant socio-demographic characteristics, including maternal age, family income, education level, marital status, social support, length of time in Canada, language spoken at home, and self-identified ethnicity. Demographic statistics for categorical variables are expressed as number (percentages) and for continuous variables as means and standard deviations (SD).

Generalized estimating equations (GEE) method (Hardin, 2001) was used to explore factors associated with PPD in immigrant women, while accounting for possible correlation within a hospital site. Potential predictive variables of interest included determinants of health such as income, educational status, current source of income (as proxy for employment because many women take maternity leaves), maternal and infant health, hospital re-admission (maternal/child), feeding practices, unmet learning needs, employment status, history of depression, prenatal care provider type, availability of social support, language spoken at home, ethnicity, and length of time in Canada. Community-level data were obtained by mapping postal codes from the primary study to census tract data from Statistics Canada. Census tract data of interest included prevalence of population low income, on social assistance, visible minority, foreign-born, female lone parent families, renting, spending 30% or higher on rent, unemployed, low levels of education attainment, non-official language spoken at home, and no official language spoken at home. Guided by previous literature (Browning & Cagney, 2003; Mohnen et al., 2011; Pickett & Pearl, 2001), these neighbourhood-level social contextual variables were selected as potential determinants of postpartum health outcomes.

The prevalence of PPD was calculated at EPDS threshold scores of ≥ 12 and ≥ 9 for comparison. For all other statistical analyses PPD was defined at an EPDS threshold score of ≥ 12. Binary logistic regression was performed to determine which variables to include in the GEE analyses. As this was an exploratory analysis, variables were considered for inclusion at a liberal $P \leq 0.20$. Variables found to be significant in the bivariate analysis were tested for collinearity and, when two variables were highly collinear, the one with a weaker relationship was removed from further analysis. The remaining variables were entered into GEE analysis where an exchangeable correlation structure and binary logistic link function were specified. Main-effects were analyzed at 6-weeks, 6-months, and 1-year postpartum. Result from the GEE analysis are presented as adjusted odds ratios with corresponding two-sided 95% confidence intervals and associated *P* values. Significance was accepted a $P \leq 0.05$; values are reported to three decimal places, with values less than 0.001 reported as <0.001. All statistical analyses were performed using IBM SPSS Version 20.

Results

A total of 519 immigrant women recruited from the two hospital study sites located in Toronto, Ontario, were included in the secondary analysis. The socio-demographic characteristics of the sample are shown in Table 1. The number of immigrant women who participated in post-partum interviews at 6-weeks, 6-months, and 1-year was 343, 357, and 309, respectively. Using a threshold of

EPDS ≥ 12, the rates of PPD were 10%, 8%, and 8% at 6-weeks, 6-months and 1-year, respectively. When a threshold score of EPDS ≥ 9 was used, rates of PPD more than doubled at all time points (24%, 18%, and 17%, respectively).

Factors associated with PPD (EPDS Score ≥ 12)

6-weeks postpartum. The bivariate analyses showed 20 of 53 potential predictor variables to have significant associations with PPD ($P \leq 0.20$) (Table 2). Variables significant in the bivariate analyses were tested for collinearity but no collinear relationships were found. The main-effects multivariable analysis showed 18 factors to be significantly associated with PPD ($P \leq 0.05$) (Table 3). Odds ratios were highest for family income levels >$20,000, not having health complications since birth, un-partnered marital status, living in a community with lower prevalence of female lone parent families, and living in a community with lower prevalence of non-official languages spoken at home.

6-months postpartum. The bivariate analyses showed 24 of 46 variables to have significant associations with PPD ($P \leq 0.20$) (Table 4). Three variables were removed prior to GEE analysis because of collinear relationships. The main-effects multivariable analysis showed 21 factors to be significantly associated with PPD ($P \leq 0.05$) (Table 5). Odds ratios were highest for excellent/very good baby's health, partnered marital status, below average prevalence of renting, and good/fair/poor maternal health since delivery.

1-year postpartum. The bivariate analyses showed 16 of 46 variables to have significant associations with PPD ($P \leq 0.20$) (Table 6). One variable was removed prior to GEE analysis because of collinearity. The main-effects multivariable analysis showed 15 factors to be significantly associated with PPD ($P \leq 0.05$) (Table 7). Odds ratios were highest for below mean community-level prevalence of low-income pre-tax, for women with low educational attainment, and for women for whom it was their first live birth.

Discussion

This is the first study known to the authors to examine risk factors for PPD in immigrant women over their first year postpartum. The prevalence of PPD identified by the typical EPDS ≥12 cut point is similar to previously reported prevalence rates in Canada (although an EPDS ≥13 cut point was used in previous report) (Public Health Agency of Canada, 2009). Interestingly, when using a more inclusive cut point of EPDS ≥ 9 the rates of PPD identified in this study more than doubled. This is an important finding since lower diagnostic cut off scores may be appropriate for some ethno-cultural immigrant women (Zubaran et al., 2010). Using a higher threshold may mean that immigrant women who express PPD through somatic complaints rather than other emotional symptoms fail to be diagnosed and referred to appropriate PPD health service supports.

We also found a strong association between total functional social support scores and PPD in the GEE models at 6-weeks, 6-months, and 1-year postpartum. Our finding of social support as an important factor associated with PPD is consistent with previous reviews focused on the overall antenatal (Lancaster et al., 2010) and postpartum population (Beck, 1996; Robertson, Grace, Wallington, & Stewart, 2004) and a recent review focused on determinants of postpartum mental health among South Asian immigrants to high-income countries (Nilaweera, Doran, & Fisher, 2014). Social isolation can contribute to PPD and altered coping postpartally. Many immigrant women identify concerns related to lack of social support when childrearing in a new country (Barclay & Kent, 1998). Social class and ethnic background can further impact adjustment to motherhood and overall emotional health (Liamputtong & Naksook, 2003). Immigrant women in Canada also have been found to have higher risk for PPD and lower levels of social support than women born in Canada (Stewart et al., 2008).

A lack of partner involvement is a known predictor of PDD in the general population (Lancaster et al., 2010) and has even greater implications for immigrant women with limited or no other social support. For the immigrant women in our study, un-partnered marital status was found to be an important predictor of PPD at 6 weeks. It is noteworthy, however, that the mere presence of a partner is not sufficient to allow one to conclude that an immigrant woman has an acceptable level of social support. PPD research in the overall population has identified that poor marital relationships can contribute to PPD (Robertson et al., 2004). For example, Liamputtong and Naksook (2003) found this to be the case in their qualitative ethnographic study of Thai women living in Australia, where women expressed feeling isolated and lonely despite living with their spouses.

Low social support not only contributes to PPD but also can influence women’s care seeking for postpartum emotional health concerns. Health services utilization is dependent upon a number of factors, including the physical, economic and social accessibility of services and perceived benefits of accessing them (Kabakian-Khasholian & Campbell, 2005) as well as personal factors such as cultural influences, minority status, recent migration, and levels of social support (Davis, 2001; Fonte & Horton-Deutsch, 2005; Granot et al., 1996; Liamputtong & Naksook, 2003; Meleis, Lipson, Mueke, & Smith, 1998).

There is a paucity of research examining length of time in a host country as a predictor of PPD. The experience can be markedly different in the early years following immigration as compared to later years. For example, early immigrants face unique issues with respect to social isolation and lack of system knowledge. Having lived in Canada for less than two years was a significant predictor of PPD in the GEE analyses at all three time points. These results are consisted with the limited research examining length of time in a host country as a predictor of PPD: immigration within the previous 5 years has been shown to be predictive of PPD in the week following delivery (Dennis et al., 2004), and newcomers (living in a host country for less than 2 years) were at increased risk for PPD at 6 weeks postpartum (Ganann et al., 2011).

Women's global self-perceptions of their health since delivery and mental health functioning were significantly associated with PPD at all time points and both EPDS score thresholds. By far the strongest relationship was found at 6 months, when "good, fair, or poor health" was predictive of PPD. Similarly, if women had experienced health problems since birth (6 weeks), there was a strong association with PPD. These findings build on previous work that found Canadian immigrant postpartum women to be at greater risk than their non-immigrant counterparts for poor health and PPD (Ganann et al., 2011; Sword et al., 2006). Other research has also identified a history of depression as a risk factor for PPD among immigrant women (Fung & Dennis, 2010). Depression during pregnancy or before pregnancy was not found to be associated with PPD. This finding may be the result of undiagnosed depression during or before pregnancy and may also be related to possible differences in EPDS thresholds cut points for immigrants (i.e., depression not identified at EPDS ≥ 12 but possibly identified at EPDS ≥ 9).

We found urinary incontinence to be predictive of PPD at 6 weeks, 6 months, and 1 year postpartum. This predictor of PPD may not be unique to immigrant women. Sword and colleagues (2011) reported an association between urinary incontinence and PPD at 6-weeks amongst a larger sample inclusive of both Canadian-born and immigrant women. A recent systematic review on postpartum health status and quality of life found urinary incontinence to be associated with reduced mental quality of life (Van der Woude, Pijnenborg, & de Vries, 2015). The present study extends previous findings of a link between incontinence and poor postpartum mental health in the early postpartum period (Hullfish et al., 2007; Lal, Pattison, Allan, & Callender, 2009; Sword et al., 2011), suggesting that sustained postpartum incontinence concerns can contribute to PPD at both 6-months and 1-year.

A novel component of our study was the examination of associations between community-level socio-demographic indicators and PPD among immigrant women. In our sample of immigrant women, living in communities with a higher than average prevalence of low income was associated with PPD, although the direction of that relationship is less clear as it varied across the different time points. Living in communities with a high prevalence of immigrants also was associated with PPD, while at some time points living in communities with higher than average prevalence of non-official language spoken at home was protective of PPD. It is possible that speaking a non-official language at home, yet living within an ethno-specific community, may decrease feelings of isolation and facilitate building social networks. Living in an ethno-specific area may also mean that ethno-cultural and linguistic service supports could be readily available. On the other hand, there is a potential for marginalization of immigrant women in communities with lower prevalence of others facing linguistic or financial challenges.

The results of our study should be considered with a few caveats. Our study may be statistically underpowered because the primary study from which the data are derived was designed for separate primary research questions and included a larger sample across 11 sites. As a secondary analysis this study was exploratory in nature so a liberal alpha (≤ 0.20) was used to determine what variables to include in the logistic regression. Consequently, the predictive value of some variables, although statistically significant in the GEE analyses, would benefit from further exploration in subsequent studies. Furthermore, because this study was a secondary analysis of TOMIS III data, we were only able to identify whether women are immigrants but not distinguish between specific immigration classes, such as landed or refugee classes. This study is also not representative of all immigrant women because only women who spoke one of the four study languages were able to participate. Finally, it should also be noted that this study involved independent analyses of risk factors for PPD at three time points, the results cannot be interpreted as longitudinal in nature.

Implications for practice

As immigrant women are at increased risk for PPD, there is a need for health service providers to ensure accurate assessment of PPD symptomatology among immigrant women. PPD risk assessments should address availability and quality of social support, particularly for those who have most recently emigrated. Many immigrant women lack both adequate informal supports and system knowledge to access available services; service providers need to ensure assessments identify those at high risk for PPD, provide support, and facilitate system navigation to prevent and address PPD, and ensure support needs are met. Further, it is important for providers to recognize community-level factors that may put immigrant women at further risk for PPD.

Implications for research

Further research is needed to better understand the impact of community-level socioeconomic indicators on immigrant women's postpartum mental health, care seeking, and service accessibility. Specifically, future research should seek to explore subgroup differences among immigrant women due to heterogeneity across immigration classes (e.g., landed immigrant or refugee), length of time in host country, and divergent presentations of PPD symptomatology across cultures. Additionally, there is a need for interventional research to explore the effectiveness of community-based mental health service models to meet diverse cultural, linguistic, and support needs to prevent and address PPD among immigrant women.

Conclusions

This study makes important contributions to knowledge about risk factors that can contribute to PPD in immigrant women over the first year following the birth of a baby. To develop healthy public policy and address issues such as inequities in health and service accessibility, it is imperative to understand how the social health determinants interact and influence vulnerable groups such as immigrant women. This exploratory research suggests the importance of understanding immigrant women's health in the context of the communities in which they live, a need for community-level interventions, and targeted intervention locations for services to prevent and address postpartum mental health concerns.

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Table 1: Demographic characteristics of participants (n=519)

Characteristics	n (%)
Age in years[1]	32.69 ± 4.86
Language spoken at home	
English or French	199 (38.3)
Chinese	169 (32.6)
Spanish	21 (4.0)
Romanian	23 (4.4)
Tagalog	22 (4.2)
Russian	20 (3.9)
Farsi	10 (1.9)
Arabic	6 (1.2)
Urdu	6 (1.2)
Portuguese	5 (1.0)
Serbian	5 (1.0)
Other	33 (6.3)
Self-reported ethnicity	
English or French Canadian	42 (8.1)
Chinese	189 (36.5)
South Asian	43 (8.3)
Jewish	34 (6.6)
Italian	7 (1.4)
Portuguese	7 (1.4)
Other	196 (37.8)
Marital status	
Married/common-law/living with a partner	499 (96.5)
Single (never married)/widowed/separated/divorced	18 (3.5)
Household income	
< $20, 000	61 (12.0)
$20,000 - $39,999	73 (14.4)
$40,000 - $59,999	84 (16.6)
$60,000 - $79,999	90 (17.8)
$80,000 or more	199 (39.3)
Highest level of education	
Less than high school	13 (2.5)
Completed high school	40 (7.7)
Some community college/technical school or completed diploma	86 (16.5)

Some university	37 (7.2)
Completed bachelor’s degree/graduate degree	342 (66.1)

[1] Mean ± Standard Deviation

Table 2: Bivariate analysis of factors associated with postpartum depression at 6-weeks

Factor	**OR**	**95% CI**	***P***
Formal care during my pregnancy	2.13	(0.68-6.73)	0.196
Length of time in Canada	2.33	(1.05-5.16)	0.038
Perception of health pre-pregnancy	1.72	(0.83-3.56)	0.145
Perception of health since delivery	2.87	(1.36-6.03)	0.006
Health problems since birth	0.3	(0.07-1.30)	0.108
Pregnancy complications	0.4	(0.12-1.35)	0.138
Marital status	6.25	(1.68-23.32)	0.006
Total income	2.42	(0.97-6.05)	0.058
Perception of baby's health	3.12	(1.50-6.50)	0.002
Previous depression	2.24	(1.01-4.96)	0.047
Prevalence of low-income before tax	0.45	(0.18-1.08)	0.075
Prevalence of foreign born	0.4	(0.17-0.94)	0.036
Prevalence of female lone parent economic families	0.39	(0.15-1.02)	0.055
Prevalence of non-official language spoken at home	0.52	(0.20-1.37)	0.185
Prevalence of no official language spoken	0.48	(0.20-1.18)	0.109
SF-12 Mental Component Score	0.56	(0.46-0.68)	<0.001
Duke-UNC: Functional Social Support Questionnaire	0.92	(0.89-0.96)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7	1.03	(1.00-1.06)	0.035
Female Sexual Function Index - Satisfaction	0.84	(0.69-1.01)	0.066
Female Sexual Function Index - Pain	0.81	(0.65-1.03)	0.082

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each factor at EPDS ≥ 12.

Table 3: Logistic regression (GEE) for postpartum depression at 6-weeks

Variable	OR	95% CI	*P*
Formal care during my pregnancy			
No	1	(0.97-1.03)	0.906
Yes	Reference		
Length of time in Canada			
≤ 2 years	2.33	(2.13-2.55)	<0.001
> 2 years	Reference		
Perception of health pre-pregnancy			
Good, fair, poor	0.43	(0.39-0.48)	<0.001
Excellent, very good	Reference		
Perception of health since delivery			
Good, fair, poor	3.15	(3.15-3.15)	<0.001
Excellent, very good	Reference		
Health problems since birth			
Yes	0.17	(0.15-0.19)	<0.001
No	Reference		
Pregnancy complications			
Yes	1.14	(1.00-1.29)	0.046
No	Reference		
Marital status			
Single (never married), widowed, separated/divorced	6.33	(5.77-6.95)	<0.001
Married, common-law, living with a partner	Reference		
Total income			
< $20,000	0.09	(0.09-0.09)	<0.001
≥ $20,000	Reference		
Perception of baby's health			
Good, fair, poor	1.79	(1.62-1.97)	<0.001
Excellent, very good	Reference		
Previous depression			
Yes	1.52	(1.45-1.59)	<0.001
No	Reference		
Prevalence of low-income before tax			
Above mean	1.9	(1.72-2.10)	<0.001
Below mean	Reference		
Prevalence of foreign born			
Above mean	1.27	(1.02-1.58)	0.030

Below mean	Reference		
Prevalence of female lone parent economic families			
Above mean	0.25	(0.25-0.25)	<0.001
Below mean	Reference		
Prevalence of non-official language spoken at home			
Above mean	0.33	(0.33-0.33)	<0.001
Below mean	Reference		
Prevalence of no official language spoken			
Above mean	0.69	(0.67-0.71)	<0.001
Below mean	Reference		
SF-12 Mental Component Score			
Increase in one point of total score	0.41	(0.41-0.41)	<0.001
Duke-UNC: Functional Social Support Questionnaire			
Increase in one point of total score	0.91	(0.91-0.92)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7			
Increase in one point of total score	1.05	(1.04-1.05)	<0.001
Female Sexual Function Index - Satisfaction			
Increase in one point of total score	1	(0.96-1.03)	0.808
Female Sexual Function Index - Pain			
Increase in one point of total score	0.75	(0.72-0.78)	<0.001

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each variable at EPDS ≥ 12.

Table 4: Bivariate analysis of factors associated with postpartum depression at 6-months

Factor	OR	95% CI	*P*
Perception of health since delivery	5.15	(2.28-11.63)	<0.001
First live birth	0.53	(0.25-1.13)	0.100
Type of delivery	0.5	(0.21-1.21)	0.126
Language spoken at home	2.19	(0.95-5.07)	0.067
Marital status	4.86	(1.43-16.58)	0.012
Total income	2.35	(0.83-6.67)	0.109
Highest level of education	3.13	(1.24-7.91)	0.016
Perception of baby's health	1.96	(0.75-5.11)	0.169
Rating of community health services since discharge	2.95	(1.35-6.42)	0.006
Prevalence of low-income before tax	0.34	(0.13-0.90)	0.030
Prevalence of low-income before tax female lone parent	0.24	(0.09-0.69)	0.008
Prevalence of visible minority	0.44	(0.17-1.18)	0.104
Prevalence of population foreign born	0.29	(0.11-0.75)	0.011
Prevalence of population renting	0.25	(0.07-0.89)	0.032
Prevalence of population spending 30% or more of household gross income on rent	0.38	(0.12-1.17)	0.091
Prevalence of non-official language spoken at home	0.26	(0.08-0.92)	0.037
SF-12 Physical Component Score	0.95	(0.90-1.00)	0.070
SF-12 Mental Component Score	0.78	(0.73-0.84)	<0.001
Duke-UNC Functional Social Support Questionnaire	0.88	(0.84-0.92)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7	1.1	(1.04-1.16)	0.001
Female Sexual Function Index - Pain	0.83	(0.72-0.96)	0.013

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each factor at EPDS ≥ 12.

Table 5: Logistic regression (GEE) for postpartum depression at 6-months

Variable	OR	95% CI	*P*
Perception of health since delivery			
Good, fair, poor	33.96	(33.96-33.96)	<0.001
Excellent, very good	Reference		
First live birth			
Yes	0.43	(0.43-0.43)	<0.001
No	Reference		
Type of delivery			
Section	6.92	(6.92-6.92)	<0.001
Vaginal	Reference		
Language spoken at home			
Non-official language	1.6	(1.60-1.60)	<0.001
Official language	Reference		
Marital status			
Single (never married), widowed, separated/divorced	0.01	(0.01-0.01)	<0.001
Married, common-law, living with a partner	Reference		
Total income			
< $20,000	2.64	(2.64-2.64)	<0.001
≥ $20,000	Reference		
Highest level of education			
Completed high school or less	0.06	(0.06-0.06)	<0.001
Some post-secondary or more	Reference		
Perception of baby’s health			
Good, fair, poor	0.01	(0.01-0.01)	<0.001
Excellent, very good	Reference		
Rating of community health services since discharge			
Fair, poor, didn't use	2.91	(2.91-2.91)	<0.001
Excellent, good	Reference		
Prevalence of low-income before tax			
Above mean	0.76	(0.76-0.76)	<0.001
Below mean	Reference		
Prevalence of low-income before tax female lone parent			
Above mean	2.33	(2.33-2.33)	<0.001
Below mean	Reference		

Prevalence of visible minority			
Above mean	2.81	(2.81-2.81)	<0.001
Below mean	Reference		
Prevalence of population foreign born			
Above mean	24.58	(24.58-24.58)	<0.001
Below mean	Reference		
Prevalence of population renting			
Above mean	0.02	(0.02-0.02)	<0.001
Below mean	Reference		
Prevalence of population spending 30% or more of household gross income on rent			
Above mean	12.67	(12.67-12.67)	<0.001
Below mean	Reference		
Prevalence of non-official language spoken at home			
Above mean	0.37	(0.37-0.37)	<0.001
Below mean	Reference		
SF-12 Physical Component Score			
Increase in one point of total score	1.36	(1.36-1.36)	<0.001
SF-12 Mental Component Score			
Increase in one point of total score	0.55	(0.55-0.55)	<0.001
Duke-UNC Functional Social Support Questionnaire			
Increase in one point of total score	0.86	(0.86-0.86)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7			
Increase in one point of total score	1.67	(1.67-1.67)	<0.001
Female Sexual Function Index - Pain			
Increase in one point of total score	0.84	(0.84-0.84)	<0.001

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each variable at EPDS ≥ 12.

Table 6: Bivariate analysis of factors associated with postpartum depression at 1-year

Factor	**OR**	**95% CI**	***P***
Perception of health since delivery	2.18	(0.86-5.53)	0.102
First live birth	0.5	(0.19-1.30)	0.154
Sufficient support at home	2.06	(0.75-5.65)	0.163
Language spoken at home	0.47	(0.18-1.21)	0.117
Total income	2.57	(0.69-9.63)	0.161
Highest level of education	2.96	(0.91-9.61)	0.072
Prevalence of low-income before tax	0.2	(0.04-0.95)	0.043
Prevalence of low-income before tax female lone parent	0.23	(0.05-1.09)	0.064
Prevalence of female lone parent economic families	0.29	(0.06-1.39)	0.120
Prevalence of females (15-64 yrs.) ≤ high school education	0.29	(0.07-1.14)	0.076
SF-12 Physical Component Score	0.93	(0.87-1.00)	<0.001
SF-12 Mental Component Score	0.89	(0.84-0.93)	<0.001
Duke-UNC Functional Social Support Questionnaire	0.89	(0.84-0.95)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7	1.08	(1.03-1.13)	<0.001
Female Sexual Function Index - Pain	0.71	(0.59-0.86)	<0.001

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each factor at EPDS ≥ 12.

Table 7: Logistic regression (GEE) for postpartum depression at 1-year

Variable	OR	95% CI	*P*
Perception of health since delivery			
Good, fair, poor	1.05	(1.04-1.06)	<0.001
Excellent, very good	Reference		
First live birth			
Yes	7.72	(7.68-7.76)	<0.001
No	Reference		
Sufficient support at home			
Don't know, definitely or probably not	3.35	(3.20-3.50)	<0.001
Definitely or probably yes	Reference		
Language spoken at home			
Non-official language	0.16	(0.16-0.16)	<0.001
Official language	Reference		
Total income			
< $20,000	2.26	(2.26-2.26)	<0.001
≥ $20,000	Reference		
Highest level of education			
Completed high school or less	11.57	(11.40-11.75)	<0.001
Some post-secondary or more	Reference		
Prevalence of low-income before tax			
Above mean	0.08	(0.08-0.08)	<0.001
Below mean	Reference		
Prevalence of low-income before tax female lone parent			
Above mean	0.3	(0.29-0.31)	<0.001
Below mean	Reference		
Prevalence of female lone parent economic families			
Above mean	0.32	(0.31-0.34)	<0.001
Below mean	Reference		
Prevalence of females (15-64 yrs.) ≤ high school education			
Above mean	0.72	(0.68-0.77)	<0.001
Below mean	Reference		
SF-12 Physical Component Score			
Increase in one point of total score	0.7	(0.70-0.70)	<0.001

SF-12 Mental Component Score			
Increase in one point of total score	0.78	(0.78-0.78)	<0.001
Duke-UNC Functional Social Support Questionnaire			
Increase in one point of total score	1.02	(1.01-1.02)	<0.001
Urinary Incontinence Impact Questionnaire - Short Form IIQ-7			
Increase in one point of total score	1.08	(1.08-1.08)	<0.001
Female Sexual Function Index - Pain			
Increase in one point of total score	1.05	(1.04-1.05)	<0.001

Data are presented as adjusted odds ratio (OR), 95% confidence interval (95% CI), and P values (*P*) for each variable at EPDS ≥ 12.

Chapter 3

Factors Influencing Mental Health and Health Services Accessibility in Immigrant Women with Postpartum Depression: An Interpretive Descriptive Study[1]

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[1] Ganann, R., Sword, W., Newbold, B., Thabane, L., Black, M., Armour, L., & Kint, B. (2015). Factors influencing mental health and health services accessibility in immigrant women with postpartum depression: An interpretive descriptive study. (*Submitted to Archives of Women's Mental Health, August 14, 2015; Submission#: AWMH-S-15-00204)*.

Abstract

The purpose of this study was to determine what immigrant women in Canada identify as: 1) factors that contribute to postpartum depression (PPD), 2) facilitators and barriers to accessing health services for PPD, and 3) the role of health services in best supporting immigrant women with PPD. A qualitative interpretive descriptive design, shaped by an integrated knowledge user-researcher partnership was used. Individual interviews were conducted with 11 immigrant women who had delivered a baby within the previous year and had experienced PPD. Using a socio-ecological framework as an organizing structure, an inductive thematic content analysis was conducted. Factors contributing to immigrant women's PPD included several social health determinants, particularly a lack of social support and limited knowledge about PPD and available services. Services were most helpful when providers acknowledged women's concerns, allowed time to build trust, provided culturally competent care, and helped with system navigation. Assessment approaches and organizational wait times created barriers to accessing care. Women suggested that services should be responsive to individual needs, address social health determinants, be locally available, and offer diverse treatment approaches. Additionally, they noted that the system could better support women through immigration policy changes and improved communication with the public to raise awareness about PPD and available services. Immigrant women with PPD see relationship building by providers as foundational to providing effective support,

enhancing coping, and facilitating subsequent access to requisite services. The women articulated a need for improved communication with communities, more effective system navigation, service integration, and timely, flexible, and accessible services.

Introduction

Immigrant women in Canada are at greater risk for postpartum depression (PPD) than native-born women (Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008; Sword, Watt, & Krueger, 2006; Zelkowitz et al., 2008). A number of individual level risk factors for PPD have been identified for immigrant women: low levels of social support, pre-migration histories, relationship quality, shorter length of time in host country, poorer physical health status, minority status, and higher support needs (Collins, Zimmerman, & Howard, 2011; Dennis, Janssen, & Singer, 2004; Liamputtong & Naksook, 2003; Mechakra-Tahiri, Zunzunegui, & Seguin, 2007; Stewart et al., 2008; Zelkowitz et al., 2008). Some community level risk factors for PPD in immigrant women also have recently been identified, such as living in low income communities and in communities with a high prevalence of immigrants (Ganann, et al., 2015, forthcoming).

Postpartum immigrant women in Canada are more likely than Canadian-born women to identify that they need care or help for an emotional health concern postpartum (Ganann, Sword, Black, & Carpio, 2011). However, immigrant women are less likely to have their care needs met as they face multiple barriers to care at both individual and system levels (Ganann et al., 2011). To date, most PPD research has focused on individual barriers to care, with limited research examining organizational and system level barriers. In addition, the large body of literature that has examined PPD generally has examined issues amongst the overall population of postpartum women. This has left a gap in our understanding of immigrant women's postpartum health experiences, perceptions of the role of health care in health promotion and prevention, and multi-level barriers to care and their subsequent impact on service utilization patterns (Mulvihill, Mailloux, & Atkin, 2001). Gaining a better understanding of these factors would inform actions to address barriers and promote mental health among immigrant women.

The purpose of this study was to explore what immigrant women in Canada identify as factors that contribute to PPD, factors contributing to PPD and health service accessibility, and the role of health services in best supporting immigrant women with PPD.

Methods

Study Design, Sampling and Recruitment

The study used a qualitative interpretive descriptive design (Thorne, 2008). The design was shaped by an integrated knowledge user-researcher partnership. Knowledge users with the Scarborough Postpartum Support Network (Ontario, Canada), a network of service providers involved in the care of women with PPD, were engaged in the research process. Their roles included collaborating to identify research questions, establish recruitment and data collection strategies, and contextualize recommendations.

Study participants were immigrant women living in Scarborough, Ontario, Canada who were experiencing or had experienced PPD in the first year after delivering a full-term baby, whether PPD was self-identified or identified by a provider. PPD was broadly defined as sadness or loss of enjoyment of activities typically enjoyed that lasted more than two weeks within the year following the birth of a baby. Scarborough, which is the eastern part of the City of Toronto, was identified by knowledge users as a region with a large immigrant population and a proportionately large number of births to immigrant women (approximately 75% of region's annual births) (Toronto Public Health (Surveillance & Epidemiology), 2011). This district also was identified as having gaps in adult mental health services for PPD, compounded by a lack of knowledge of PPD and available services within immigrant communities. Women were eligible to participate if they had arrived in Canada as one of the following immigration groups: landed immigrant, family class, refugee or asylum seeking classes, or undocumented immigrants. Women were excluded from participating if they only spoke a language other than English, Cantonese, Mandarin, or Gujarati, which are the most prevalent languages spoken in Scarborough. Temporary residents also were excluded. A target sample size of 10 to 15 immigrant women was estimated as the number needed for a thorough investigation of the phenomenon in order to gain depth of understanding (Onwuegbuzie & Leech, 2007).

Recruitment was conducted by public health nurses (PHNs) who approached their immigrant clients with PPD to discuss the study and determine if they would be willing to be contacted by the lead researcher to learn more about the study. Potential participants were contacted by telephone by the researcher to provide study information, obtain consent, and arrange an interview.

Approval for this study was obtained from the Hamilton Health Sciences/McMaster Health Sciences Research Ethics Board and the ethical review committee at Toronto Public Health.

Data Collection and Analysis

Individual in-depth face-to-face interviews comprised of open-ended questions were conducted to explore influences on PPD and access to care, and perceptions of the role of health services in supporting women with PPD. Data were collected between March 2013 and June 2014. A semi-structured interview guide was developed in collaboration with knowledge users, using a socio-ecological framework as an organizing structure (McLeroy, Bibeau, Steckler, & Glanz, 1988). Women completed a demographic questionnaire prior to the interviews. Interviews were digitally recorded, transcribed verbatim, and checked for accuracy. Field notes were completed and used as context for analysis.

Data analysis was conducted concurrently with data collection, thereby facilitating exploration of emerging concepts and themes in subsequent interviews. An inductive approach to thematic content analysis was used (Hsieh & Shannon, 2005), with particular focus on identifying factors influencing PPD, care seeking and accessibility of services to support immigrant women with PPD (Karnieli-Miller, Strier, & Pessach, 2009). Data analysis explored broad categories based on a socio-ecological framework (McLeroy et al., 1988) to examine intrapersonal, interpersonal, organizational, community, and system level influences on PPD and accessing care.

Two researchers reviewed the first two interview transcripts and coded line by line into meaningful segments of text using N-Vivo10 software. This preliminary conventional content analysis informed an initial coding scheme (Creswell, 2007), which was shared and refined with input from the knowledge users. The coding structure was used to review subsequent transcripts and iteratively revised to reflect emerging concepts. Building on emerging concepts, themes and subthemes were inductively developed and refined as similarities and differences across participant experiences were explored. The research team discussed and iteratively refined emerging themes; knowledge users provided further contextual insight and interpretation.

Findings

Eleven immigrant women living in Scarborough, Ontario Canada participated (see Table 1). All women had experienced or were experiencing PPD in the year postpartum. Only one woman spoke English as her first language, but all spoke sufficient English to participate in an interview conducted in English. The women identified multi-level and intersectional factors that influenced their postpartum mental health and the accessibility of services to support immigrant women with PPD. Themes are summarized in Table 2.

Intrapersonal Level

Women spoke about their challenges specific to PPD and how these influenced their ability to access care, as well as how health determinants impacted their health and accessing services to address PPD. A lack of understanding of the health and social care systems created a barrier to having care needs met, while personal capacity facilitated access and improvements in PPD symptomatology.

PPD challenges. Individual experiences varied, but all women expressed emotional difficulties and physical symptoms that made coping difficult. Emotional difficulties included managing their thoughts, adjusting to motherhood, managing perceptions (e.g., fears or embarrassment) and daily responsibilities (e.g., household management), and worries about the baby's health. One Bengali woman stated, "I'm crying again, I'm frustrated, I don't know what should I do, I can't concentrate, I can't cook, I can't handle anything". Many women experienced prolonged crying and significant worries rooted in being severely socially isolated. One first-time East Indian mother said, "I just can't stop crying a lot because I am saying – '*Oh, I am here by myself*'". Some women described anxiety associated with managing care of a sick child without family supports.

Emotional health and physical symptoms were seen as interconnected, in that poor emotional health exacerbated physical symptoms and vice versa. The most common physical symptoms were exhaustion and pain, either acutely related to C-section recovery or chronic health conditions. For women with postpartum physical health concerns (e.g., pain, hypertension), a lack of social support to help with home and childcare responsibilities made recovery and engaging in self-care recommendations exceedingly difficult. One Bengali woman stated:

> That was the time I got the depression really deep because I had to take care of both [kids] and nobody else could help me. My husband was working all day …so for me that was really, really hard. Plus I had the C-section just one week before, so it was painful, plus I was really tired…so those were the things – that I was tired and I felt alone.

Implications of social determinants of health. All women spoke about post-migration social and economic concerns that contributed to their PPD. Social isolation was most frequently discussed; many women had no family in Canada apart from their partner and few friends that could be turned to for support. For the women who had friends in Canada, several felt unable to share their PPD concerns because they did not want to burden these friends. One East Indian woman stated, “I don’t want to pressurize people with a lot of difficulties I’m having”. Many women identified that the impact of social isolation on PPD was exacerbated during winter months when weather limited their ability to leave their homes.

Most women discussed employment concerns for themselves and their partners, believing that financial worries significantly impacted their PPD and coping. Women expressed that a lack of English language skills and training equivalency in Canada contributed to an inability to secure employment. Several women stated that the “number one” thing that contributed to depression was a lack of finances. Some women spoke about pressures associated with being financially dependent on others, whether their partner or extended family members abroad. Many identified that they would like to find a job to contribute to family finances. One Indian woman stated that having a job “can deliver their minds from their emotional problems and whatever the difficulties are that they are facing with the child…it empowers them… it makes them more confident”. Some women identified that their spouses also suffered from depression, stemming primarily from financial concerns and the inability to find a “good job here”.

Only a few women spoke about lack of English language skills in relation to service accessibility, although several identified challenges in having “enough words to express yourself” when communicating with English-speaking service providers. In contrast, most women identified significant challenges with transportation to access services, particularly in the context of transportation costs given their financial constraints. Most families did not have a personal vehicle and relied on public transportation. Women spoke about the difficulties associated with accessing physicians’ offices and other community services, many of which were located quite a distance from their homes. Transportation difficulties were worsened by women's physical limitations (e.g., post C-section or chronic pain conditions), winter conditions, inaccessible buildings (e.g., no ramp for stroller), bus drivers refusing to take strollers during peak periods, and having to take older children with them to appointments. One Chinese woman stated, "My pediatrician is…quite far and also if you have a newborn baby it's very difficult to take the bus. And also it's winter right now…".

Many women required accompaniment by their partner to overcome transportation challenges, while a few managed to get a friend to help. Some reported not returning for PPD follow up care due to lack of available accompaniment (e.g., partner's inability to take time off from work). Many women expressed interest in accessing supportive services if they were offered in locations closer to their homes. One Bengali woman stated it was important that programs are offered close by because "sometimes the TTC in busy time is not good. Sometimes the TTC and the bus don't take me because I have the double stroller".

Understanding the health and social care systems. Women identified that a lack of understanding of the health and social care systems made it more difficult for them to get the care they needed. One Chinese woman stated, "When I need some help, I don't know where I can get help, even though I know Canada's government provides, has many offices that can provide help to immigrants". Another Chinese mother explained that many immigrant women do not know where to go and that it would be beneficial to have more knowledge:

> …How to get information or help when they are sick. This is very important, when people are sick they are very trapped, they are very weak, and so this is very important. And then some community services, this is also very important….what kind of help they can get, except for taking the medication, what kind of help or what kind of thing can ease the depression.

Some women had benefitted from being connected to services in hospital, while a few were aware of some supportive services through experiences from a previous pregnancy. One Colombian mother stated, "I asked for it at the hospital because I know that you have to ask because with [daughter] I did not have a [PHN]". Many acknowledged that once they were aware of services (e.g., through their PHN), they felt able to access care. Not knowing where to call was a more significant barrier to access than lacking personal resource-seeking capacity. One Bengali woman stated that once her PHN provided her with information about community services "I called them and asked them for the services and they have so many programs so they ask me some questions and then they say okay you can have that service".

Strengthening personal capacity. Many women identified that working with service providers helped strengthen their personal insight and coping skills through increased understanding of PPD, learning how to better cope, and understanding the need for formal support and self-care, all of which helped lessen PPD symptom severity. Women discussed that having information about PPD helped them to feel better and enabled care seeking. In some cases, it was a provider (e.g., their PHN) that helped a woman to recognize her symptoms. Some women acknowledged reaching a point of recognizing the need for help. One Colombian mother stated:

> If I want to be a good mom and a good wife, I have to ask for help. I know it sounds crazy but I know some cases that some women commit some sad thing because of their postpartum depression. So those cases are really few but I don't want that to happen to me…never…so I have to ask for help.

Seeking support through individual and group-based services helped women to recognize that they were not the only one experiencing PPD. Women discussed how attending programs benefited them both through a change in environment and learning strategies to manage PPD. One East Indian mother described the benefits of attending programs, "going out, meeting different people, knowing their difficult problems and fresh air…like if you are feeling depressed and you meet different people, at least for a time you are out of your tension".

Some women identified how spirituality helped them manage their PPD. Others identified that having small amounts of time to engage in self-care (e.g., going outside for a walk or taking a nap) made important positive differences in their mood and ability to cope. These self-care activities were made possible through the support of services, their partner, or a friend. With respect to the impact of self-care, a Caribbean woman said, “I feel much different, feel much lighter, have more energy”.

Interpersonal Level

Women identified the important role that interpersonal relationships, both personal and professional, can play in women’s PPD and access to care.

Relationships with family and friends. All women talked about relationships with their family and friends and how these relationships shaped their experiences with PPD. For some women, relationships were supportive, while for others relationships were challenging and contributed to their PPD symptoms. The most important relationship, one that was pivotal to managing or adding to depression and anxiety symptoms, was that with the woman’s partner. Several women identified difficulties communicating their needs and challenges with their partners. A Pakistani mother identified, “Maybe I’m not able to communicate well or maybe my husband was not able to understand. So something is missing, something is missing that I’m not able to figure out”. Other women spoke about how their partner provided both instrumental help, with managing household and childcare responsibilities, and emotional support. Another Pakistani woman acknowledged instrumental support, “like doing dishes, or like some house cleaning, like doing work without saying, like opening up their eyes and mind and seeing that oh, it's still there so I can do something". A Colombian mother described her partner's insight into her depressive symptoms, "because he understand me, and what I was feeling…because I know at some point he was feeling the same because we didn't know how to manage everything". Many women spoke about how the demands of caring for multiple children, often with very limited support, created additional difficulties managing their PPD, engaging in self-care, and accessing services.

For women with extended family (i.e., in-laws) in Canada, some felt these relationships created additional pressure rather than helping relieve stress. One Bengali woman stated, "I have in-laws here but they're not so helpful…they come to visit me for sure but they don't help me…it makes me so frustrated". Other women spoke about challenges associated with family living in another country; many chose not to inform their families about their PPD for fear of causing them worry and distress because of their inability to help due to distance.

Provider-client relationship characteristic. Relationships with providers were seen as critically important for immigrant women with PPD given that most had few or no informal supports. Many women spoke positively about relationships they had developed with individual service providers and how these relationships had been instrumental not only in facilitating access to other services but also in recovery from PPD. One Filipino woman stated,

> Since [PHN] came here I felt like oh there's somebody I can lean on and then there's somebody into me that can help me and then the worrying, the everything is out already because…I need somebody here and they understand me. They're going to support me. They're going to give information, advice, and stuff like that to me. So that's a good help for me. So soon after [PHN] came here I felt like relief.

Some described how providers' client-centred approaches helped to foster therapeutic relationships. All women talked about the need for providers to deliver knowledgeable support and ask about and acknowledge women's concerns. One very isolated East Indian newcomer stated, "If you don't share your emotions, then you still feel more depressed. That's the thing, sharing your difficulties, sharing your problems will relieve you from the depression".

Many women spoke about the need for sufficient time within an appointment to articulate concerns and ask questions. As one Bengali woman stated, "Time and trust is most important. If you rush, I can't tell like this". She went on to describe her experience of feeling rushed when attempting to raise her PPD concerns with her family doctor. Some women commented that a provider who minimized concerns or provided insufficient time to discuss them made them feel that they and their babies were not important; consequently these women did not return for PPD follow up with that provider. In contrast, more women spoke about positive provider relationships; women emphasized that personalized care and empathy for a woman's context and immigration experience made them feel special, important, and valued. These relationships were invaluable in encouraging women to identify their strengths and manage PPD challenges. As one East Indian mother stated:

> It make you light feeling…[sighs]…it makes you confident like you are not weak…makes you feel great, like "you can do". You have the abilities within you…like you have all the properties, all the characteristics in you…all the characteristics as a mother.

Women described their challenges in navigating services, forms, and information. They also noted how helpful it was when service providers provided information about available services and facilitated access to them. Several women talked about the important role their PHN played in supporting them, providing valuable information about looking after their child(ren) and increasing their understanding of and ability to manage PPD. Many women spoke about the role PHNs and other providers played in informing women about and helping to access other supportive services, such as a local PPD support group. One East Indian woman stated that many newcomers are unaware of PPD and services to support women with PPD, emphasizing the need for providers to not only address this knowledge gap but also to signify why the information is important:

> She or he should explain about the facilities that the government is giving to them and encourage like you are not alone by yourself. These facilities are provided by government and it's free of cost so that the client should not feel like oh my god, where should I go, like it may cost a lot, it might be

> expensive or who is going to come to my, oh my god, who is going to help me here.

When discussing client-provider relationship characteristics, women acknowledged that cultural and linguistic matching could be beneficial. Several women identified that language matching was important for women who lacked sufficient English language skills to communicate their concerns. Most women felt, however, that how providers treat women, attempt to understand, and respect women's cultural contexts were more important than matching. One Chinese woman stated, "It depends on individual [provider] …some even though they local, they really nice, they can understand your concerns. They know you're a newcomer and really need support right now".

Organizational Level

Immigrant women identified challenges in terms of accessing services to meet their mental health and social needs. Many issues arose in terms of barriers at the point of system entry, as well as challenges with the way some services are delivered.

Systems entry. Several women experienced difficulties attempting to establish contact by telephone with care providers. Some identified that screening by telephone can make women uncomfortable with answering personal questions. As one Caribbean woman stated:

> When you are on the phone, you don't know where your information is going so before you get into these programs, they have to evaluate you on the phone…so a lot of people would think – No, I wouldn't give my information like that so you tend to either withdraw or not answer or say something different.

Many women raised concerns about the number of intake questions that service providers ask and the need to undergo repeat assessments when accessing different "arms" of services.

Several women experienced lengthy wait times to access providers, such as waiting lists for accepting new patients and limited appointment availability to access their family doctors. Women also identified barriers associated with eligibility for services, such as geographic, socioeconomic, and other eligibility restrictions. Some identified that program eligibility criteria may restrict access for those who could benefit from support. One Bengali woman stated,

> The services are really good from public health but not so available. Like everybody can't have this. If I want, I can't have this. I have to have some criteria, like what they want then I can get the services so it's not easy…it's not like I am asking for services and I am getting it…this public health program should be available for everyone.

Women expressed how accessibility of support programs for mothers is particularly important for immigrant women who frequently lack social supports.

Implications of service delivery approaches. Women identified many aspects of perinatal health service delivery that either facilitated access or created barriers to care for women with PPD. Many women identified the hospital as a key location for delivering support, education, and sharing information about resources for postpartum women. Several women felt that their experiences in the hospital were missed opportunities for providing women with information about PPD and community supportive services. They reported receiving little information about caring for the baby and themselves, and would have appreciated additional information about PPD and how to access supportive community services. Some also expressed that staff on the postpartum unit were very busy and had limited availability to assess and address women's support needs.

Many women identified having experienced difficulties at the point of their primary care provider such as minimizing or failing to address concerns in a timely manner. Women suggested that family doctors should be key sources of information about PPD, making women more aware of postpartum, mental health concerns and services, as well as initiating referrals access as needed. One East Indian woman spoke about the value if a doctor "signifies something that it would be useful to you. If you need help you can go for help, like that. They are free services through the government. Just a minute…a minute is enough…we don't give much significance to that pamphlet if she's not saying why it's so important". Many women expressed that they felt insufficiently supported by their family doctors and that this lack of support subsequently kept them from pursuing any other supports for PPD.

Women identified both strong merits and some challenges associated with community-based services to support women with PPD. For example, many women identified the important role these services played in addressing their social isolation, including community groups that provide opportunities to meet other women. One Bengali woman stated groups were important to immigrant women for “a lot of reason[s], they don’t have enough help, physically, mentally, no help from there, especially when I am asking for me, I don’t have any friends here…after my baby is born, I get to the program and then I get some people to meet there”. Many women talked about other benefits of participating in programs, such as learning about coping with PPD, parenting skills and communication strategies, sharing experiences, feeling empowered, and realizing “I am not the only mother who is facing all this”. Women expressed that services need to be financially, geographically, and linguistically accessible to facilitate uptake by immigrant women.

Women also valued the in-home support offered through VHA Home HealthCare services and public health (both nurses and family home visitors), particularly in the early postpartum period. One Filipino woman stated, “The best help is like go to the house so you can very assess the person…because sometimes if they’re outside the place is not comfy with them so there’s another environmental barrier for them that to release information how you going to address”.

Overall, women found community services helpful; however several identified that some organizational policies created stress for families. Examples shared included the timing of when services are available (e.g., often only daytime weekdays when their partner works), limits on length of service involvement, and policies on subsidized daycare return-to-work/school to maintain eligibility for older child(ren).

System Level

Immigration system challenges. Women identified a number of immigration-related policies that created added stress for families and had implications for perinatal mental health. Several women described concerns associated with the three-month delay in eligibility for provincial health insurance. A few women paid expensive fees out-of-pocket for health services and testing, while others stated that they avoided or delayed accessing care because they lacked financial means to pay.

Several women voiced concerns about their inability to obtain visitor visas for family members to support them in the postpartum period. Many felt if they could have accessed temporary family support early postpartum, this would have dramatically improved coping and depression, while also diminishing need for support from services. As one woman emphasized, her depression was worsened “because I can’t see my parents. They can’t come to see me. They can’t come to visit my house. Why? Especially this time is really crucial time after baby born”. She further stated that her health service utilization costs could be significantly minimized through less restricted access to short-term familial support through visitor visas.

Vision for Optimal Service Delivery

Women described their visions for an optimal service delivery model to support immigrant women with PPD and their families that included accommodating diverse cultures, increased communication within communities, and a variety of service delivery options.

Accommodating diverse cultures. One of the most important features of service delivery that women identified was the need for services to understand and accommodate diverse cultural needs, and for providers to be open minded about traditional cultural practices. Some women also stated the importance of having a culturally diverse workforce to support women with PPD, including workers who had immigrated themselves. One Colombian woman stated, “I think it’s important to have different kinds of people in the different services to understand better other different cultures”.

Many women emphasized the importance of providing support not only to women but also to families. Some women also identified the importance of providers educating newcomers about caring for their child(ren), particularly highlighting Canadian practices and safety precautions. A few women expressed that PPD services need to be available for all women in need of support, not solely immigrant women, and also should address potential barriers to access (e.g., no fee to access).

Increased communication within communities. Many women identified that a number of useful services to support perinatal women exist. Despite this, women stated there is a need for increased communication within immigrant communities to make families more aware of available services, and more specifically of PPD and available PPD supports. One Filipino woman stated, “I think for immigrant women because they’re new here and they don’t know that services that existing here, so they’re not aware”. Women offered suggestions about mechanisms to target outreach efforts to reach immigrant women. Some felt that using local multicultural media channels could increase community awareness while others proposed distributing brochures in mailboxes and community locations, such as immigration offices and sites where language classes are offered. Many suggested posting information in public transit locations, as well as within health service delivery locations such as hospitals and the offices of midwives, family doctors, and obstetricians. All study participants emphasized a need for increased education, acknowledging gaps in knowledge about infant and maternal care and related services. As one Chinese woman stated,

> I want to find a place where I can get more information…because some mothers really want to learn more…I want to find one place to kind of provide this information for us and also for us to meet other new mothers. We can discuss, we can communicate with each other…this would be helpful.

Variety of service delivery models available. Women emphasized that a variety of service delivery options (e.g., multidisciplinary individual and group-based supports) should be co-located in accessible local locations and available to support individual women's preferences and needs. For example, many women spoke about the benefits of a PPD support group yet some identified some limitations of group-based care. A Pakistani mother stated:

> Government sessions I think that you get the part of ideas of other people, how they are doing it but if as a person you think that you need some help and you have some confidential thing that you want to discuss with someone, so that [individual] session is different.

Women suggested that options should include services targeting individuals, families, and groups, as each would benefit in different ways. A Sudanese mother emphasized the importance of community programs and services to support immigrant mothers with PPD and their families:

> The parental program is good, yeah. Nursing, the nurse visitor, the home visitor nurse is also good and Nobody's Perfect [laughter]. If you can do

> [programs] like in the small communities, like invite the people to it or whatever to come to their place that would be great I think because, as I told you, not all the moms know what is in it. So it's really…I never imagined that could change my life. Even my husband changed, everybody in my home, everybody at home is changing now.

Women also stated that PPD treatment options should include both non-pharmacological and pharmacological approaches.

Discussion

Influences on PPD and Services Accessibility

This study provides insights into immigrant women's perceptions of what influences their postpartum mental health and ability to access services for PPD. Many of the individual level influences on PPD and care accessibility identified in this study are commonly experienced by women with PPD more broadly (e.g., lack of understanding of PPD and system, social network factors) (Sword et al., 2008). What is unique, however, is how the complexity and magnitude of these multiple contextual factors intersect and act synergistically in the lives of immigrant women. For example, the immigrant women in this study identified an intersection between factors such as social isolation, poverty, and a lack of system knowledge and resources to access services. This is consistent with a Canadian critical ethnographic study that found that the multiple simultaneous contextual challenges faced by immigrant and refugee women increased their risk for PPD (O’Mahony, Este, & Bouchal, 2012). Given these multiple interacting levels of influence on PPD among immigrant women, rather than examining individual issues in isolation, intersectionality provides a useful lens to comprehensively understand simultaneous impacts of the social location on PPD and interactions with individuals and systems (Van Herk, Smith, & Andrew, 2011; Varcoe, Hankivsky, & Morrow, 2008).

Health services utilization is dependent upon a number of factors, including the physical, economic, and social accessibility of services and perceived benefits of accessing them (Kabakian-Khasholian & Campbell, 2005). Decisions to seek and follow up with care for many of the women in this study were based on weighing potential gains and losses when considering personal resources (e.g., time, money, support) and perceptions of service provision (e.g., quality, trust, accessibility). This finding is consistent with a previous qualitative systematic review that examined barriers to prenatal care for marginalized women in developed countries (Downe, Finlayson, Walsh, & Lavender, 2009). Our study also identified other barriers to accessing care for PPD, including provider cultural competence and women’s beliefs that symptom severity did not warrant consultation with a health practitioner, which is in agreement with the findings from a previous large international study (Kabakian-Khasholian & Campbell, 2005).

The experiences of immigrant women are also unique once they begin to interact with the health care system. Interpersonal experiences with providers, as well as organizational and system level policies, can either facilitate or create further barriers to meeting diverse cultural needs, which significantly impacts care accessibility. Language is one frequently identified barrier to care for immigrant women at both the individual and system level (Fung & Dennis, 2010). In Canada, barriers to care for immigrants are dramatically reduced when an immigrant speaks one of the official languages (Statistics Canada, 2003; Yu, Huang, Schwalberg, & Kogan, 2005). Although in this study the importance of language matching and interpretation was noted only by a small number of women, this finding is likely reflective of the sample as all participants had sufficient English language capacity to participate in an interview in English without use of an interpreter. Women in this study, however, did emphasize potential barriers associated with communication challenges and a lack of provider cultural understanding. Consequences of such challenges include impacts on health, health service provision, and access to and utilization of care (Health Canada, 2006; Kinnon, 1999).

Study Limitations

While the geographic region was selected because of the high prevalence of immigrants, where 75% of the births are to immigrant women (Toronto Public Health (Surveillance & Epidemiology), 2011), this sample is not representative of all immigrant women with PPD. Participants, however, reflected a range of cultural backgrounds, immigration experiences, and residency durations. Despite recruitment attempts and available language supports to facilitate participation, no non-English speaking women participated in this study. Furthermore, all participants were "accessors" of the health care system to varying degrees and therefore are not reflective of immigrant women with PPD who are completely unsuccessful in accessing services since all participants had at least one service provider supporting them.

Conclusions

This study provides valuable contextualized understanding of the intersection of multi-level factors that influence immigrant women's health and the accessibility of PPD treatment and support services. Immigrant women with PPD identified the importance of developing relationships with service providers. A positive relationship was thought to be essential in order for providers to offer effective and culturally relevant support, thereby enhancing coping and facilitating access to other requisite services. Other important factors highlighted by the women included a need for improved outreach and communication by service organizations with communities, greater assistance with system navigation, and timely, flexible, and accessible services. Taken together, the findings of this research can inform health service delivery models and the development of healthy public policy to address perinatal mental health issues among immigrant women.

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Table 1: Participant demographics (n=11)

Age group in years	
20-29	3
30-39	6
40-49	2
First pregnancy	
Yes	5
No	6
Marital status	
Married/living common law	10
Separated	1
Highest level of education	
Completed high school	1
Some college or university	1
Completed college or university	4
Graduate degree	5
Length of time in Canada (in years)	
<2	4
2-5	6
6-10	1
Immigration class (current)	
Permanent citizen	6
Landed immigrant	3
Family class	1
Undocumented	1
Annual family income in dollars	
<10, 000	4
10,000 – 19,999	0
20,000 – 39, 999	6
40,000 – 60,000	1
Maternal care providers (identified all providers)	
Family doctor	11
Community health centre	2
Nurse practitioner	1
Specialist	1
Walk-in clinic	4

Infant care providers (identified all providers)	
Family doctor	5
Nurse practitioner	1
Specialist - pediatrician	7
Walk-in clinic	4

Table 2: Themes

Level	Themes
Intrapersonal	PPD challenges Implications of social determinants of health Understanding the health and social Strengthening personal capacity
Interpersonal	Relationships with family and friends Provider-client relationship characteristics
Organizational	Systems entry Implications of service delivery approaches
System and policy level	Immigration system challenges
Vision for optimal service delivery model	Increased communication within communities Addressing social determinants of health Variety of service delivery models available

Chapter 4

Provider Perspectives on Facilitators and Barriers to Accessible Service Provision for Immigrant Women with Postpartum Depression: A Qualitative Study[1]

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[1] Ganann, R., Sword, W., Newbold, B., Thabane, L., Black, M., Armour, L., & Kint, B. (2015). Provider perspectives on facilitators and barriers to accessible service provision for immigrant women with postpartum depression: A qualitative study. (*Submitted to Research in Nursing & Health, August 14, 2015; MS ID NUR-15-221)*.

Abstract

Immigrant women are at greater risk for postpartum depression (PPD) than native-born women and face multiple barriers to accessing services. Service providers themselves face challenges in delivering accessible care for immigrant women with PPD. This research explored provider perspectives on facilitators and barriers faced in terms of providing accessible services. The study used a qualitative interpretive descriptive design, shaped by an integrated knowledge user-researcher partnership. Fourteen health and social service providers participated in individual in-depth interviews. Using a socio-ecological framework as an organizing structure, an inductive approach to thematic content analysis was conducted. Providers identified attributes that foster relationship building, including addressing power dynamics, understanding women's experiences, enacting cultural competence, involving family members, providing adequate time, and facilitating system navigation. Relationship characteristics such as trust and establishing therapeutic alliances promoted accessibility. Organizational barriers to providing accessible services included assessment approaches, treatment availability/accessibility, wait times, and primary care provider gate keeping. The ability of providers and organizations to address social health determinants also contributed to accessibility. Providers suggested that different organizational and management approaches could facilitate or discourage service coordination across organizations. Finally, providers believed that health and immigration system mechanisms could work more effectively to enable

access to optimal support for immigrant families. Health service providers are critical in supporting immigrant women with PPD and facilitating service accessibility. Organizational and system barriers restrict optimal service provision and integration. Furthermore, gaps exist in terms of available and accessible, decentralized and specialized mental health services.

Introduction

Postpartum depression (PPD) is a serious condition experienced by women following the birth of a baby, which also has negative impacts on their partners and children (Fung & Dennis, 2010; O'Mahony & Donnelly, 2010). All women are vulnerable in terms of physical and mental health in the perinatal and postpartum periods, especially immigrant women (Fung & Dennis, 2010) where a two to three fold increased risk for PPD has been observed compared to non-immigrants (Collins, Zimmerman, & Howard, 2011). In Canada, immigrant women are more likely to develop PPD, have less social support, and experience more difficulty accessing the care or help needed in the postpartum period than their Canadian-born counterparts (Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008). Compared to non-immigrants, immigrants have been found to lack knowledge about available health and social services (Raphael, 2004; Yu, Huang, Schwalberg, & Kogan, 2005) and often face complex challenges in terms of access to services, including financial and transportation barriers, language and literacy issues, limited access to culturally competent care, and lack of knowledge about health and the role for health services (Allin, 2006; Bender, Harbour, Thorp, & Morris, 2001; Carr, 2006; Kinnon, 1999; McLafferty & Grady, 2005; Williams & Hampton, 2005).

Although many barriers to the health of immigrant women have been identified, there is limited research examining facilitators and barriers that health service providers encounter when attempting to provide care. In their review, O’Mahony and Donnelly (2010) identify a gap in understanding how organizational structures impact care seeking and mental health services accessibility for immigrant and refugee women with PPD (O'Mahony & Donnelly, 2010). Individual, team, and organizational factors can contribute to quality of care (Lantis, Green, & Joyce, 2002) and service delivery models (Grol & Grimshaw, 2003). The perspective of service providers can provide unique insight into service delivery factors, shedding light on structures and processes (Doebbeling & Flanagan, 2011) and population health-based service delivery decisions (Maynard, 1997). To date, only one exploratory qualitative study has examined barriers to providing postpartum care to immigrant women from the perspective of healthcare workers (Teng, Robertson Blackmore, & Stewart, 2007). The study identified several professional challenges providers face in working with immigrant women such as fear of incompetence, language barriers, inadequate assessment tools, and cultural uncertainty.

The purpose of this study was to further explore service provider perspectives on the facilitators and barriers they face in terms of providing accessible services for immigrant women with PPD. Health care services in this study were defined as first-contact services for women experiencing PPD (e.g., family physicians, public health nurses), other services supportive of women experiencing PPD, and specialty services such as psychiatrists.

Methods

Study Design, Sampling and Recruitment

The study used a qualitative interpretive descriptive design (Thorne, 2008), shaped by an integrated knowledge user-researcher partnership. Knowledge users (KUs) from the Scarborough Postpartum Support Network, a group of community service providers and health service administrators involved in supporting women with postpartum depression, were engaged throughout the research cycle (i.e., from identifying research questions to contextualizing recommendations).

The sample included multidisciplinary health care and social service providers who provide care to perinatal immigrant women living in Scarborough (a suburb of Toronto), Canada. This area of Toronto was identified by KUs as having a high prevalence of births to immigrant women (approximately 75% of the region's annual births) (Toronto Public Health (Surveillance & Epidemiology), 2011) and very limited access to assessment and treatment services for PPD, compounded by a lack of community knowledge of PPD and available services. Health and social service providers working for organizations that do not provide direct support to immigrant women in the first year postpartum were excluded. A sample size of 10 to 15 service providers was estimated as the number needed for a thorough investigation of the phenomenon to gain depth of understanding (Onwuegbuzie & Leech, 2007).

The KUs informed stratified purposeful sampling and provided email and telephone numbers for potential participants; snowball sampling was subsequently used. Potential participants were initially contacted through an information letter sent by email to introduce the study, with follow up by telephone.

Data Collection and Analysis

Individual in-depth face-to-face interviews were conducted to explore multi-level influences on delivering accessible care. Semi-structured interview guides were developed using a socio-ecological framework as an organizing structure (McLeroy, Bibeau, Steckler, & Glanz, 1988) and refined with input from KUs. Service providers completed a demographic questionnaire prior to the start of interviews. Interviews were digitally recorded, transcribed verbatim, and checked for accuracy. Following each interview, the researcher completed field notes to provide context for analysis and capture self-reflections.

Data analysis was conducted concurrently with data collection to allow for further exploration of emerging concepts and themes in subsequent interviews. Field notes were used to support coding. An inductive approach to thematic content analysis (Hsieh & Shannon, 2005) was used, with particular focus on identifying facilitators and barriers to optimal service provision for PPD (Karnieli-Miller, Strier, & Pessach, 2009).

The first two interview transcripts were reviewed and coded line-by-line, using N-Vivo 10 software, into meaningful segments of text to develop a preliminary coding guide (Creswell, 2007). Conventional content analysis was employed to identify patterns and themes consistent with participants' own language, similarities and discordance, thereby supporting authenticity of findings (Karnieli-Miller et al., 2009; Neergaard, Olesen, Andersen, & Sondergaard, 2009). The preliminary coding guide was shared and refined with input from the research team and KUs. This guide was used to review subsequent transcripts and iteratively revised to reflect emerging themes. The research team and KUs discussed and refined emerging themes, explored alternate interpretations, and provided contextual insight. KUs provided critical insight into community context, as well as shaped culturally and contextually relevant recommendations emerging from the research (Savage et al., 2006).

Approval for this study was obtained from the Hamilton Integrated Research Ethics Board at McMaster University and the ethical review committee at Toronto Public Health.

Findings

Fourteen community and health services providers participated (see Table 1). Service providers included nurses, social workers (SWs), perinatal psychiatrists, community health workers, and administrators. Many participants were immigrant women themselves, some of whom had personally experienced

PPD. All were currently involved in providing prenatal and postpartum services to immigrant women.

Service providers identified a variety of facilitators and barriers to optimal care provision for immigrant women with PPD. Using a socio-ecological framework these barriers and facilitators were categorized at intrapersonal, interpersonal, organizational, community, and system levels. Themes and subthemes identified are summarized in Table 2.

Individual level provider attributes and interpersonal level relationship approaches were important foundations to working with immigrant women. Organizational determinants of service accessibility included: assessment approaches, addressing barriers to accessing care, and service coordination supports or pressures. No major themes emerged at a community level; other factors were identified as having greater impact on PPD, care seeking, and service accessibility. At a system level, challenges with treatment accessibility and health and immigration system mechanisms created barriers to access to optimal support. Providers also described their vision for optimal service delivery and how the system could work more effectively.

Intrapersonal Level

Provider attributes.

Understanding women's experiences. Providers spoke about the importance of understanding women's experiences with PPD, the impact of immigration and their current family circumstances, and how these can influence service provision. Providers also spoke about important differences between recent immigrants and those who have lived in Canada longer; for newcomers “the level of isolation is quite different”, as is the lack of awareness of available services. Providers identified strategies such as asking women how they are coping and acknowledging their concerns, and supporting women when they disclose PPD symptoms. One SW emphasized the negative consequences of failing to acknowledge PPD symptoms: “The impact is that they go underground then with their symptoms…so then you are less likely to talk about what you’re feeling”.

Enacting cultural competence. Several providers identified that it is a necessary skill to enact cultural competence as part of accessible service provision. Providers saw cultural competence as seeking to understand a woman’s culture and her PPD experiences within that culture, and as a guide to developing tailored care plans and offering culturally congruent strategies. Providers talked about the importance of flexible service delivery approaches to embrace diverse cultural practices. One provider explained, “It’s helping to massage your own policies and not stretching them or changing them but helping our own policies and procedures to accommodate a different culture, a different way of thinking, a different upbringing”. Several providers articulated that displaying openness to cultural influences and approaches was more important than cultural matching between providers and clients. Where feasible, however, services should support a client’s preferences for matching. Cultural competence was seen as important, but not sufficient, to overcome language barriers. Language matching was a priority among providers; where language matching is not possible, language interpretation supports were felt to be essential.

Providing adequate time. Providing adequate time to disclose emotional difficulties was noted as being imperative as immigrant women may experience language barriers that make it difficult to explain how they are feeling. One provider stated:

> When somebody has a language barrier you need time to kind of get a proper picture of what’s going on. If the person is struggling with words or trying to find the right words to explain themselves, right? And 15 minutes for an appointment doesn’t cut it.

Flexibility in length of appointments was identified as a facilitator of effective assessment and support of immigrant women. Providers identified that risks associated with failure to provide adequate time are that a woman internalizes her experiences and is left with serious unmet care needs.

Capacity to facilitate system navigation. Consistently identified barriers to care for immigrant women were “not understanding the healthcare system” and “not knowing what to ask for”. To facilitate system navigation, providers felt it was important they had knowledge of existing services in order to provide information and help with connecting to other community resources. One provider stated, “We have to sort of break down all the tentacles of a system and the barrier for workers…we don’t know all the tentacles for other agencies”. Several noted the importance of establishing a system navigator role for postpartum women to address “those barriers where people fall through the gaps because they don’t know how to navigate the healthcare system”.

Helping women become aware of other services and get referrals to the right services were all considered a part of service navigation. Providers believed that making a referral alone was insufficient and that it was important to follow up to confirm if the referral worked out for a woman and strategize if it did not. Some providers identified the need for supporting women in tangible ways like providing letters of advocacy for services (e.g., to primary care providers describing a woman’s PPD symptomatology), for social service subsidies and financial supports, or for family visitor visas through immigration services.

Interpersonal Level

Relationship approaches.

Building trust. Building safe and trusting relationships where women feel comfortable disclosing issues is important when working with women with PPD, particularly immigrant women. Several providers suggested that building trust could take more time with immigrant families due to a lack of understanding of provider confidentiality and challenges with communicating through interpreters and establishing therapeutic relationships.

Providers emphasized that trust is at the core of accessible service provision and is foundational to women partnering in care and enacting any advice given. One stated that a, “therapeutic alliance, it changes with every family, but it is the key for me in helping a parent with postpartum, which isn’t the key for all systems”. Unsuccessful client-provider relationships can mean that women choose not to access services in the future, despite unmet care needs for PPD.

Involving family members. Several providers spoke about the importance of mobilizing partners or other family members to increase supports and ensure the woman herself is not solely responsible for her recovery from PPD. A SW emphasized, “It is important to help [the partner] to understand what postpartum depression is because he has to be part of the path to wellbeing”. Many acknowledged that family involvement should be driven by a woman’s preference for inclusion because it can be a critical part of supporting access to services and developing a recovery plan. Providers also stated that within a woman’s culture it may not be acceptable to go out without accompaniment; for other women their partner might possess greater English language skills or be the decision-maker in the family, both determinants of access.

Addressing power dynamics. All participants discussed the importance of sharing power in addressing the needs of immigrant women with PPD. Providers felt that women should be recognized as experts in their own lives and made to feel they can communicate with providers without being judged. Others spoke about the importance of understanding the cross-cultural perceptions of authorities, such as health professionals, and that an immigrant woman may not feel she has a choice in her care decisions or the ability to challenge authority figures. One physician, acknowledging clients' perceptions of her power, said "…I'm the one who's saying please make sure you're thinking about this and just because I'm suggesting it doesn't mean you have to do it".

Pivotal role of the primary care provider. Many providers identified the critical role that women's primary health care (PHC) provider can play for immigrant women with PPD, facilitating access to mental health care or gatekeeping and creating additional barriers. Some providers described positive experiences with family doctors, in which the doctors were very supportive, met regularly with the woman to monitor medications and coping, and collaborated with multidisciplinary providers. Others spoke at length about barriers women experienced at the level of the PHC provider. Some providers described their experiences advocating on a woman's behalf to convince a family physician of the urgent need for psychiatric referral, meeting both resistance and unwillingness at times. Providers said that often women require multiple efforts to have PPD identified and immigrants experience heightened disadvantage in this respect. One administrator stated, “Now if you were a person who didn’t speak English, weren’t able to advocate for yourself and were not persistent, you would give up that struggle to find somebody who can help you”.

All of these PHC influences speak to the concerns that can arise for women who have a provider in place. As providers identified, however, many newcomers lack consistent PHC providers, frequently use walk-in clinics, and fail to receive appropriate diagnosis, management, and referral for PPD.

Organizational Level

Assessment approaches. Providers identified that the timing and approaches to or manner of PPD assessment may create barriers to identifying immigrant women at risk for or experiencing PPD. For example, evaluation prior to discharge from hospital following delivery or even at the six-week postpartum checkup may fail to identify many women who develop symptoms later in the postpartum period. Several providers identified that sometimes women do not receive service even though a mechanism for postpartum referral from hospitals to public health exists.

While some of these challenges are relevant to all women experiencing PPD, there are elements unique to the immigrant woman’s experiences. Providers voiced concerns about some community service organizations conducting initial assessments and explaining available services by telephone, especially for women for whom English is not their first language. Providers also expressed difficulties faced in conducting assessments if women are “not sort of fitting in a picture” of typical PPD symptomatology, and labeling symptoms when they differ from more classic presentations of PPD. Several providers identified a lack of cultural sensitivity and terminology in existing validated PPD tools that do not resonate with cross-cultural expressions of PPD. Others described a need for assessments to evaluate additional factors that contribute to PPD, such as social isolation, poverty, and history of mental illness.

Addressing barriers to accessing care. All providers spoke about the multiple barriers to accessing services immigrant women face in terms of the determinants of health. Optimal service delivery models offered services and mechanisms that address these barriers and helped meet basic needs for immigrant women with PPD. Most critical is that PPD services are offered without user fees, otherwise providers felt strongly that most immigrant women would find them inaccessible. Investing in language supports, whether through a diverse linguistic workforce or interpreters, is also essential to providing PPD services for immigrant women. Providers spoke of the need to increase social supports through programs where newcomers can meet other women and connect with community resources. One provider emphasized the importance of “making sure they have those linkages in the community so that they are not isolated”. Providers felt that supports, such as childcare and public transportation tickets, were important as they enable participation. Many service providers acknowledged that their services might not be reaching the most isolated and vulnerable immigrant women at risk for PPD.

Supports and pressures for service coordination*.* Providers suggested that organizational and managerial approaches could either facilitate or discourage service coordination. Some felt that their organizations supported working collaboratively with other multidisciplinary service providers in order to optimally meet client needs. Others did not feel support from their organizations to enact this important function; one provider stated, “We don’t get credit for service coordination from an agency point of view”.

System Level

Treatment availability. All providers acknowledged gaps in mental health services for PPD in terms of local availability and accessibility of treatment to support clients. The issue of treatment availability was not unique to immigrant women but for all clients experiencing PPD. Providers identified that emergency supports are available for women who are in immediate crisis but described difficulty referring less urgent women in need of psychiatric care (i.e., non-emergency crisis prevention).

Wait times to access local adult mental health services was a major concern due to the time sensitivity of the perinatal period to help women in need.

Several providers identified four to six month waiting lists to see a psychiatrist, both through individual practices and those affiliated with area hospitals. Providers described that often immigrant women lose interest in pursuing services when experiencing lengthy delays in access or perceive providers as not wanting to help.

Providers felt it was a challenge for women living in city suburbs that most perinatal specialist services were centralized within the city core. Additionally, the perinatal specialists identified that many colleagues (e.g., general psychiatrists, family physicians) may be reluctant to prescribe and manage psychiatric medications for pregnant or breastfeeding women. Even for women who are able to access psychiatric care locally, many see their provider infrequently and primarily for medication management.

A number of providers described newer approaches to addressing service gaps and wait times that appear to be improving access, including cross-sectoral partnership initiatives (e.g., between hospital-based perinatal psychiatry and public health to facilitate case consultation and service access for urgent referrals), and telepsychiatry approaches to facilitate access.

Acceptability of treatment. Providers talked about the acceptability of accessing psychiatric care. Some providers identified that the language used to describe psychiatric care can create a barrier to accessing support, as some ethnic groups may perceive words like “treatment” or “therapy” as scary. It was suggested that words such as “support” or “follow up” may be more acceptable and that family doctors can play an important role in explaining the need for these services, fostering acceptability, and making referrals.

Many perinatal women avoid taking medication to treat PPD but providers felt that this was even more common among immigrant women, with most preferring non-medicinal therapies. Providers stated that some women avoid accessing psychiatric care if they perceive that medication will be pushed. While true for many women, providers identified that cross-culturally some women “just [want] the medication” rather than ongoing therapy. The importance of building a therapeutic relationship and educating women about treatment options for informed decision-making was emphasized, with a provider stressing “Medication isn’t the end-all, the be-all. It’s in conjunction with…and we have to help moms understand that”.

Health and immigration system mechanisms.

Funding for services and funding priorities. All participants spoke about the impact of inadequate funding of adult mental health services. Providers discussed service gaps in the Scarborough area despite “the highest amount of priority neighbourhoods in the [city]”. Funding limitations were noted to drive both strict eligibility criteria for some services and the length of service delivery. It was stated that some community services and cross-agency efforts to address PPD could be enhanced through inclusion of a psychiatrist within the multi-disciplinary team, but there was a lack of funding to support such a role even on a part-time basis.

Payment mechanisms. How providers were paid, whether salaried or per in-person visit, had implications for their ability to address complex socio-economic client needs and effectively collaborate with services across agencies and sectors. A lack of global funding for such activities restricted provider ability to enact them because they are only paid for direct patient care. Still, some acknowledged doing so at the cost of taking on more clients due to time associated with this work or a personal cost since this time was not billable. One physician stated, “we don’t get paid for doing that extra psychosocial stuff” (e.g., coordinating with public health or social services).

Need for system integration. The need for more integrated and collaborative service delivery that provides a range of services for PPD was identified. Understanding best practice in PPD to be multi-modal, several providers recognized the limitations of any one agency’s efforts and the value added by system integration:

> I think that for any one organization to know their community, to have inroads into the community is impossible. And so for partnerships I think that different organizations have different levels of penetration within the

> community and it's good to capitalize on what other organizations have and are doing.

One direct service provider acknowledged partnerships that were not being optimally harnessed, “I know that we have them but we are not really working on them or we are not taking advantage of them”.

Immigration system challenges. Providers spoke about immigration system challenges that impact service accessibility. Many concerns were raised about recent changes to Interim Federal Health coverage and the negative implications for health service accessibility for refugee claimants. One social worker stated, “Changes in the system have made things even more complex for clients dealing with anything in terms of mental health”. Others expressed concerns about the restricted ability for immigrant women experiencing perinatal depression to successfully obtain visitors visas for family members to support them following the birth of a baby, and subsequently relieve service needs.

Vision for Optimized Service Delivery Model

Building bridges with the community. All providers discussed the need for raising awareness about PPD and decreasing fear and stigma associated with PPD (and mental health) within diverse cultural communities. Messages should include accessible language about preventing, identifying, and managing PPD, as well as supports that are available. Providers identified multi-faceted communication strategies to achieve increased community awareness such as awareness campaigns through local media to project diverse images of PPD and outreach through hospitals, religious institutions, community centres, public transportation locations, and libraries. One social worker spoke about the importance of putting a face to mood disorders and further emphasized the need for:

> Putting [messages] out there…normalizing the conversation around mood disorders…making them see that it's really not this outlandish thing that never happens. It's very common and help is out there if you're looking for it.

Strengthening professional capacity. Almost all providers identified professional knowledge gaps and felt they would benefit from professional development supports to more effectively support immigrant women with PPD. Commonly identified areas for capacity building were effective strategies for identifying and supporting immigrant women with PPD, cross-cultural resources for PPD, as well as increased education on cultural competency and immigration system mechanisms. Useful organizational professional development supports were access to a manager or specialist psychiatrists for case consultations, team-based debriefing support, and offering in-services.

Accommodating diverse cultural needs. Providers highlighted accommodating diverse cultures as an important feature of optimal service provision, including respecting family dynamics and cross-cultural norms and their implications on care seeking, service delivery, and tailored intervention approaches. Some identified the importance of increasing appointment times when working with newcomers to “get around the language stuff”, building trust, and providing appropriate support.

Offering accessible integrated, multidisciplinary services. Community providers described a vision for an integrated, multidisciplinary program for PPD, offered in local communities to help overcome barriers to care access for immigrant women and reduce stigma. Important features described were “no fee” access, accessible by public transportation, and provision of transportation supports. These integrated services would offer comprehensive treatment approaches in which women with PPD could engage in decisions to determine what therapeutic options (e.g., individual vs. group support, pharmacological vs. non-pharmacological management) and multidisciplinary professionals would best meet their needs. It was further emphasized that these services should be “family-focused not just women-focused”. Many providers talked about the need for improved access to psychiatrists within women’s communities. Important features of access included the availability to see clients on short notice (i.e., weeks rather than months), offering non-pharmacological therapy, and hosting longer appointment times.

Discussion

This study examined facilitators and barriers to providing accessible services for immigrant women with PPD from the perspective of service providers. The results of this study provide novel insights into individual and interpersonal factors, as well as organizational and system level structures and processes that influence accessible care delivery. Service providers are critical in supporting immigrant women with PPD and facilitating service access. Foundational to their ability to support and create accessible services is the development of trusting relationships by providing adequate time and culturally relevant support. This is consistent with an earlier study of immigrant women that found a lack of time to discuss PPD symptoms and attitudes of providers as barriers to care for those with PPD (Ahmed, Stewart, Teng, Wahoush, & Gagnon, 2008).

Limitations with existing assessment tools have been previously reported as barriers to PPD identification and treatment for immigrant women, as well as women's perceptions of cultural competence of services (Fung & Dennis, 2010). Our research identified that organizational approaches to assessment, such as the timing, cultural appropriateness of tools used, and telephone-based intake, can make it more difficult to identify immigrant women with PPD. Furthermore, our findings reinforce that cultural competence of providers and gaps in service availability are important factors contributing to service accessibility.

The ability of providers and organizations to address social health determinants also contributed to accessibility. Previous studies exploring factors contributing to PPD among immigrant women identified a lack of social support and language proficiency as significantly contributing to depression rates (Bandyopadhyay, Small, Watson, & Brown, 2010), while others have shown how these same social determinants of health and others can create barriers to care seeking (Allin, 2006; Bender et al., 2001; Carr, 2006; Kinnon, 1999; McLafferty & Grady, 2005; Williams & Hampton, 2005).

Novel findings of this study are the ways in which health and immigration system mechanisms could work more effectively to support immigrant families with PPD according to service providers. Gaps exist in terms of funding for perinatal mental health services and supports as PPD has gained inadequate attention within funding priorities. There is a need to raise the profile of PPD as a priority issue for funders, policy makers, health and social service providers. At a basic level there is a need for expansion of perinatal mental health services to be situated in decentralized accessible locations.

To optimally provide services to immigrant women with PPD, there is a need for enhanced professional development supports to expand knowledge and skills related to perinatal mood disorders. Professional capacity building was an important strategy to enhance effectiveness of existing providers and organizations in meeting needs of immigrant women with PPD. This is consistent with previous research that identified professional limitations as a barrier to care for immigrant women with PPD (Teng et al., 2007). Providers in our study suggested that expanding knowledge and confidence around PPD management could lead to improvements in service accessibility by enabling physicians and psychiatrists in women's own communities to effectively manage and treat them.

Enhanced system integration and establishment of community-based system navigators are two mechanisms that would further facilitate accessibility. Insight from the service providers suggest that there is a need for a system shift to more coordinated approaches as well as funding to support inter-agency and inter-sectoral collaboration (e.g., across sectors in health, as well as across health, social, and community supportive services). Patient navigators are increasingly being recognized as important roles in helping clients to understand and access health systems in other areas of health (e.g., cancer care, chronic disease management in older adults) (Hou & Roberson, 2015; Manderson, McMurray, Piraino, & Stolee, 2012; Robinson-White, Conroy, Slavish, & Rosenzweig, 2010); implementation of such a role to support women with PPD could significantly facilitate access, particularly among immigrant women who lack system awareness and face multiple barriers to care.

Providers in our study suggested that immigration system policies impact service delivery for immigrant women with PPD. Immigration policies, such as restrictions on insurance coverage for services, contribute to PPD burden for immigrant women and their ability to access the services to address PPD needs. In Canada, provincial and federal insurance coverage for mental health services are essential to meeting the complex maternal health needs for immigrant women. Other policies, such as increasingly restricted access to family visitor visas, also increase both burden and health and social system costs due to increased utilization to meet support needs. Increasing access to short-term support through family visitor visas in the critical perinatal transition period could serve to ultimately decrease PPD and service demands among immigrant women.

Strengths and Limitations

This is an exploratory study that focuses on service provision needs for immigrant women with PPD living in one geographic region of Toronto, and provides highly relevant insights to the study's KUs. This study represents only provider perspectives into facilitators and barriers to optimal service delivery, but does not include perspectives of immigrant women themselves. Furthermore, this study does not include all types of service providers who work with immigrant women with PPD. Despite recruitment attempts, no family physicians, obstetricians, or general psychiatrists participated in the study.

Conclusions

Health service providers are critical in supporting immigrant women with PPD and facilitating service accessibility. Developing strong client-provider relationships is dependent on both individual provider attributes and their interpersonal relationship approaches. Organizational and system barriers restrict optimal service provision and gaps exist in terms of available and accessible, decentralized and specialized mental health services. Enhanced system integration and establishment of community-based system navigators could facilitate accessibility.

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Table 1: Participant demographics (n=14)

Age group in years	
20-29	2
30-39	5
40-49	3
50-59	4
Role	
Direct care provider	10
Manager/administrator/coordinator	4
Years in role	
< 2	1
2-5	9
6-10	2
> 10	2
Total number of years as a service provider	
2-5	5
6-10	1
10-20	4
> 20	4

Table 2: Themes and subthemes

Level	Themes and subthemes
Intrapersonal	Provider attributes • Understanding women's experiences • Enacting cultural competence • Providing adequate time • Capacity to facilitate system navigation
Interpersonal	Relationship approaches • Building trust • Involving family members • Addressing power dynamics Pivotal role of the primary care provider
Organizational	Assessment approaches Addressing barriers to accessing care Supports and pressures for service coordination
System	Treatment availability Acceptability of treatment Health and immigration system mechanisms • Funding for services and funding priorities • Payment mechanisms • Need for system integration • Immigration system challenges
Vision for optimized service delivery model	Building bridges with the community Strengthening professional capacity Accommodating diverse cultural needs Offering accessible integrated, multidisciplinary services

Chapter 5

Discussion and Conclusion

The purpose of this chapter is to synthesize the research findings across the three manuscripts that comprise this thesis. The individual manuscripts presented in the preceding chapters addressed the quantitative (Chapter 2) and qualitative (Chapters 3 and 4) research questions. The following discussion seeks to examine the comprehensive findings of the overall study and their implications. This discussion will be guided by the mixed methods research question:

> How do first generation immigrant women and their health care providers interpret the factors predictive of Canadian immigrant women's postpartum mental health and access to health care services?

Triangulation of Findings

The mixed methods approach used in this research provides the opportunity to use data triangulation across the quantitative and qualitative findings. Triangulation allows for more in depth study of phenomena and increases the credibility of the findings (Creswell & Plano Clark, 2007), and also can enhance rigour (Williamson, 2005). Both data and methodological triangulation were used in this study through within-method triangulation (i.e., from two qualitative data sources – women and providers) and between-method triangulation (i.e., across quantitative and qualitative sources) (Begley, 1996; Tashakkori & Teddlie, 2003; Williamson, 2005).

In this study, the quantitative and qualitative data were equally weighted. When combining different data of equal weighting, triangulation can be used as a "methodological metaphor" to explore the logical relations between quantitative and qualitative findings, using both to enhance theoretical understanding of a phenomena (Erzberger & Kelle, 2003). For example, qualitative findings can be used to provide causal explanations of mechanisms, patterns, and trends found in quantitative findings (Eastwood, Jalaludin, & Kemp, 2014). If picturing a triangle, the bottom two points can be conceptualized as the empirical findings from across lines of inquiry (i.e., between quantitative and qualitative data and within qualitative data), the top point of the triangle would represent theoretical propositions, and the sides symbolize inductive inferences drawn between findings and propositions (Erzberger & Kelle, 2003; Ostlund, Kidd, Wengstrom, & Rowa-Dewar, 2011).

Triangulation was employed at the final stage of analysis when data were integrated into a more comprehensive picture than what could be achieved through single-method or single-data source analyses alone (Onwuegbuzie & Leech, 2006). A matrix of concepts and findings from each method and data source was developed and used as a tool to facilitate and construct interpretations emerging from triangulation (Foster, 1997; Williamson, 2005). Outcomes of triangulation analysis may be convergent, divergent, or complementary (i.e., used to supplement other findings) (Erzberger & Kelle, 2003; Ostlund et al., 2011).

In this study, triangulation was used to synthesize the multi-level factors contributing to PPD among immigrant women and to health services accessibility for immigrant women with PPD. Factors contributing to PPD were explored across both quantitative and qualitative data sources, and points of convergence and complementarity were identified. Factors contributing to health service accessibility were explored only across qualitative data sources because the quantitative analysis did not address accessibility. The findings related to health services accessibility are, however, complementary to the overall discussion of PPD among immigrant women. It should be noted that triangulation revealed no divergence across any lines of inquiry.

Factors Contributing to PPD

The main factors contributing to PPD among immigrant women found through the mixed method approach include: social support, social determinants of health, health status, and client-provider relationships. It is important to recognize that immigrant women do not uniquely experience these factors, as they are also risk factors for PPD in the general population. However, for immigrant women the magnitude, frequency, and intersection of social isolation, poverty, and barriers to establishing supportive relationships with care providers, as well as neighbourhood-level disparities, culminate synergistically to impair coping with PPD.

Social support. Congruent across all data and methodological sources the strongest and most frequently identified factor contributing to PPD in immigrant women was a lack of social support. This finding is consistent with previous research that has found low levels of social support as a risk factor for PPD among immigrant women (Dennis, Janssen, & Singer, 2004; Liamputtong & Naksook, 2003; Stewart, Gagnon, Saucier, Wahoush, & Dougherty, 2008). Social support plays an important role in immigrant health (Simich, Beiser, Stewart, & Mwakarimba, 2005) and can take the form of informal social support involving family members and friends as well as formal support from interactions with trusted health and social service providers (Guruge & Humphreys, 2009; Leahy-Warren, 2007; Sauls, 2006). Interpersonal relationships form the basis for both informal and formal social support systems (McLeroy, Bibeau, Steckler, & Glanz, 1988). The impact of interpersonal relationships on PPD among immigrant women can be examined across quantitative and qualitative lines of inquiry from this study. The quantitative findings suggest that the relationship between partnered status (i.e., non-partnered or partnered) and PPD is not predictable in direction. The qualitative findings help to contextualize this as women and providers identified that a partner could be perceived as a positive influence on mental health and coping for some women but as a major factor contributing to PPD for others. Together, these findings infer that the association between having a partner and PPD is dependent on the quality of that relationship and whether a partner facilitates coping and PPD recovery or adds stress and makes coping more difficult.

Across data sources the qualitative analyses revealed that many partners of immigrant women are managing their own post-migration stressors and may experience depression themselves. This is consistent with previous research that has found significant post-migration mental health concerns among first generation immigrants (Aragona, Pucci, Mazzetti, Maisano, & Geraci, 2013) and an integrative review that found maternal depression to be a strong predictor of paternal depression (Goodman, 2004). The review also noted that the co-occurrence of maternal and paternal PPD has significant implications for family health (Goodman, 2004), a finding that is complemented by the current study in which immigrant women and providers identified a need not only for woman-focused support postpartum but also support for their partners and families.

Social support includes not only partners but also family and friends. There is congruence across methodological lines of inquiry with respect to the impact of support from family and friends on immigrant women's PPD. In the quantitative study, women were asked about their perceptions of available confidant and affective support (Broadhead, Gehlbach, de Gruy, & Kaplan, 1988) and low levels of social support were associated with PPD. An identified lack of social support may be reflective of an absolute absence of informal supports in their lives or that women did not perceive informal relationships (e.g., through extended family) as useful. This corresponds with the qualitative findings from interviews with both women and providers that suggest family and friends can affect the postpartum mental health of immigrant women in both positive and negative ways. From the triangulated findings it can be inferred that depending on the individual situation, family and friends who live locally can provide important sources of instrumental and emotional support, or they can contribute to PPD burden.

Immigrant women and care providers in the current study found that access to emotional and instrumental support, either through their personal relationships or through supportive services, was an important element of women's coping with PPD. For some women, family provided valuable emotional support but this was at a distance because most family lived abroad; other women expressed choosing not to disclose their emotional challenges to avoiding burdening their family members who could not help due to distance constraints.

At a system level, both immigrant women and care providers emphasized that facilitating access to visitor visas could positively affect an immigrant women's health. It also was believed that visitor visas could better support women with PPD though temporary access to their informal support network living abroad or prevent PPD in the first place. Triangulated findings across qualitative data sources support the proposition that access to this type of informal support has the potential to decrease PPD burden and health service needs.

Social determinants of health. Social support as a determinant of health is a major contributing factor to PPD among immigrant women; however, it is more important to consider an immigrant women's broader context in which multiple contributing factors intersect and influence their postpartum experiences. In addition to social support, several other social determinants of health were found to significantly contribute to PPD and shaped the lives and postpartum experiences of immigrant women after giving birth. All data sources provided insight into how a woman's social and economic contexts, including lack of income and English language fluency, contributed to their PPD experiences. Not only do individual level social determinants of health impact immigrant women's mental health, but also the socio-economic contexts of the communities in which immigrant women live (e.g., living in the context of neighbourhood adversity) can impact PPD and coping (Eastwood, Jalaludin, Kemp, & Phung, 2014). The qualitative inquiry did not identify major themes in terms of community-level influences on PPD. The quantitative results, however, provided novel insights into significant community-level influences on PPD among immigrant women, which provides us with complementary evidence to supplement the qualitative findings (Ostlund et al., 2011). The current study is among the first to explore the implications of community-level contextual factors on PPD specifically, which extends previous research that found neighbourhood social capital correlates with individual overall health outcomes (Browning & Cagney, 2003; Mohnen, Groenewegen, Volker, & Flap, 2011; Pickett & Pearl, 2001; Prentice, 2006) and primary care access (Prentice, 2006).

The current research found that living in a low-income community or living in an area with a high prevalence of immigrants was predictive of PPD. In contrast, living in a community with a high prevalence of members who spoke non-official languages at home was sometimes protective in terms of PPD. Inferences from the findings support a proposition that protective effects might occur if an immigrant woman who lives in an ethno-specific area that is consistent with her own ethnicity (i.e., other individuals who speak the same non-official language) receives more social support than if she lived amongst individuals who did not speak her language. Such an explanation is reinforced by a study in the United Kingdom which found that living in an area with a high concentration of one's own ethnic minority group may be protective in terms of some maternal and infant health outcomes, despite material deprivation (Pickett, Shaw, Atkin, Kiernan, & Wilkinson, 2009).

Congruence across quantitative and qualitative inquiry found that shorter duration of residency in Canada contributed to PPD. The qualitative data provided some possible explanations for this finding as having lived in Canada for a shorter duration of time reportedly was associated with less financial and employment stability, few informal supports, and lack of or limited system knowledge. Each of these contextual factors was identified by the qualitative research as having negative implications for PPD. These findings also support previous research on risk factors for PPD among immigrant women that found post-migration stressors, such as employment concerns, lack of social support, and barriers to accessing services, all contribute to PPD risk among immigrant women (Collins, Zimmerman, & Howard, 2011; Fung & Dennis, 2010).

Health status. Based on congruent quantitative and qualitative findings, we can infer that immigrant women's overall health status and self-perceptions of physical and emotional health contribute to their experiences with PPD. If women experienced either chronic or postpartum physical health concerns this had implications for their mental health because physical and emotional problems had synergistic impacts on PPD. For example, if women were experiencing pain this contributed negatively to their PPD symptoms and coping abilities. Pain also became an additional barrier to leaving their home to access support programs, which further added to social isolation. If women's emotional concerns led to difficulty sleeping, this exacerbated their pain and made it even more difficult to cope with these physical concerns. Alternatively, for women whose physical health concerns improved or resolved, this in turn led to improvements in PPD symptoms. Furthermore, qualitative findings from women and care providers support the proposition that a lack of social support had implications for overall postpartum health and recovery from both physical and emotional health concerns. This is supported by the finding that social isolation significantly constrained immigrant women’s ability to engage in recovery and self-care activities.

Client-provider relationships. The qualitative phase of the research explored women’s relationships with care providers in detail, inclusive of the perspectives of immigrant women themselves and their service providers. When considering the impact of lack of social support on the health of immigrant women, we can logically infer that health care providers can play critical roles in providing needed support to immigrant women with PPD. Positive relationships with providers reportedly were of utmost importance to immigrant women in terms of learning to cope, understanding PPD, and being aware of and recognizing a need for support from other individual and group-based services. This was particularly true for women who lived in the absence of social support networks. Unfortunately, not all relationships with providers were positive. Both women and providers emphasized how negative experiences could have repercussions for women’s mental health and create further barriers to service access. Negative experiences can include such things as feeling a lack of support when disclosing PPD symptoms or having their concerns dismissed. If a woman does not want to further engage with a provider she may be unable to access services that require referrals by the provider. Negative experiences may also discourage care seeking altogether if a woman feels that other care providers will respond in similarly dismissive ways.

The immigrant women and care providers articulated significant and positive impacts that individual and group supports can have for immigrant women with PPD. The qualitative analyses identified enhanced coping, increased knowledge of PPD and the system, and expanded social support networks as beneficial effects. Still, many organizational service support needs and gaps were identified. Both the women and care providers recognized that within immigrant communities there are knowledge gaps associated with what PPD is and what system supports are available. A key setting discussed as a priority location for providing more information about PPD and PPD service supports was at the hospital postpartum. Given the barriers to care that immigrant women encounter, we can inductively infer from the findings that engaging them whilst they are already receiving postpartum care may be an effective strategy. Other important locations identified for providing information about PPD and PPD supports were within primary health care settings, specifically through family doctors.

Factors Contributing to Reduced Access to Health Services

Lack of knowledge. Both immigrant women and care providers highlighted a lack of understanding of the health and social services system as a significant barrier to accessibility. This is consistent with a recent scoping review of Canadian immigrant experiences in accessing health care that found access inequities and unmet health care needs among immigrant populations, citing information barriers as a common barrier to access (Kalich, Heinemann, &

Ghahari, 2015). Another scoping review that explored access to mental health services by immigrants in Canada similarly found unmet complex mental health needs and barriers to care including lack of awareness of mental health issues and available services, and post-settlement barriers (e.g., poverty-related) (Thomson, Chaze, George, & Guruge, 2015). Both immigrant women and service providers identified a need for increased communication with diverse ethnic communities to increase community understanding of PPD cross-culturally and available services to support both parents, in general, and those experiencing PPD, more specifically.

Social determinants of health. In addition to contributing to PPD, the qualitative findings from both immigrant women's and care providers' perspectives study support a proposition that the social determinants of health significantly impact the accessibility of health services for immigrant women with PPD. A recent synthesis of literature exploring socio-demographic characteristics of immigrant women and their impact on prenatal and postpartum care experiences found similar results (Santiago & Figueiredo, 2015). This synthesis found that poorer socioeconomic status and language barriers negatively impacted care experiences. However, the current study allows us to infer that as immigrant women built their personal capacity through increased knowledge, coping skills, and social networks, they were better able to overcome some barriers to care and navigate services to support their families.

A lack of helpful informal social support can present barriers to accessing health services for immigrant women with PPD. Women and care providers identified that a positive relationship with a service provider could help to overcome barriers and facilitate system navigation and access to subsequent services. Unfortunately, when relationships were less positive (e.g., when PPD symptoms were dismissed or when recommendations offered by providers were culturally incongruent), additional barriers to accessibility of requisite services were encountered. This aligns with a previous study that found a lack of cultural sensitivity by providers negatively influenced quality of relationships with prenatal and postpartum service providers (Santiago & Figueiredo, 2015).

System barriers. Both the women themselves and care providers identified barriers that immigrant women can face at the point of system entry. These challenges included lengthy wait times to access providers, eligibility criteria, difficulties in obtaining referrals to specialists, and some organizational approaches to service intake (e.g., by telephone, lacking interpretation support). From the triangulated qualitative findings we propose that when service organizations are able to address barriers to care, such as those associated with social health determinants, they were more accessible to immigrant women. One aspect of accessibility that was emphasized by both women and care providers was the cultural competence of providers. Cultural competence was seen as more important than cultural matching; however, when immigrant women experience language barriers, language matching and interpretation supports were imperative, particularly for communicating about mental health issues. Other Canadian research has found linguistic and cultural inadequacy of mental health services to be significant barriers to access to mental health services for immigrants in Canada (Thomson et al., 2015). The current research allows for a proposition that a diverse and culturally competent workforce can provide an important foundation for facilitating service accessibility for immigrant women experiencing PPD and their families.

Organizational barriers. Qualitative findings from interviews with both women and providers suggest that organizational policies can either support providers in optimally providing care to immigrant women with PPD or create challenges. For example, organizational supports to address barriers to care associated with the social health determinants support accessibility. Organizational support to engage in service coordination and flexibility to adapt service approaches to accommodate diverse cultural needs and can also facilitate accessibility (e.g., through flexible appointment lengths and service duration). Care providers identified that organizational support for professional development activities, such as case conferencing and cultural competency training help to strengthen professional capacity to better meet the needs of immigrant women with PPD.

Limited access to treatment. Both immigrant women and care providers identified local mental health service gaps resulting in long wait lists that limit access to treatment. They also spoke of accessibility concerns such as geographic, cultural, and linguistic accessibility of specialists. From the findings we can infer that access to treatment is an important first step to preventing and addressing PPD for immigrant women. Meta-analyses have found a number of psychosocial and psychological interventions, such as interpersonal therapy, are effective in both preventing (Dennis & Dowswell) and treating PPD (Sockol, Epperson, & Barber, 2011). Access to targeted non-pharmacological interventions for this vulnerable group of perinatal women has been recommended (Dennis & Dowswell, 2013).

The health care system further contributes to accessibility barriers for immigrant women with PPD through delays in coverage for services (e.g., delays in OHIP coverage), as well as lack of public insurance coverage for community-based counselling, psychology services, and pharmacotherapy. From the findings, we can inductively infer that the consequences of these system barriers for immigrant women could include avoiding or delaying care seeking for pressing mental health concerns due to financial inaccessibility and may result in increased consumption of emergency health services.

Need for service integration and system navigation support. Immigrant women and care providers identified that providing service integration and system navigation to access maternal care supports would help to address the difficulties immigrant women face in accessing supports for PPD. The findings of this research are consistent with a recent systematic review of immigrant women's experiences with maternity care services in Canada that identified barriers of both insufficient awareness of maternity services and supports to access them (Higginbottom et al., 2015).

Insights Gained Through Using an Integrated Knowledge Translation Approach

Partnering with knowledge users in this research yielded important contributions to the design and implementation of the study. It was both invaluable and motivating to learn from partners and participants alike that important and relevant questions were being explored and how the findings could meaningfully shape service planning and delivery. Service providers and administrators acknowledged that their organizations grappled with some of the challenges identified through the qualitative inquiry and that the research could help to fill knowledge gaps associated with designing services that are meaningful and appropriate to diverse ethno-cultural groups of immigrant women. Some identified gaps included how to best reach out to immigrant communities, how to raise awareness of postpartum mood disorders and available services, and how to ensure that immigrant women who are at highest risk for PPD (e.g., isolated, non-English speaking, early post-migration women living in poverty) get the services they need.

The Scarborough Postpartum Support Network knowledge users and participants, both service providers and immigrant women themselves, demonstrated great commitment to the research process, sharing their insights and experiences with the desire that the research findings could shape effective service delivery for immigrant women with PPD. The women were generous with their time and thoughtful with their responses, expressing the hope that other women could somehow benefit from the difficult experiences through which they had lived.

Challenges experienced. When partnering in research, there is a time commitment from both researchers and knowledge user partners to foster the partnership, share updates, and maintain both communication and engagement (Caldwell, Zimmerman, & Isichei, 2001; Genat, 2009; Savage et al., 2006). Competing priorities and timelines between researchers and knowledge users presented several challenges. Researcher-driven timelines with respect to developing research questions, approaches, and implementing the study were slowed because of the difficulty obtaining timely communications and meetings. There were also challenges with research implementation timelines in terms of undergoing ethical review, as approval was required from both the research institution and a partner organization. Ethical review of the study was completed consecutively and each ethical review board had different foci and expectations. Consequently, the review process took significantly more time than anticipated, delaying study initiation.

There were, however, many benefits associated with partnering with community organizations. These benefits included ensuring resonance and relevance of the research questions, shaping recruitment and data collection approaches, facilitating access to their clients for recruitment, and contextualizing research findings. While partnering with community organizations was invaluable in facilitating recruitment, the actual process of recruiting immigrant women was arduous and took an extended period of time. One challenge with recruitment was possible gatekeeping by the PHNs on behalf of their clients. There appeared to be a decision-making process by some PHNs about whether a client was a “good fit” for recruitment to the study for reasons beyond study inclusion and exclusion criteria. For example, it is possible (and understandable) that PHNs may have declined to discuss the study with potentially eligible clients, instead prioritizing discussing service needs and referrals. A number of clinician factors may also have influenced recruitment for this study including clinician attitudes toward research, that women from minority groups, those thought to be unable to participate, and those unable to consent are less likely to be recruited (Tooher, Middleton, & Crowther, 2008). Other methodological recruitment literature suggests that some clinicians may be “reluctant actors” in research (Patterson, Mairs, & Borschmann, 2011) and may “protect” potential participants from vulnerable populations from any perceived burden from the research (Bond Sutton, Erlen, Glad, & Siminoff, 2003; Patterson et al., 2011). PHNs also have multiple competing priorities within their home visiting work with immigrant women and from meetings attended by the researcher it was evident that some PHNs placed more value on the research and their role in facilitating recruitment than others.

Strengths and Limitations. There are a number of strengths associated with this study. The mixed method approach allowed for a more in-depth exploration and contextualization of the factors contributing to PPD and service accessibility among immigrant women than would have been achieved if a quantitative or qualitative approach alone was adopted. In some cases, the findings from the quantitative paradigm illuminated factors not revealed through the qualitative paradigm, and vice versa, thus allowing a more fulsome understanding of the issues. In other instances, congruency across paradigms and data sources was achieved thereby increasing confidence in the findings. The IKT approach involving community care providers and administrators afforded many valuable contextual insights, highlighted the research relevance to their “real world” practices, and provided useful strategies to support study implementation. When sharing the findings with KUs it was validating that they resonated well with the KUs’ experiences and could meaningfully provide direction for future service delivery approaches.

Although access to translation supports was available to facilitate participation of women who do not speak English, no women who lacked English-language proficiency were identified by PHNs as potential participants for contact by the researcher. It is possible that there was some gatekeeping occurring in this instance if PHNs perceived that barriers to organizing interpretation or explaining the research through an interpreter seemed difficult to overcome. The research knowledge users contextualized this recruitment challenge, explaining that local service organizations themselves were grappling with how to reach and engage these harder-to-service yet likely highest need immigrant women. These women are likely underrepresented within service caseloads and consequently there was a smaller pool of women from which to draw as potential participants.

It is a limitation that the research team was unsuccessful in recruiting any women from the general population to participate in the integrated knowledge translation team. This is likely reflective of the complex lives that immigrant women lead and the daily pressures they face in caring for their families and meeting their families' needs, while coping with their own mental health concerns. It was very challenging to recruit women participants for a one-time interview; it became insurmountable to recruit women to commit to a more time-consuming process of engagement in the research and program planning process. Inability to recruit immigrant women as co-researchers may also be rooted in women's perceptions of their ability to contribute as co-researchers and power imbalances, comfort with engaging with "experts", system mistrust, and a lack of English language proficiency (Ganann, 2013). Finally, while this research provides contextually-relevant insights to the knowledge user partners, there are limitations in terms of transferability to other settings and populations of immigrant women. The use of mixed methods does, however, help to minimize potential bias and increase confidence in the findings associated with this complex social issue (Begley, 1996).

Implications

For practice. Emotional and physical health concerns can both contribute to PPD and cross-culturally PPD may be expressed as psychological distress or somatic complaints. It is therefore important that PPD assessments explore not only emotional concerns but also physical health complaints that may negatively impact coping (Fung & Dennis, 2010; Small, Lumley, & Yelland, 2003; Zelkowitz et al., 2004). It also is essential to assess women's social and economic contexts (Collins et al., 2011; Fung & Dennis, 2010). The post-migration social isolation and poverty that many immigrant women face significantly heighten their PPD risk. With respect to social support, it is important that service providers do not assume that if a woman has a partner this translates into emotional and instrumental support at home. While these relationships can be protective for some women, others may feel isolated and lonely despite spousal support (Liamputtong & Naksook, 2003). A poor relationship with a partner can be a source of great stress, contribute to PPD, and act as a barrier to accessing requisite services (Dennis & Ross, 2006; Kalich et al., 2015).

To support optimal service provision for immigrant women with PPD, organizations need to support professional development and access to training. Cultural competence amongst providers is an essential characteristic needed to address service accessibility barriers for immigrant women with PPD. Professional development aimed at strengthening health professionals' knowledge, attitudes, and skills in cultural competence and assessing and treating cross-cultural expressions of perinatal mood disorders would help address disparities in quality of care and improve accessibility (Beach et al., 2005; Horvat, Horey, Romios, & Kis-Rigo, 2014).

Organizational supports to help address the social health determinants also are important to include in service delivery models. For example, organizational support for care providers to enact service coordination and system navigation roles can facilitate addressing knowledge gaps and needs among immigrant women as well as barriers to care (Kalich et al., 2015). For women who do not speak English, a diverse cultural workforce and translation supports provide a necessary foundation to accessibility. Cultural interpreters may be preferable to linguistic interpreters alone because mental health conditions and symptoms are nuanced and embedded within cultural contexts. Accessibility is further enhanced when services can offer supports to address geographic, transportation, childcare, and financial barriers to care. Without such supports, many immigrant women will be restricted in their ability to access care given their socio-economic contexts.

For policy. Policy changes that enhance access to support for immigrant women with PPD and facilitate appropriate use of mental health services are needed. This research identified that gaps exist in perinatal mental health services, particularly for non-pharmacological therapy options offered outside of hospitals in the urban core. In order to offer accessible service locations within communities and address lengthy wait lists, increased and sustainable funding to support expansion of existing services is needed. There may also be a timely policy window to support these policy and funding changes as they align with two of Ministry of Health and Long Term Care's current strategic priorities: 1) to provide faster access to care, specifically specialists and the "right care" for mental health, and 2) to connect services through better coordination and integration of care in communities (Ontario Ministry of Health and Long-Term Care, 2015). Additional policies should be implemented to support these new and redesigned services. In addition, system supports, such as community-based system navigators, are increasingly being recognized as important facilitators to health system accessibility (Hou & Roberson, 2015; Manderson, McMurray, Piraino, & Stolee, 2012; Robinson-White, Conroy, Slavish, & Rosenzweig, 2010). Whether these roles are embedded as an enhancement to existing health provider roles or as a newly established support (e.g., built into supports through immigration settlement organizations), the establishment of community-based system navigator roles for postpartum women could further facilitate accessibility and help to address PPD burden,

Changes to current immigration-related policies could also decrease PPD burden. Adapting policies to decrease or eliminate wait times for provincial health insurance eligibility would remove barriers to early identification and care for immigrant women with PPD. Policy changes that increase access to family temporary visitor visas for immigrant women at risk for PPD (i.e., those with previous or antenatal history of depression) or diagnosed with PPD would provide much needed social support to prevent PPD and decrease burden.

For research. This research highlights the importance of understanding the intersectionality of social determinants of health, PPD, and access to health care for immigrant women and the multiplicative effects of systematic inequalities (Kelly, 2009). The development of programs to decrease PPD prevalence and burden among immigrant women and policies to support newcomer mental health are needed. Research that explores upstream approaches to preventing PPD within vulnerable immigrant communities would inform the development of such programs by identifying effective and culturally appropriate approaches.

Considerable heterogeneity exists among immigrant women in terms of their migration experiences, language capacity and ethnicity, and their experiences with health care in their home country. It is important for research, policy, and health services to be sensitive to the impact of gender and migration experiences on health (Vissandjee, Thurston, Apale, & Nahar, 2007). To date there has been limited research exploring specific factors influencing PPD symptomatology and service support needs among immigrant sub-groups as defined by language, ethnicity, length of time in host country, and immigration class (Simich, Maiter, Moorlag, & Ochocka, 2009; Simich, Wu, & Nerad, 2007). Such research would provide more valuable insights that could be used to better target health care programs and policies for immigrants.

Further research also is needed to better understand community-level influences on PPD among immigrant women. This research should also seek to identify effective approaches to address these community-based determinants as supportive community services can mediate the effects of adverse neighbourhoods on PPD (Eastwood, Jalaludin, Kemp, et al., 2014). Specific studies examining the effect of neighbourhood context and living in ethnically dense areas on PPD among immigrant women, as identified in this study, also are needed to better understand their influences (Pickett et al., 2009).

For education. Health care and social service provider educational programs should include theory and knowledge on prevention, assessment, and treatment of perinatal mood disorders within diverse populations of women, as well as practicum opportunities to apply acquired knowledge and skills. Education programs also should include cultural competency training and opportunities for interdisciplinary education that foster collaborative practice skills. Previous research has found limited training and consequent knowledge gaps amongst primary care providers who work with perinatal women in terms of screening, diagnosis, treatment, and referral for PPD (Baker, Kamke, O'Hara, & Stuart, 2009; M. Leddy, Haaga, Gray, & Schulkin, 2011; Olson et al., 2002). Lack of provider knowledge and confidence in these skills can lead to inconsistent screening practices and failure to recognize symptoms (Best Start Resource Centre, 2013; Schaar & Hall, 2013). Access to evidence-based PPD education within educational programs and professional development opportunities can increase screening, use of validated instruments, and better management of PPD (Baker et al., 2009; M. A. Leddy, Farrow, Joseph, & Schulkin, 2012).

Family practice, obstetrical/gynecological, and psychiatric residency programs should support access to rotations that focus on maternal mental health. According to the perinatal mental health specialist participants, no current sub-specialty psychiatric training on maternal mental health exists in Canada, which contributes to the low number of practicing perinatal psychiatry specialists. Limited numbers of specialists further limits accessibility of such services, despite pressing needs and the implications of untreated PPD for families. Findings from this study suggest that community-based access to perinatal mental health supports could be facilitated by expanding professional knowledge, skills, and confidence to assess and manage such concerns among family physicians, nurse practitioners, midwives, and obstetrician/gynaecologists, as well as mechanisms to better support access to perinatal specialist services for consultation by these practitioners.

Conclusion

Immigrant women in Canada experience numerous health inequities that increase their risk for PPD and prevent them from accessing service supports to address PPD concerns. The Canadian health care system needs to be responsive in order to facilitate equitable access and address the health needs of Canadian immigrant women and their families. The growing diversity and proportion of immigrants within the Canadian population calls for a health care system that is linguistically and culturally supportive, with a strategic approach to enhancing accessibility for those experiencing health inequities in order to meet their health care needs.

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