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DISCUSSION

International migration as a determinant of emergency caesarean

Lisa Merry [a,*], Sonia Semenic [a,b], Theresa W. Gyorkos [c,d], William Fraser [e,f], Rhonda Small [g], Anita J. Gagnon [a,h]

[a] Ingram School of Nursing, McGill University, Montreal, Quebec, Canada
[b] Women's Health Mission, McGill University Health Centre (MUHC), Montreal, Quebec, Canada
[c] Department of Epidemiology, Biostatistics & Occupational Health, McGill University, Montreal, Quebec, Canada
[d] Division of Clinical Epidemiology, McGill University Health Centre (MUHC), Montreal, Quebec, Canada
[e] Centre hospitalier universitaire de Sherbrooke (CHUS) Research Centre, Sherbrooke, Quebec, Canada
[f] Department of Obstetrics and Gynecology, University of Sherbrooke, Sherbrooke, Quebec, Canada
[g] Judith Lumley Centre, La Trobe University, Melbourne, Victoria, Australia
[h] The Research Institute of the McGill University Health Centre (RI-MUHC), Montreal, Quebec, Canada

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ABSTRACT

Background: High caesarean rates are of concern given associated risks. International migrant women (women born abroad) represent a substantial proportion of women giving birth in high-income countries (HICs) and face social conditions that may exacerbate childbearing health risks. Among migrant women, emergency rather than planned caesareans, tend to be more prevalent. This method of delivery can be stressful, physically harmful and result in an overall negative birth experience. Research establishing evidence of risk factors for emergency caesareans in migrants is insufficient.
Aims: (1) Describe potential pathways (with a focus on modifiable factors) by which migration, using internationally recommended migration indicators: country of birth, length of time in country, fluency in receiving-country language, migration classification and ethnicity, may lead to emergency caesarean; and (2) propose a framework to guide future research for understanding "potentially preventable" emergency caesareans in migrant women living in HICs.
Discussion: "Potentially preventable" emergency caesareans in migrant women are likely due to several modifiable, interrelated factors pre-pregnancy, during pregnancy and during labour. Migration itself is a determinant and also shapes other determinants. Complications and ineffective labour progress and/or foetal distress and ultimately the decision to perform an emergency caesarean may be the result of poor health (i.e., physiological effects), lack of support and disempowerment (i.e., psychological effects) and sub-optimal care.
Conclusion: Understanding the direct and indirect effects of migration on emergency caesarean is crucial so that targeted strategies can be developed and implemented for reducing unnecessary caesareans in this vulnerable population.

1. Introduction

Caesarean rates in Canada, the US, Australia, and several European countries, have increased significantly over the last 15 years.[1,2] Although a caesarean can be an effective response to untoward pregnancy and labour events, it has associated risks including severe maternal and neonatal morbidity and mortality.[3,4] The necessity of the rise in caesareans has been questioned since rates vary considerably between and within countries, and overall benefits for mother or baby have not been associated with higher rates.[2,5] Some caesareans are therefore thought to be preventable and public health authorities have called for a reduction in their numbers.[6,7]

One of the primary causes of the increase in caesarean rates has been attributed to a rise in diagnosis of dystocia/failure to progress (FTP) during labour.[8–11] Dystocia/FTP, and cephalo-pelvic disproportion (CPD), one of the possible causes of dystocia, are indications that are subjective in their diagnosis.[9] Similarly, foetal distress, another important indication for a caesarean, is also

* Corresponding author at: Wilson Hall, 3506 University St., Montreal, Quebec H3A 2A7, Canada. Tel.: +1 514 843 1419; fax: +1 514 843 14139.
E-mail address: lisa.merry@mail.mcgill.ca (L. Merry).

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susceptible to misdiagnosis given it is largely dependent on clinical decision-making if not confirmed by foetal scalp blood testing.[9,12,13] These emergency caesareans are therefore considered "potentially preventable".

A caesarean is considered an emergency when the decision to perform one occurs shortly before the surgery, usually during labour. This type of delivery, compared to a planned caesarean and/or vaginal birth, has been associated with additional harmful physical and psychological outcomes. Women who have experienced an emergency caesarean have been shown to have an increased risk of morbidity including severe sepsis and postpartum haemorrhage.[14,15] The unplanned nature of an emergency caesarean may be distressing[16,17] and for some may result in emotional trauma.[16] An overall negative birth experience, a sense of failure and depression have also been shown.[18]

"International migrants" as defined by the United Nations[19] and the International Organisation for Migration[20], are individuals who were born in one country and moved temporarily or permanently to establish themselves in another country. This definition comprises all types and reasons for migration including "regular" and "irregular" (i.e., when one lacks legal status in a receiving-country) movement and voluntary and forced (i.e., due to persecution or other situations that threaten one's safety or survival) migration. In High Income Countries (HICs) there are over 135 million international migrants, with the vast majority originating from a Low or Middle Income Country (LMIC).[19] Fertility rates among migrant women are higher than non-migrant women[21–23] and in some HICs, births to migrants account for up to one fifth of all births.[24,25] Migrant women, especially those from LMICs, face social conditions that may exacerbate childbearing health risks, and certain groups of migrants are at greater risk for caesareans compared to non-migrants. Among migrant women, emergency caesareans tend to be more prevalent than planned (or elective) caesareans and the most common indications are foetal distress, FTP and CPD.[26,27]

Higher emergency caesarean rates among some migrant groups remain unexplained and research establishing evidence of risk factors for emergency caesareans in migrants has been assessed as insufficient.[26] Moreover, greater knowledge of pathways is needed since there may be disparities in risk factors between migrant and non-migrant women and between different migrant groups even when caesarean rates are not higher.[26] Studies that examine caesareans in migrant women suggest that factors which are more common or unique to migrant women, for example lack of health insurance, communication barriers, lack of prenatal care, and low income level are important to consider as predictors in this population.[26] The objectives of this discussion paper are to: (1) describe potential pathways (with a focus on modifiable factors) by which migration may lead to emergency caesarean; and (2) propose a framework to guide future research for understanding "potentially preventable" emergency caesareans in migrant women living in HICs.

2. Background

2.1. Existing frameworks and determinants of caesarean

A search of the literature [Medline (from 1996) and CINAHL (from 1990) databases to 2014] yielded three existing frameworks summarising and describing factors associated with type of birth.[28–30] All three frameworks suggest that pathways leading to caesarean are complex and multi-factorial including a number of factors that are modifiable. Conceptually, these fit within a framework of determinants of health including biological, genetic and medical; social (income and social status, support networks, education and literacy, employment and working conditions, physical environment, lifestyle and behaviours, gender and cultural influences); and health services' factors (see Table 1).[31]

Each framework suggests a different perspective for understanding and explaining how various factors may lead to a caesarean. The Quality Health Outcomes Model (QHOM) by Wilson et al. (2010) focuses on the role of induction of labour and the dynamic effects between this intervention, healthcare system factors and patient characteristics in leading to a caesarean.[30] Wu et al. (2012) proposed that type of delivery is the result of an interplay of factors and conditions (i.e., woman, foetus, family, healthcare provider, and societal and cultural influences) that *change* during pregnancy and alter the "intended birth" to a different outcome.[28] Both of these frameworks have limited applicability for research on "potentially preventable" emergency caesarean in migrant women given their narrow focus (i.e., one intervention, and changes in conditions during pregnancy) and that neither considers the role of migration on birth outcome.

Lowe 2007 reviewed the literature to develop a conceptual model specifically to explain dystocia and emergency caesarean.[29] The author identified several determinants including: physical and psychological characteristics of women; foetal factors; assessments and clinical decision-making; intrapartum care and interventions; the socio-political environment; and the social and physical environment. In this model all variables are believed to act via physiological and psychological (i.e., stress responses) processes during pregnancy and/or birth as well as clinical decision-making, interventions and organisation of care. This framework is comprehensive and offers a useful approach for understanding the underlying pathways leading to emergency caesarean. Like the other two frameworks, however, it fails to capture the impacts of migration. To better understand "potentially preventable" emergency caesarean risk in migrant women, a health determinants' perspective with a migration lens and focus on modifiable factors is needed to more fully define and contextualise the factors involved.

2.2. International migration as a determinant of health

Gushulak and MacPherson (2004) proposed a framework to explain the links between migration and health. The framework emphasizes the interplay of determinants related to each migration phase (pre/return-, during- and post-migration) as contributors to differing health profiles among migrant populations (see Fig. 1).[32] Health is affected by the social, cultural, and environmental conditions and access and availability of health and social services in their country of origin (i.e., *pre-migration* or upon *return* travel to their country) and also by the conditions and access/availability of services in the receiving-country (i.e., *post-migration*). The circumstances under which migrants decide to move and how they move have implications for health as well. In some instances movement is forced due to war, conflict, instability or environmental degradation/disasters in countries of origin. *During migration*, these migrants may be exposed to dangerous situations and violence. Irregular movement may be associated with injury, incarceration, time in a refugee camp, and reduced or no access to health services. *Post-migration*, migration classification (i.e., migration category that defines rights and permanency of stay in the new country), which is conferred by the receiving-country, will determine the resettlement process. Those with a refugee, temporary worker, asylum-seeker (i.e., someone who arrived in a host country and then made a refugee claim) or undocumented status (i.e., no official migration status in the receiving-country) tend to be more vulnerable than immigrants (i.e., those who moved permanently and voluntarily for economic or family reasons). They are more likely to face poverty and social exclusion, be separated from family, experience stress due to the

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