Variability in postpartum mental health service use among immigrant women in Ontario

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Overview

The issue. Immigrant women are at higher risk for postpartum mental disorders compared to their Canadian-born counterparts, but generally are less likely to use mental health services

What this study accomplished. Observed variability in postpartum mental health service use among immigrant women by region of origin, time since immigration, and refugee status

How we got there. Population-based cohort study, Ontario (2008 to 2013)

Next steps. Observed variability has implications for case-finding & treatment engagement initiatives for postpartum mental disorders in Ontario

Rationale

- Postpartum mental disorders, including depression, anxiety, mania and psychosis, affect up to 20% of women in the 1st postpartum year

- When untreated, they can result in severe, negative impact for mother, child and family

- Effective interventions exist for both prevention and treatment of most postpartum mental disorders – social, psychological and biological (i.e. medication)

Rationale

- Certain groups of women remain at high risk for postpartum mental disorders
  - Biological/hormonal risk (e.g. history/family history)
  - Increased psychosocial stressors
  - Barriers to access to appropriate intervention
  - e.g. single parents, intimate partner violence, low socioeconomic status, poor social support, multiple life stressors

Rationale

- About 20% of Canada's population is foreign born, the highest proportion among the G8 countries
- In Ontario, about 25% of births are to immigrant women
- Canadian data demonstrate that immigrant women have higher rates of several risk factors, and 2x higher rates of postpartum mental disorders Dennis, Heaman and Vigod CJP 2013 and others

Rationale

- Immigrant women report barriers to treatment access such as stigma & poor cultural acceptability in qualitative studies O'Mahoney and Donahee 2010

- Postpartum immigrant women are less likely to see a mental health physician compared to Canadian-born women (OR 0.59, 95% CI 0.58-0.61), but just as likely to require psychiatric hospitalization (OR 0.92, 95% CI 0.79-1.06) Vigod et al 2015 (in preparation)

Rationale

- “Immigrant” is a broad term
- Differential distribution of biological risk, psychosocial stressors and cultural implications for treatment access and acceptability
- To date, no population-based data explores the variability related to postpartum mental health service use among immigrant women

Our research goal

- Primary Objective:
  - To examine mental health service utilization (physician visits, emergency department visits and psychiatric hospitalization) of Ontario immigrant women in the 1-year period post partum, with comparison by region of origin

- Secondary objective
  - To examine mental health service utilization among Ontario immigrant women by time since immigration, and refugee status at the time of immigration.

Overview

- **Study Design**: Population-based cohort study using Ontario population-based administrative health service use databases
- **Sample**: All women as of December 31, 2010 who could be classified as immigrants to Ontario, and who delivered a live-born infant in Ontario between 2008 and 2012.
- **Primary Outcome**: Mental health service utilization (overall, and each of physician visits, emergency department visits and hospitalizations)
- **Main Comparisons:** 1. Region of origin; 2. Time since immigration; 3. Refugee status

Data Sources

- Ontario health administrative data sources at the Institute for Clinical Evaluative Sciences (ICES)

  De-identified patient level records linked through a unique identifier for every Ontario resident with a health care number. This is done via the **Registered Persons Database *(RPDB)*** that contains the health card number, date of birth, sex and postal code associated with the carrier of each valid health card.

Data Sources

- **Citizenship and immigration Canada (CIC).** Ontario segment of the Citizenship and Immigration Canada (CIC) database, which includes immigration application records for those who initially applied to immigrate to Ontario since 1985.

- **MOMBABY** used to identify births using a main patient service code for "obstetric delivery" +/- hospital diagnostic codes

    - Identifies live births and stillbirths > 20 weeks gestation
    - < 0.1% of deliveries provincially occur outside of hospital

Data Sources

Ontario Health Insurance Plan (*OHIP*) In Ontario, physicians are reimbursed after submitting claims to OHIP for each service provided. This covers all aspects of ambulatory and hospital care

National Ambulatory Care Reporting System (*NACRS).* This includes emergency department visits, coded using standard diagnoses (ICD-10-CA)

Canadian Institutes of Health Information Discharge Abstract Database (*CIHI-DAD*) All hospitals submit demographic and clinical information about all hospital admissions and discharges to CIHI using standard diagnosis (ICD-10-CA) and procedure/intervention codes (CCI)

Ontario Mental Health Reporting System (*OMHRS*) Contains mental health clinical and administrative data on adult patients from 2005 onward in all facilities in the province of Ontario with designated inpatient mental health beds

Results

- N =123, 231 women (index delivery = 1st live birth)
- Southern Asia (n=35,227), and East Asia & the Pacific (n=28,724) combined comprised about 50% of the cohort
- Majority living in urban areas, ~ one-third low income (~half for Sub-Saharan Africa) and many women from both Sub-Saharan Africa and North Africa & Middle East were refugees (36.9% and 23.6% respectively)
- Most prenatal care shared between primary care and OB
- < ¼ used mental health services in the 2 years prior to delivery (least was 18.9% among women from East Asia and the Pacific)

Overall service use by region of origin

Outcome	Group	No. (%) with outcome	Odds Ratio (95% CI)	Age and Parity aOR (95% CI)	Fully Adjusted aOR* (95% CI)
Primary outcome					
Overall Mental Health Service Use	East Asia and Pacific	3,000 (10.4)	1.00 (Referent)	1.00 (Referent)	1.00 (Referent)
	Europe & North America	2,995 (15.8)	1.60 (1.52-1.69)	1.60 (1.52-1.69)	**1.55 (1.46-1.64)**
	Latin America & Caribbean	2,870(17.3)	1.80 (1.70-1.90)	1.79 (1.69-1.89)	**1.36 (1.26-1.47)**
	Sub-Saharan Africa	1,281 (15.1)	1.52 (1.42-1.63)	1.50 (1.40-1.61)	**1.66 (1.56-1.76)**
	North Africa & Middle East	2,589 (17.1)	1.76 (1.67-1.87)	1.75 (1.65-1.85)	**1.65 (1.55-1.75)**
	Southern Asia	4,629 (13.1)	1.30 (1.24-1.36)	1.30 (1.24-1.36)	**1.21 (1.15-1.28)**

*Adjusted for: Age, parity, prenatal visits, income quintile, rural residence, previous mental disorder, chronic medical instability, delivery outcome, newborn morbidity, refugee status, language ability and time since immigration.

Physician visits by region of origin

Outcome	Group	No. (%) with outcome	Odds Ratio (95% CI)	Age and Parity aOR (95% CI)	Fully Adjusted aOR* (95% CI)
Mental Health Outpatient Service Use	East Asia and Pacific	2,971 (10.3)	1.00 (Referent)	1.00 (Referent)	1.00 (Referent)
	Europe & North America	2,967 (15.6)	1.60 (1.52-1.69)	1.61 (1.52-1.70)	**1.55 (1.47-1.64)**
	Latin America & Caribbean	2,834 (17.1)	1.79 (1.69-1.89)	1.79 (1.69-1.89)	**1.36 (1.26-1.47)**
	Sub-Saharan Africa	1,262 (14.8)	1.51 (1.41-1.62)	1.49 (1.39-1.61)	**1.66 (1.57-1.77)**
	North Africa & Middle East	2,561 (16.9)	1.76 (1.66-1.86)	1.75 (1.65-1.85)	**1.64 (1.55-1.74)**
	Southern Asia	4,581 (13.0)	1.30 (1.23-1.36)	1.30 (1.24-1.37)	**1.21 (1.15-1.28)**

*Adjusted for: Age, parity, prenatal visits, income quintile, rural residence, previous mental disorder, chronic medical instability, delivery outcome, newborn morbidity, refugee status, language ability and time since immigration.

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ED visits by region of origin

Outcome	Group	No. (%) with outcome	Odds Ratio (95% CI)	Age and Parity aOR (95% CI)	Fully Adjusted aOR* (95% CI)
Mental Health Emergency Department Visit	East Asia and Pacific	109 (0.4)	1.00 (Referent)	1.00 (Referent)	1.00 (Referent)
	Europe & North America	125 (0.7)	1.74 (1.34-2.25)	1.62 (1.25-2.09)	**1.48 (1.13-1.94)**
	Latin America & Caribbean	135 (0.8)	2.16 (1.67-2.78)	1.86 (1.43-2.40)	1.26 (0.90-1.77)
	Sub-Saharan Africa	64 (0.8)	1.99 (1.46-2.71)	1.74 (1.27-2.39)	1.28 (0.96-1.70)
	North Africa & Middle East	98 (0.6)	1.71 (1.30-2.24)	1.46 (1.11-1.93)	**1.66 (1.26-2.18)**
	Southern Asia	154 (0.4)	1.15 (0.90-1.47)	1.00 (0.78-1.29)	0.93 (0.72-1.20)

*Adjusted for: Age, parity, prenatal visits, income quintile, rural residence, previous mental disorder, chronic medical instability, delivery outcome, newborn morbidity, refugee status, language ability and time since immigration.

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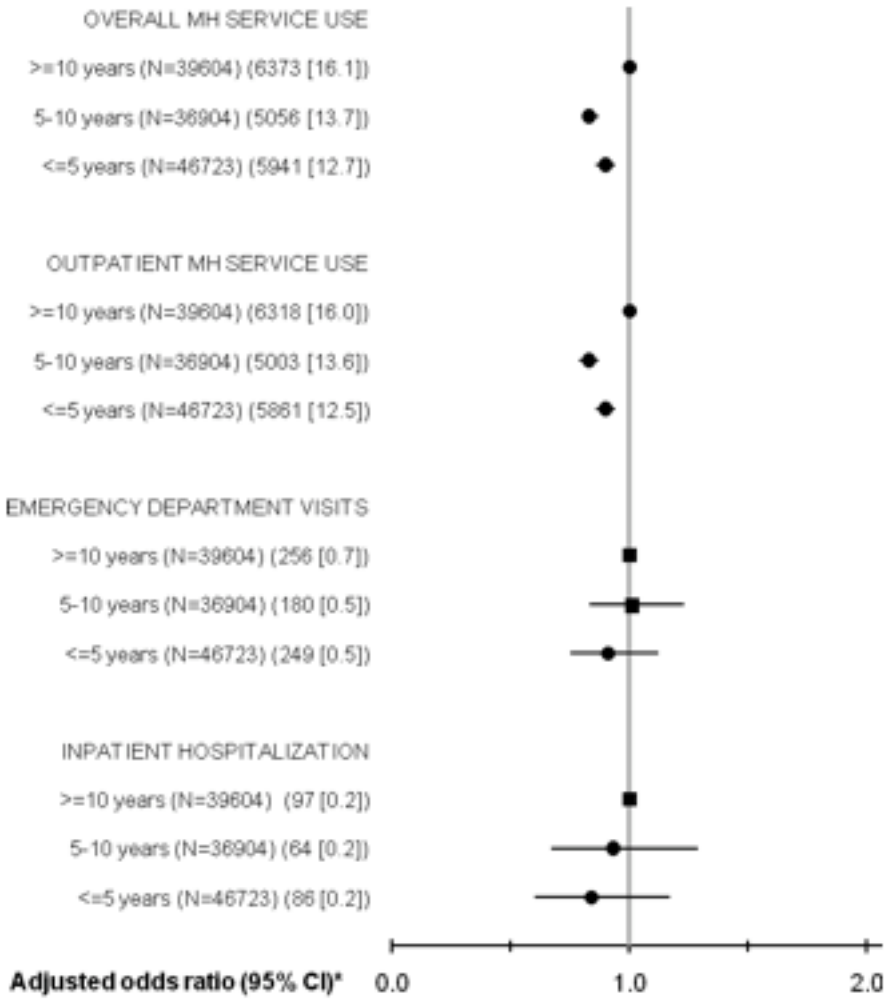
Psychiatric hospitalization by region of origin

Outcome	Group	No. (%) with outcome	Odds Ratio (95% CI)	Age and Parity aOR (95% CI)	Fully Adjusted aOR* (95% CI)
Mental Health hospitalization	East Asia and Pacific	50 (0.2)	1.00 (Referent)	1.00 (Referent)	1.00 (Referent)
	Europe & North America	47 (0.2)	1.42 (0.95-2.12)	1.33 (0.89-1.99)	1.24 (0.81-1.89)
	Latin America & Caribbean	40 (0.2)	1.39 (0.92-2.10)	1.21 (0.79-1.85)	1.15 (0.69-1.93)
	Sub-Saharan Africa	31 (0.4)	2.10 (1.34-3.29)	1.84 (1.16-2.91)	0.67 (0.40-1.12)
	North Africa & Middle East	24 (0.2)	0.91 (0.56-1.48)	0.78 (0.48-1.29)	1.07 (0.68-1.68)
	Southern Asia	55 (0.2)	0.90 (0.61-1.32)	0.80 (0.54-1.18)	0.74 (0.50-1.10)

*Adjusted for: Age, parity, prenatal visits, income quintile, rural residence, previous mental disorder, chronic medical instability, delivery outcome, newborn morbidity, refugee status, language ability and time since immigration.

Time since immigration



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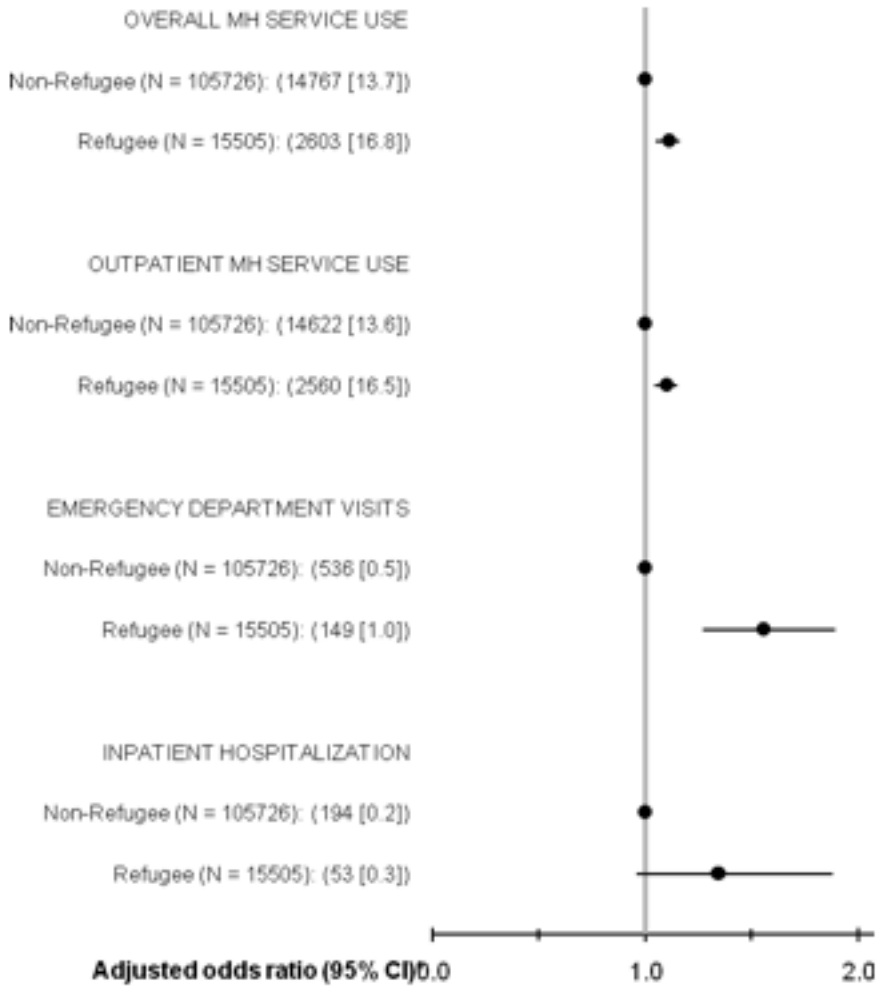
Refugee Status



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What did we learn?

- There is variability in postpartum mental health service use among immigrant groups --- by region of origin, time since immigration and refugee status

- Variability is primarily driven by use of physician mental health services ---- hospitalization rates are generally similar (suggests need is similar)

- Certain groups more apt to use ED (North Africa) and to require hospitalization (refugees)

Implications

- Informs research, policy and clinical care:
  - Can develop interventions to increase case identification and treatment engagement for specific groups who may underutilize mental health services (e.g. recent immigrants);
  - May indicate need for targeted prevention and treatment interventions in particular for refugee women, and women who tend to use the ED for mental health treatment
- Future research can identify specific socio-demographic and health service access issues to target for reducing rates and impacts of postpartum mental disorders among Ontario immigrant women

Thank you

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