Migration and Diabetes: Preliminary Findings from the Migration and Diabetes Study

Ilene Hyman
Dalla Lana School of Public Health
Cities Centre
University of Toronto

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Migration and Diabetes – Prevalence

- “Healthy immigrant effect” refers to the observation that immigrants are often in superior health when they first arrive in Canada.
- There is growing evidence that immigrants lose this health advantage over time (Hyman, 2001; in press).
- The prevalence of Type II diabetes is increasing among Canadian immigrants (PHAC, 2005).
- Immigrants from South Asia, Latin America, the Caribbean and sub-Saharan Africa have a two – three times greater risk of developing diabetes than other immigrant populations (Creatore et al., 2010).
- This elevated risk begins earlier in life and is equivalent or higher among women (e.g. 35-49) (Creatore et al., 2010).
Diabetes Management and Control

- The effective control of diabetes depends on self-management.
- Determinants of self-management:
  - Individual/family (e.g., income, stress, social support, depression, literacy)
  - Neighbourhood (e.g. availability of resources)
  - Provider-related (e.g., communication, trust)
  - Systemic (e.g. macro level policies, accessibility of programs) (Brown et al., 2004; Raphael et al., 2003).
- Multiple and intersecting barriers to health care for immigrants (Hyman, 2001; 2009)
Migration and Diabetes Project:
Research Team

Investigators:
Ilene Hyman, Yogendra Shakya,
Anneke (Joanna) Rummens,
Dianne Patychuk,
Marisa Creatore

Qamar Zaidi, Research Coordinator
(Urdu)

Sivajini Sivasamy, Assistant
Research Coordinator/Peer
Researcher (Tamil)

Khaleda Yesmin, Peer Researcher
(Bengali)

Ying Zhou, Peer Researcher
(Mandarin)

Dragan Kljubic, Data Manager, CAPI
Programmer and Designer
Main Objective:
To learn about the experiences of diabetes and factors affecting its risk, treatment and self-management among immigrants and non-immigrants.

- This research was part of an international collaborative study on migration and diabetes being coordinated by the International Centre for Migration and Health (ICMH) in Geneva, Switzerland.
- Two Canadian sites: Toronto and Montreal

Funding:
Public Health Agency of Canada (research) and Citizenship and Immigration Canada (KT).
Methods

- Exploratory study
- Phase I: Ethics, PAC, adaptation of the international questionnaire, translation, pre-testing, CAPI development and training
- Phase II: Interviews with recent immigrants (0-9 years in Canada) and non-immigrants with and without diabetes in Toronto
- Phase III: Data analysis and knowledge exchange
## Study Population

<table>
<thead>
<tr>
<th>Communities</th>
<th>Diabetes+</th>
<th>Diabetes-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladeshi (Bengali-speaking)</td>
<td>35</td>
<td>10-15</td>
</tr>
<tr>
<td>Mainland Chinese (Mandarin-speaking)</td>
<td>35</td>
<td>10-15</td>
</tr>
<tr>
<td>Sri Lankan Tamils</td>
<td>35</td>
<td>10-15</td>
</tr>
<tr>
<td>Pakistani (Urdu-speaking)</td>
<td>35</td>
<td>10-15</td>
</tr>
<tr>
<td>Canadian Born</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**Rationale for selection:** High risk of developing diabetes post-migration and/or Current immigration trends in Canada and/or Major social, economic and linguistic barriers to care and/or Pre-existing relationships with newcomer organizations

**Community-based recruitment strategies:**
<table>
<thead>
<tr>
<th></th>
<th>Non-Immigrants (N = 54)</th>
<th>Immigrants (N =130 )</th>
<th>Differences by nationality</th>
<th>Differences by gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age – Mean</td>
<td>52.28 (NS)</td>
<td>51.15</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Married</td>
<td>24.1 (p&lt;.001)</td>
<td>89.2</td>
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<tr>
<td>Education – Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% University or higher</td>
<td>6.87 (NS)</td>
<td>7.54</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>% University or higher</td>
<td>35.2 (NS)</td>
<td>52.3</td>
<td></td>
<td></td>
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<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% Employed</td>
<td>29.6 (NS)</td>
<td>33.8</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Type of employment</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% Permanent</td>
<td>94.4 (p&lt;.01)</td>
<td>60.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Job reflects credentials</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% No</td>
<td>0.0 (p&lt;.01)</td>
<td>41.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Low income</td>
<td>41.9 (NS)</td>
<td>36.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% White</td>
<td>75.9%</td>
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</tbody>
</table>
Diabetes Outcomes

- Similar rates of participants reporting ‘diabetes under control’
- Similar rates of gestational diabetes
- Risk of obesity risk was higher among non-immigrants compared to immigrants
- Immigrants reported more problems associated with diabetes than non-immigrants
Figure 2 – Self-management, immigrants and non-immigrants

**Figure Description:**
- Chart comparing self-management practices between immigrants and non-immigrants.
- Key statistics:
  - Daily/weekly glucose check: Immigrant 90.8%, Non-Immigrant 76.2% (*** p < .001)
  - Daily/weekly foot check: Immigrant 75.9%, Non-Immigrant 57% (*** p < .001)
  - Smoking: Immigrant 10%, Non-Immigrant 64.8% (*** p < .001)
  - Regular physical activity: Immigrant 81.5%, Non-Immigrant 66.7% (* p < .05)
  - Reducing dietary fat moderately or a lot: Immigrant 77.6%, Non-Immigrant 64.8% (*** p < .001)

**Notes:**
- Gender differences in smoking.
- Nationality differences: glucose (CH/PK), foot care (BAN/PK), smoking (SL/PK).
Findings – Use of Diabetes Care

- No difference in use of MDs
- No differences in rates of eye exams (ever) and A1C (every 3 months)
- Immigrant rates of ‘never’ having foot exam (60%) signif. higher than non-immigrants (33.3%)
- Immigrants use hospitals signif. less (53.7%, 9.2%)
- Immigrants use specialists signif. less (24.6%, 40.7%)
- Immigrants use dieticians signif. less (19.3%, 38.9%)
Findings – Use of Diabetes Sources

- Immigrants make significantly less use of dieticians, nurses, and Diabetes Associations.
- Immigrants use friends (39.2%, 13%) and family (46.9%, 27.8%) significantly more.
- No difference in use of internet (28.5%, 29.6%).
Findings – Barriers to Diabetes Care

- Long waits to see MD/specialist
- Lack of information on where to go
- Language problems
- Child care issues
- Finding a doctor of the same gender
- Costs not covered by insurance

(p<.05)
Implications for Diabetes Strategies and Policies

- Continue to address the SDOH, especially income, that contribute to diabetes inequities in newcomer communities
- Develop and support policies and strategies that recognize unique needs of newcomer communities as a priority population (e.g., language and other supports)
- Identify community information sharing networks and community-based support systems (informal and formal) as the foundation for prevention and health promotion strategies
- Identify and remove systemic barriers to diabetes information and care
- Work with newcomer communities to increase the accessibility of diabetes information and care
Discussion

- Questions?
- Comments?
- Recommendations?

i.hyman@utoronto.ca