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TITLE: Greater BMI associated with increased length of time in Canada among immigrants. Results from the My Health My Community survey, Vancouver Coastal Health Authority 2013-2014.

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BACKGROUND:

The My Health My Community (MHMC) survey was developed to fill a local-level gap in information on health status and population needs, and to better understand how lifestyle, environment and neighbourhood characteristics affect health and well-being in local communities. Information from this survey will support the planning of local policies, programs and services.

OBJECTIVES:

To examine differences in body mass index (BMI) among immigrants by length of time in Canada.

METHODS:

The survey was administered online and through community outreach from June 27, 2013 to June 30, 2014. In total, 15,745 urban Vancouver Coastal Health residents completed the survey (almost 2% of the adult population). Of these, 5,629 identified as not being born in Canada. Immigrant respondents were grouped by length of time in Canada (0-5, 6-15, 16+ years). BMI was calculated using self-reported height and weight. BMI classification frequencies for the three immigrant subsets were compared to each other, and to the frequencies for Canadian-born. Differences were controlled for age and considered statistically significant if 95% confidence intervals were non-overlapping.

RESULTS:

Compared to recent immigrants, earlier immigrants were more likely to be classified as overweight and less likely to report BMI in the normal class. There was no difference between obese classifications.

Compared to Canadian-born, earlier immigrants were no different in the normal and overweight classifications, however lower in the obese class.

CONCLUSIONS:

Among immigrants, greater BMI with increased time in Canada suggests a change in obesogenic environment and lifestyle associated with immigration. The observation that proportion of normal and overweight earlier immigrants were no different than Canadian-born, and that obese class remained lower, may imply some benefit of enculturation or residual benefit from earlier life experiences.

IMPLICATIONS ON PRACTICE/POLICY:

Awareness to the intertwined effects of life experiences, including acculturation and enculturation on immigrants will help mitigate adverse health and promote positive well-being outcomes.
Greater BMI Associated with Increased Length of Time in Canada Among Immigrants.
Results from the My Health My Community Survey (VCH), 2013-2014.

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Conflict of Interest

• We have no conflicts of interest to disclose
Immigrant Health

• Immigrants are typically healthier than the native-born population upon arrival in host country → “healthy immigrant effect” (Beiser, 2005)
  – screened for good health status (Gushulak & Williams, 2004)
  – higher education, work experience & skills (Knowles, 2007)
  – minimal lifestyle behaviours linked to poor health outcomes → lower obesity (McDonald & Kennedy, 2004)
Immigrant Health

• Increased time in host country is associated with poorer health outcomes \cite{beiser2005, betancourt2010}:
  – adoption of Western lifestyle behaviours/diet lead to deterioration of health \cite{mcdonald2004}
  – socio-economic disadvantage and/or language barriers affect timely access to health care \cite{beiser2005}
Objective

• To examine differences in **body mass index (BMI)** among **immigrants** by length of time in Canada, in urban Vancouver Coastal Health Authority (VCH) health region
  – local level analysis in a region with high proportion of immigrants (e.g. 44% Vancouver, 38% Richmond; 2011 NHS)
My Health My Community

• Better understand how lifestyle, environment & neighbourhood affect health & well-being in local communities

• Fill a local-level gap in information on health status & population needs

• Support planning of local policies, programs & services
Survey Topics

- Socio-demographics
- Health status
- Health care access
- Lifestyle
- Built environment
- Community resiliency
Survey Methods - 1

- Online survey & community outreach
- June 27, 2013 - June 30th, 2014
- English, Chinese & Punjabi
- Media & social media, incentives, community partnerships (e.g. S.U.C.C.E.S.S, MOSAIC)
Survey Methods - 2

• 2% population target 18+ years of age
  - age, gender, income, education, ethnicity, region
• Progress towards targets monitored weekly
• Responses weighted by 2011 Census/NHS gender, age, education & municipality
Data

• Length of time in Canada
  – 0 to 5 years, 6 to 15 years, 16+ years
  – born in Canada

• BMI calculated using self-reported height & weight
  – BMI adjusted (Statistic Canada method using the CHMS to account for reporting bias)
  – underweight, normal, overweight, obese
Analysis

• BMI classification frequencies for Canadian-born & each immigrant group (i.e. length in Canada category) compared

• Differences statistically significant when 95% confidence intervals (CI) were non-overlapping

• Stratified by age
Results

• 15,621 urban VCH residents completed the survey (almost 2% of the adult population)

• 40% identified as not being born in Canada

• 80% of responses (n=12,491) indicated both BMI and length of time in Canada/born in Canada
Normal BMI

Length of time in Canada

Respondents (%)

0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

0-5 years 6-15 years 16+ years Born in Canada
Normal BMI

Significant difference
Normal BMI

No significant difference
Overweight BMI

Length of time in Canada

Respondents (%)
Overweight BMI

No significant difference
Obese BMI

Length of time in Canada

Respondents (%)
Obese BMI

Significant difference
Obese BMI

Significant difference
Obese BMI

Significant difference
Summary

<table>
<thead>
<tr>
<th>Compared groups</th>
<th>Normal</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 years vs. Born in Canada</td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>16+ years vs. 0-5 years</td>
<td>Same</td>
<td>Higher</td>
</tr>
<tr>
<td>16+ years vs. Born in Canada</td>
<td>Same</td>
<td>Lower</td>
</tr>
</tbody>
</table>

- No differences in overweight BMI class
Conclusions - 1

- Normal BMI class decreased over length of time in Canada to Canadian-born levels.
- Obese BMI class increased over length of time in Canada, however remained lower than Canadian-born levels.
Conclusions - 2

• The observation that obese BMI class remained lower may imply some benefit of enculturation (i.e. origin lifestyle behaviours & values)

• Awareness to the intertwined effects of life experiences, including acculturation (host) and enculturation (origin) on immigrants may help mitigate adverse health and promote positive health outcomes
Limitations

- Other determinants of BMI such as ethnicity, country of birth, lifestyle behaviours not considered in current analysis.
- Western BMI classification system may underreport true obesity levels in immigrants from certain ethnic backgrounds.
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Thank You!

- Questions?
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