Culturally appropriate health education for type 2 diabetes in ethnic minority groups: Evidence and implications for public health

**Review on which this evidence summary is based:**

**P** Adults (>16 years) with type 2 diabetes from ethnic minority groups living in high- and upper-middle-income countries

**I** Health Education tailored to the cultural or religious beliefs and linguistic and literacy skills of the community being studied

**C** Usual health education

**O**
- **Primary Outcomes:** glycaemic control (HbA1c)
- **Secondary Outcomes:** total cholesterol (mg/dl), knowledge scores

*This is an article which updates a 2008 Cochrane systematic review by the same authors in which additional outcomes are explored. Only the outcomes above were discussed in this update.*

**Review Quality Rating:** 9 (strong) Details on the methodological quality are available here.

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### Considerations for Public Health Practice

<table>
<thead>
<tr>
<th>Conclusions from Health Evidence</th>
<th>General Implications</th>
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| This high quality review of 11 studies of variable quality showed that culturally appropriate health education had small to moderate effects on:  
  - glycaemic control in the short term  
  - cholesterol levels in the long-term  
  - knowledge about diabetes among ethnic minority populations.  
  Current evidence doesn’t allow for conclusions about whether these effects are sustained (>12 months). | Public health should tailor type 2 diabetes education to ethnic minority groups  
Public health should evaluate interventions aimed at sustaining the benefits of culturally-appropriate health education in the long term (>12 months) |

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### Evidence and Implications

<table>
<thead>
<tr>
<th>What’s the evidence?</th>
<th>Implications for practice and policy</th>
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| **1. Glycaemic Control (HbA1c)** Moderate to very small, significant reduction in HbA1c at 3 months (5 studies, 293 participants) (WMD -0.32%, 95% CI: -0.63, -0.01)  
  - Large to small significant reduction in HbA1c at 6 months (6 studies, 381 participants) (WMD -0.60%, 95% CI: -0.85, -0.35)  
  - Improvements were not sustained at 1 year (3 | **1. Glycaemic Control (HbA1c)**  
Practitioners should provide culturally appropriate diabetes health education to achieve a small but clinically significant effect on improved glycaemic control in the medium-term  
Practitioners should explore strategies to sustain long-term effectiveness on glycaemic |
<table>
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<tr>
<th>2. Total Cholesterol (mg/dl)</th>
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<tbody>
<tr>
<td>- No impact on total cholesterol at 3 months or 6 months</td>
<td>- Practitioners should consider culturally appropriate diabetes health education to reduce total cholesterol in the longer term, and public health should continue to evaluate the impact of programs in the longer term.</td>
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<td>Meta-analysis of 3 studies (330 participants) at 1 year showed a moderate to small significant reduction in total cholesterol (WMD -0.39 mg/dl, 95% CI -0.64, -0.14)</td>
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<tr>
<td>- Large to small significant increase in knowledge at 3 months (4 studies, 269 participants) (WMD 0.56, 95% CI 0.38, 0.74)</td>
<td>- Practitioners should provide culturally-appropriate diabetes health education to increase knowledge in the long term about diabetes among minority populations</td>
</tr>
<tr>
<td>- Moderate to small significant increase in knowledge at 6 months (5 studies, 255 participants) (WMD 0.46, 95% CI 0.27, 0.65)</td>
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<tr>
<td>- Moderate to very small significant increase in knowledge at 1 year (WMD 0.35, 95% CI 0.13, 0.57)</td>
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</tbody>
</table>

Legend: P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; WMD – Weighted Mean Difference; **For definitions see the healthevidence.org glossary at [http://www.healthevidence.org/glossary.aspx](http://www.healthevidence.org/glossary.aspx)

**Why this issue is of interest to public health in Canada:**

Type 2 diabetes is a significant public health problem in Canada. Excess blood glucose levels can lead to the dysfunction of organs such as the kidneys, eyes, nerves, heart and blood vessels, which may result in death. In Canada, approximately 2.4 million Canadians aged 1 and older (6.4%) are living with diabetes and it is a significant burden on the healthcare system. In 2008-09 diabetics were twice as likely to see their family physician and two to three times more likely to see a specialist than those without diabetes. Type 2 diabetes represents about 90-95% of the total diabetic population. In Canada, certain minority ethnic groups suffer a higher prevalence of type 2 diabetes, which likely reflects a combination of biological and behavioural influences. People of South Asian, Hispanic American, Chinese, and African ancestry are at higher risk of developing type 2 diabetes than those of European descent. They also tend to develop type 2 diabetes younger and at lower BMI values. There also appears to be a direct effect of immigration, with immigrants having higher rates of diabetes than the natural born population. Diabetes education should be tailored to the level of health literacy of the target group. This review fills an important gap in comparing targeted diabetes education to different cultural groups.


Other quality reviews on this topic are available on [www.healthevidence.org](http://www.healthevidence.org)

Suggested citation:


This evidence summary was written to condense the work of the authors of the review referenced on page one. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

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