Educational interventions for migrant South Asians with type 2 diabetes: a systematic review

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CRD summary
This review evaluated the effectiveness of educational initiatives for migrant South Asian populations with type 2 diabetes. The authors concluded that the effectiveness of interventions was variable, but it appeared that improvements in knowledge may be easier to achieve than positive biomedical outcomes. Study heterogeneity, unclear study quality and potential for bias made the reliability of the conclusions unclear.

Authors' objectives
To evaluate the effectiveness of educational initiatives for migrant South Asian populations with type 2 diabetes mellitus.

Searching
MEDLINE, EMBASE, CINAHL, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials (CENTRAL) and DARE were searched for English-language publications from inception to 2007. Search terms were reported. Reference lists were searched and authors were contacted for additional studies. No grey literature searches were performed.

Study selection
Randomised and non-randomised comparative or controlled studies of migrant South Asian populations (total sample or subgroup) with type 2 diabetes mellitus (total sample or reported by diabetes type) that assessed any educational intervention were eligible for inclusion. Qualitative, quantitative and mixed methods studies were eligible for inclusion.

Included studies were mostly of mixed South Asian populations. Most studies were conducted in the UK (one conducted in the Netherlands). The included interventions varied and were either multi-faceted with an educational component or single focus. Group and/or individual interventions were included. Outcome measures assessed were knowledge, awareness and self-management, attitudes and practices, blood pressure, HbA1c, lipids, weight, body mass index (BMI), cholesterol, diet and activity. The study designs were randomised controlled trials (RCTs), cohort and before-and-after studies. Follow-up ranged from three months to three years.

Studies were selected independently by two reviewers. Disagreements were resolved by discussion.

Assessment of study quality
The authors stated that validity was assessed, but did not provide details of how this was performed; certain aspects, such as how questionnaires were administered, were discussed in the report.

Data extraction
Data were extracted independently by two reviewers. Discrepancies were resolved by discussion. Authors were contacted for further information if necessary.

Methods of synthesis
Studies were pooled in a narrative synthesis, grouped by outcome. Tables of study details were available for examination of between-study differences.

Results of the review
Nine studies were included (n=at least 1,115): five RCTs (n=1,004); two cohort studies (n=60); a comparison between attenders and non attenders (n=51); and a before-and-after study with a non-randomised control group (n not reported).

One out of three RCTs and two of two non-RCTs reported a statistically significant improvement in knowledge.
associated with an intervention. The only RCT that investigated blood pressure reported a significant improvement in systolic and diastolic blood pressure. HbA\(_1c\) was significantly improved in one of three RCTs (p=0.004); two of three non RCTs reported improvements with an intervention. Both RCTs and one of two non RCTs that evaluated lipids found an improvement with the intervention. One non-RCT reported improvements in weight; another reported improvements in activity levels and self-confidence.

No improvement in body mass index (one RCT, one non-RCT), awareness and self management (one RCT), dietary habits (one non-RCT) or ankle pressure (one non-RCT) was reported.

**Authors’ conclusions**
The effectiveness of interventions was variable but it appeared that improvements in knowledge may have been easier to achieve than positive biomedical outcomes.

**CRD commentary**
The research question was supported by inclusion criteria for participants, study design and intervention. Relevant databases were searched, but it appeared that searches were restricted to published studies in English, which made the review susceptible to publication and language biases. Study selection and data extraction were performed in duplicate, which reduced the possibility of reviewer error and bias; the process of validity assessment was not reported, so it was unknown whether similar steps were taken. Although the authors stated that validity was assessed, it was unclear which aspects were evaluated and validity assessment did not appear to have been performed in a systematic manner. Values for outcome measures and levels of statistical significance in individual studies were rarely reported, which made it difficult to verify and interpret reported results. A narrative synthesis appeared appropriate due to the variety of study designs, outcomes and interventions. The authors conclusions reflected the data presented. However, study heterogeneity, unclear study quality and potential for bias made the reliability of the conclusions unclear.

**Implications of the review for practice and research**
**Practice:** The authors stated that tailored or flexible approaches may be needed to meet the needs of all people classified as migrant South Asians.

**Research:** The authors stated that development of interventions in selected populations and identification of similar populations for replication of findings with consideration of transferability to other South Asian groups was needed. In future studies the effectiveness of interventions should be reported separately for Type 1 and Type 2 diabetes.

**Funding**
Not stated.

**Bibliographic details**

**PubMedID**
18959614

**DOI**
10.1111/j.1464-5491.2008.02512.x

**Original Paper URL**
onlinelibrary.wiley.com/cgi-bin/fulltext/120118943/

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Asian Continental Ancestry Group /ethnology; Diabetes Mellitus, Type 2 /therapy; Humans; Patient Education as Topic; Randomized Controlled Trials as Topic; Reinforcement (Psychology); Self Care /methods; Transients and Migrants /education

AccessionNumber
12009100341

Date bibliographic record published
31/03/2009

Date abstract record published
13/01/2010

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.