Provider-patient interaction in diabetes care: effects on patient self-care and outcomes. A systematic review

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CRD summary
This review assessed the effect of interventions aimed at altering provider-patient interaction on patient diabetes-related health behaviour and the delivery of diabetes care. The authors concluded that interventions aimed at enhancing patient participation in diabetes care can improve patient self-care and diabetes-related outcomes. The authors’ conclusions are likely to be reliable.

Authors’ objectives
To assess the effect of interventions aimed at altering provider-patient interaction on patient diabetes-related health behaviour, patient self-care, delivered diabetes care and health outcomes.

Searching
MEDLINE Advanced (from 1980), EMBASE (from 1989), PsycLIT and PsycINFO (from 1980), and the Cochrane Library (from 1980) were searched to October 2001 for reports published in the English language; the keywords were stated. The reference lists in identified studies were also checked.

Study selection

Study designs of evaluations included in the review
Randomised controlled trials (RCTs) and quasi-experimental studies with a pre-test post-test design were eligible for inclusion. Non-experimental studies, case studies and case-control studies were excluded. All of the included studies were RCTs.

Specific interventions included in the review
Studies of modifications of provider-patient interaction, consulting style, or patient education were eligible for inclusion. The studies had to be based on practical diabetes care and be set in general practice or out-patient clinics. The included studies that focused on patient behaviour aimed to improve patient participation in diabetes care using assistant-guided patient preparation for consultations, patient empowerment group education, group consultations, and automated telephone management with nurse support. The studies that focused on modifying provider behaviour trained general practitioners and nurses in patient-centred consultation methods.

Participants included in the review
Studies of patients with diabetes were eligible for inclusion. The included studies were of patients newly diagnosed with type 2 diabetes and patients who had had type 1 or type 2 diabetes for longer. The baseline glycosylated haemoglobin (GLYHbs) of the participants varied considerably.

Outcomes assessed in the review
Studies that assessed any of the following outcomes were eligible for inclusion: patient diabetes-related behaviour; patient biochemical indices; patient function; psychological measures; quality of care; adherence of provider to guidelines; or provider behaviour, satisfaction or attitudes. The included studies used a wide range of measures to assess the outcomes. The most common outcomes assessed in the included studies were changes in GlyHbs, lipids, blood-pressure, body mass index, smoking habits, physical activities and patient satisfaction. The studies also assessed provider outcomes.

How were decisions on the relevance of primary studies made?
The studies were selected according to the inclusion criteria. The authors did not state how many reviewers performed the selection.
Assessment of study quality
Validity was assessed and scored using a modified version of the 19-item list of van Tulder et al. (see Other Publications of Related Interest nos.1-2). These criteria assessed patient selection, interventions, the measures used to assess the outcomes, and statistical analysis. The scores could potentially range from 0 to 19 points (0 to 100%). The authors did not state who performed the validity assessment.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
How were the studies combined?
The studies were combined in the narrative. The characteristics of the included studies were summarised in tables in terms of the focus of the intervention (patient or provider behaviour), the effect on provider and patient consultation behaviour, patient diabetes outcomes (biomedical or self-care) and psychosocial outcomes. In the table, the outcomes were classified as positive, not assessed or effect negative, or not clear (or both positive and negative effects).

How were differences between studies investigated?
Differences between the studies were presented in data extraction tables and discussed in the text with respect to participants, interventions and outcome measures.

Results of the review
Eight reports of seven RCTs were included. Three RCTs randomised practices (383 practices) and four RCTs randomised patients (at least 525 patients).

The quality scores ranged from 13 to 19 points (68% to 100%); the mean score was 17.3 points (91%).

Four studies focused on modifying provider behaviour during consultations and four studies focused on changing patient behaviour.

Studies that focused on patient behaviour showed more positive results on patient outcomes than those that focused on providers. All four studies of changing patient behaviour and one study of changing provider behaviour showed a positive effect on patient outcomes (e.g. consulting behaviour, self-care behaviour,) and biomedical and psychosocial outcomes. One study showed that enhancing provider negotiating behaviour plus an intervention aimed at improving follow-up and diabetes treatment improved patient outcomes. The other three provider-focused studies showed conflicting results for patient outcomes, with one study showing conflicting or unclear outcomes for provider outcomes.

Authors' conclusions
Interventions aimed at enhancing patient participation in diabetes care can improve patient self-care and diabetes-related outcomes.

CRD commentary
The review question was clear in terms of the study design, intervention, participants and outcomes. Several relevant sources were searched and the search terms were stated. By limiting the included studies to those in English, the authors might have omitted some relevant studies. No attempt was made to locate unpublished studies, thus raising the possibility of publication bias. The methods used to select the studies, assess validity and extract the data were not described; hence, any efforts made to reduce errors and bias cannot be judged. Validity was assessed using established criteria and some relevant information on the included studies was tabulated.

A narrative synthesis was appropriate given the small number of diverse studies. Differences between the studies were
discussed in the text and demonstrated in the tables. One RCT was treated in the review as two separate studies: one report presented results for general practitioners and nurse providers, while the other report presented only the results for nurses. It was unclear why this was not treated as one study. The evidence presented appears to support the authors' conclusions.

**Implications of the review for practice and research**

Practice: The authors stated that diabetic teams in primary care or out-patient clinics could focus on programmes aimed at directly enhancing patient participation, i.e. those using assistant-guided patient preparation for consultations, patient empowerment group education, group consultations, or automated telephone management with nurse support.

Research: The authors stated that well-designed studies are required to test these interventions in different settings and among different patient populations.

**Bibliographic details**


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**Other publications of related interest**


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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.