‘I’m the Boss’: testing the feasibility of an evidence-based patient education programme using problem-based learning

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Abstract

Patient education programmes have shown only small to modest effects on diabetes self-care and metabolic control. Despite that, almost all diabetes teams agree that patient education is an extremely important part of the treatment of diabetes. It is, therefore, important to identify components of successful patient education as a basis for creating and testing an evidence-based education programme. In a review of controlled studies evaluating patient education such components were identified and these were then used in building up the new programme. This programme, called ‘I’m the Boss’, is based on the notion that the patient is an active care participant, setting his own self-care goals, and is the one responsible for his own life. The content of the programme did not, therefore, focus on diabetes as such, but on life with diabetes. Six themes were explored during six three-hour weekly sessions. The educational method used was problem-based learning. This method is founded in cognitive theory and views the learner as active in seeking knowledge and able to solve the self-care problems identified. The aim of this study was to explore the feasibility of the programme which was tested in four small groups (five to eight participants) of diabetic patients together with two facilitators. After completing the programme, the patients participated in focus group interviews to evaluate the programme. They identified both positive and negative factors. After each session the two facilitators reflected upon the group dynamics. In particular, problems with allowing patients to be the experts should be highlighted. This programme has been modified according to the evaluation and it is now being tested in a randomised, controlled, multicentre study. Copyright © 2004 FEND.

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Key words

patient education; evidence-based; problem-based learning; theoretical framework

Introduction

One of the most important roles of diabetes specialist nurses (DSNs) is to be good patient educators. When reviewing evaluations of patient education programmes it seems urgent to try to improve educational skills. Several studies have evaluated patient education and found small to modest effects on self-management, quality of life and glycaemic control.[1–3] Despite these modest effects, patient education has, since the 1950s, been understood to be an important component in diabetes care.

The huge literature on patient education indicates that some factors are more important for successful education than others. One factor which seems important is to reflect upon the theoretical framework that should guide us in our patient education. In a meta-regression analysis, Ellis and co-workers found that teaching methods based on a cognitive framework – for example, problem-based learning – were most effective in improving glycaemic control.[4]

The results from another study showed that the use of educational principles from social learning theory was of importance for the results of the teaching. The educational principles were consonance, relevance, individualisation, facilitation, feedback and rewards. The authors also found that the more of the educational principles included in the programmes, the better the effects.[5]

Components of successful patient education programmes

Based on the above findings we decided to systematically review the literature in order to find evidence for a successful programme. We started in the year 2000 by reviewing meta-analyses and studies on patient education in diabetes published between 1987 and 1999. In all, 463 abstracts were reviewed, yielding a total of 51 studies (the results from this review are not reported here). These 51 studies

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were reviewed a second time in order to answer the question: 'How do successful programmes look according to theoretical framework, content, and teaching methods?'. In this part of the analysis we included only those studies which reported that they had reached most of their intended effects and also gave a good description of content, teaching methods and the educational process.[6–12] The following components seemed to be important for successful education:

- A theoretical framework for teaching was used
- Patients were active participants and set their own goals
- Patients decided upon the topics discussed and their own needs were taken into account
- The programme had a problem-based or problem-focused approach and problem solving was practised
- The programme focused on general life activities, not only the diabetes
- The staff/teachers acted more as moderators than as teachers
- Most of the educational principles within social learning theory (individualisation, facilitation, consonance, relevance, and a combination of methods) were taken into account.

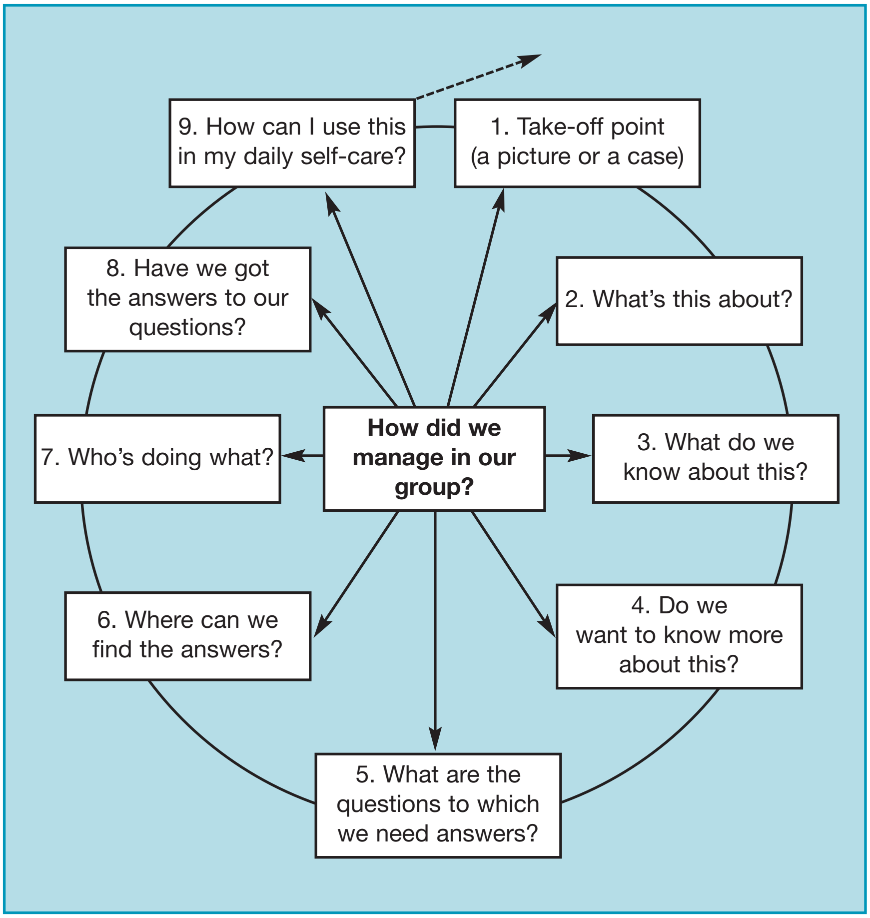

Figure 1. The problem-based learning process

Construction of a new patient education programme

Based on the findings above, the new programme, 'I'm the Boss', was constructed. The theoretical framework chosen was an empowerment approach combined with cognitive theory, as both of these mirrored that which was found to be important in the analysis. The programme consisted of six three-hour weekly group sessions dealing with different aspects of living with diabetes. The sessions did not deal with diabetes as such, but how to manage daily life when diabetes is a part of it. The topics for the six meetings were: (1) life satisfaction and goal setting; (2) problem solving; (3) coping with emotions; (4) coping with daily stress; (5) social support; and (6) motivation. These topics were decided upon on the basis of the concept of empowerment.[13]

Problem-based learning was used as the educational method of the new programme as it includes several of the components found in the analysis above. Problem-based learning is based on the notion that the participant is an active learner, and this is also in good accordance with the empowerment vision. The process starts with presenting a take-off point, a picture, a short text or a case illustrating the topic for the session, followed by brain storming to identify the problem presented in the take-off point. The next step is to try to solve the identified problem using what the group already knows. After that the group discusses what they do not know. The group members prioritise the learning needs, set learning goals and allocate resources so that each of the members knows what is expected of them. Between the weekly sessions the patients do self-studies and prepare for the next session. During the next session, the group shares the new knowledge effectively so that all group members receive the new information. The final step is then to discuss and reflect on how to apply the new knowledge into the individual's daily self-care. After that a new take-off point is presented. For their guidance the participants have a facilitator, whose task is to facilitate the group discussions and the learning process. The problem-based learning process is presented in Figure 1.

In this paper we report on the first feasibility study of the 'I'm the Boss' programme. The aim was to evaluate diabetic patients' and DSNs' experiences of testing the programme.

Patients and methods

Participants

The 'I'm the Boss' programme was tested in a consecutive sample of people with diabetes (n=23) divided into four groups. The patients (nine males and 14 females) had a mean age of 60 years (SD=9), and they had had their type 2 diabetes for 11 years (SD=9). The mean value for HbA_{1c} was 6.8% (SD=1.1). These four groups completed all six sessions described above and two experienced diabetes nurses acted as facilitators for patients' learning during the sessions.

Before testing the programme, the members of the diabetes team at the University Hospital attended a specially designed two-day course on problem-based learning and training in how to act in the role of being the group facilitator. The course leader for training of the diabetes team has a PhD in education and has long experience of practising problem-based learning. The course included both theoretical and practical aspects of the role of a facilitator. The DSNs who were the facilitators also had the opportunity to consult the course leader during the study period.

Focus group interviews

After completing the programme, the patients participated in focus group interviews. The aim of the interviews was to explore not only whether and how the programme had had an impact on the patients' self-management of diabetes, but also patients' opinions of the programme. They discussed what they had gained from participating in the programme, their opinions of the programme and the educational process. The interviews were tape recorded and transcribed verbatim before analysis.

Facilitators' reflections on the group dynamics and the educational process

After each educational session the facilitators reflected upon the group dynamics. They discussed what had happened during the session and possible alternative ways of facilitating the patient group. These discussions were written down in detail for further analysis.

Analysis

Both the focus group interviews and the nurses' reflections were analysed using qualitative manifest content analysis.[14] The text was first sorted out into content areas and, after that, read through repeatedly to obtain a sense of the whole. The text was divided into meaning units and these units were condensed and labelled with a code. The various codes were finally compared looking for similarities and differences, and then sorted into categories. Two of the authors performed the analysis independently and compared the results. Inter-rater reliability was 96%.

The medical ethics committee at the University Hospital approved the study design.

Results

Self-care management

In the focus group interviews, the patients reported on whether and how their self-care management had changed after participating in the 'I'm the Boss' programme. The analysis of the interviews yielded the following four categories.

- **Making use of the knowledge.** The patients talked about using their new knowledge to self-monitor their treatment, and also about the fact that they were now going to increase their own active participation in medical consultations. However, they also spoke about the difficulties they had in getting health professionals to respond to their needs. They did not think they could have the support they needed from health professionals because they had now learnt of the lack of specialist knowledge in primary care.
- **Increased awareness.** Most of the patients had also realised that diabetes was a serious disease; they showed some concern about the gravity of the disease and its threat to their future health. They had increased their awareness of the seriousness of their diabetes and they had also accepted its permanence. *'Oh, suddenly I understood that I have diabetes and I now know that it is a serious disease that should be taken care of. I know that I have diabetes for the rest of my life, and I also know that I need to take care of this now to avoid late complications in the future.'*
- **Own control.** Further, the patients thought that they had reduced their helplessness a lot and they were not as worried as they had previously been about the disease. They found that they had been provided with the tools needed to control the disease and the threats. Many of the patients had also started to monitor their blood glucose and now knew what to do about the results. They also felt more confident and secure when altering the treatment in different situations.
- **Increased self-efficacy.** The patients felt that they had increased their self-efficacy related to setting and achieving goals and overcoming barriers for achieving these goals. They also felt that they knew more about what helped them stay motivated to care for their diabetes and that they were more able to

motivate themselves. *'Now I know very well what the problem is. I have during all these years done as my husband has told me to do. Now I know better. Today I dare tell my husband what I really need in order to take care of my diabetes and I am proud of being able to do so.'*

Patients' opinions of the 'I'm the Boss' programme

Most patients were very satisfied with the programme and they said that they were happy that they had been invited to participate in this quite different programme. Besides talking about positive experiences, they also suggested some improvements for the programme.

Group discussions valuable. The discussions in the group were one of the best things. All patients agreed that they had learned a lot from the group members. One great experience seemed to be the opportunity to discuss feelings and emotions in connection with diabetes. None of them had ever done that before.

Self-directed learning. One of the most positive things was that the facilitators never controlled or directed the discussions. *'We were allowed free scope for our spontaneous feelings and that is the way you learn the best. Of course, the discussions need to be a bit structured, but the facilitators have managed to keep structure in a nice way. We in the group have decided what to discuss and study and that gives an urge for further studies.'*

Selection of take-off points. Some of the take-off points were not optimal according to the patients because some of the pictures did not give them the right associations. *'One of the pictures was really hard to understand and we all had different opinions of what the message really was.'*

Be aware of the group dynamics. The patients also discussed the group dynamics and were a bit self-critical. They thought that it was important that the participants in the group should be aware of the need for active participation. Some of them did not always do their very best. *'I'm a bit ashamed because I did not really do my very best. Some of the group members had studied a lot to find answers to our questions, but I did not take time to do that.'*

The facilitators' reflections

After each session the facilitators reflected upon the group dynamics and the following problems were highlighted.

Hard not to be the expert. In problem-based learning the facilitator is not the one who gives the right answers, but facilitates participants' knowledge seeking and learning. This way of acting was the opposite to that which the nurses were used to and it needs a great deal of training.

Too talkative participants. Some patients had problems with listening to the others and the facilitators needed to do something about this situation. The other patients seemed irritated, but did not do anything about it. Finally, the facilitators decided to talk in private with the talkative patient and after that the group climate became really good.

Inactive participants. Another problem emerged when it became apparent that some of the group participants had insufficiently prepared themselves in order to be able to take part in the discussions. It is, therefore, important that all group members know exactly what to study for the next session. This is something that the facilitator can include in his/her role. This problem was, though, solved by the patients themselves.

The problem-based learning group is not a social group but a working one. In one of the groups, the patients thought that it was a social group rather than a working one. The facilitators had real problems with this group. It was not possible to direct patients in the group in any way. They talked about everything else but the subject. The facilitators need to be clearer in the introduction to the programme and highlight the fact that all participants are there to study.

Problems with keeping to the subject. It was also hard to manage instances where the discussions ended up outside the subject. The facilitator needs to be observant in such a situation and direct the discussion back to the subject as soon as possible.

Discussion

This study has tried to find evidence for effective patient education in diabetes. For a long time, physicians and DSNs have thought of patient education as something which is very important for gaining good metabolic control. Despite that, not very much has happened in terms of the improvement of educational methods and the adaptation to adult learning theories. In the 1980s, Korhonen and co-workers[15] concluded in a randomised, controlled study that patient education did not improve patients' metabolic control. However, since then several studies have shown effects on different parameters – and, of course, patient education has effects.

The problem is that we need to improve our educational skills. In the analysis of successful patient education programmes, we found that the inclusion of a theoretical framework was one of the important components. We also found that theoretical frameworks were seldom used in the studies analysed. In the field of educational research, there is a great deal of knowledge which we could find useful in our patient education. The cognitive theoretical base used in this study is one example of usefulness. In problem-based learning, the patients/learners are the ones who are active and seek the knowledge which is important for them and not the knowledge which we as educators think is useful to them. During the study, we found that it was hard not to give patients the 'right answers'. We are used to being the experts and it is not easy to put this aside and accept that it is the patients themselves who are the experts. The patients in our study said that they really appreciated the fact that the facilitators did not control what to discuss during the sessions – while the facilitators found that part hard to handle. Our finding is not unique. Pill and co-workers found that nurses were less willing to allow the patient freedom to decide what to do.[16]

It seems important to let patients be the ones who are active in the learning process. They need to be able to set their own goals and decide on what to discuss during the educational sessions. The problem-based approach appears to be ideal in terms of fulfilling this. When educating people with diabetes, it is important to be aware that diabetes is a disease which affects the whole of daily life. For that reason, it is important that patients have the opportunity to discuss their everyday life with diabetes when meeting in group education. Several of the patients appreciated that, and they were happy to meet people who were in the same situation.

The participants in this study have given us a lot of knowledge besides our evidence-based knowledge. We think that it is important to pay attention not only to the results of randomised, controlled studies, but also to what our patients think is important for their daily lives.

We have taken into account the advice from our patients and DSNs, and the revised diabetes education programme is now running as a randomised, controlled, multicentre study.

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