Effective diabetes care requires a partnership between prepared, proactive practice teams and informed, activated patients. Diabetes education helps to overcome many of the barriers to effective self-management by enabling people with diabetes to make informed decisions about their day-to-day self-care. Both psychosocial and health outcomes have been improved through a variety of training programmes; however, education must be coupled with ongoing self-management support if these benefits are to be sustained. The principal goal of diabetes education has undergone a major shift over the past few years – evolving from primarily didactic interventions, focused on encouraging patients to adhere to the prescribed therapy, towards more interactive learning that supports people in making informed, self-directed decisions.

It has become apparent that we need to reframe the patient–care-giver relationship to reflect the fact that people with diabetes are central to their own care. Care-givers need to understand their patients’ goals and objectives for therapy so that both parties work towards the same goals. Patients also need to be informed about recommended metabolic and other parameters of quality diabetes care. Diabetes outcomes can then be improved through collaboration to identify barriers and to develop informed, individual and achievable treatment targets and self-care plans.

Therapeutic issues, such as polypharmacy and the need for multiple insulin injections, contribute further to the daily burden of living with diabetes. Among all the therapies, technologies and pressures on care-givers to see more patients in ever shorter periods of time, people with diabetes may begin to feel that they are unimportant – that they are just a blood sugar number.

The evidence base for education

As defined in the Chronic Care Model developed by Wagner et al. (2), effective diabetes care requires a partnership between prepared, proactive practice teams and informed, activated patients (2). Two main areas need to be addressed if we are to help our patients become informed and involved in their own care. First, we must ensure that we deliver the best possible information in an effective manner. Secondly, information must be coupled with ongoing self-management support in order to sustain the type of behavioural changes required by people with a chronic illness.

The results of numerous studies of diabetes education have recently been summarised by several meta-analyses. These show that diabetes self-management education can improve both psychosocial and health (metabolic and clinical) outcomes (3–6). Unfortunately, there is no universally effective education programme and we must use the insights gained from these studies to develop tailored programmes taking into consideration each individual, their culture, the location in which training is delivered and the resources that are available. Studies indicate that training programmes incorporating behavioural and affective
components are generally more effective than those that are strictly didactic or knowledge and skills based (7–9). We also know that group education may work better than individual education, as well as being more cost-effective and efficient with regards to staff time (6, 10, 11). Furthermore, education programmes that are tailored for the cultures and communities in which they are delivered are more effective than non-tailored programmes (6, 12). Although peer-led diabetes education groups can be very efficacious (6), some studies indicate that training programmes that include physicians, nurses and dieticians can have a greater impact (e.g. lower HbA1c levels more effectively) than programmes that do not (13).

In recent years, diabetes education has evolved from primarily didactic interventions, focused on the acquisition of knowledge, towards more theoretical, interactive interventions based on patient empowerment (4). Whereas the aim of diabetes education used to be to get patients to adhere to treatment recommendations, we have learnt that its real value lies in providing information and support so that individuals with diabetes can make informed, self-directed decisions and manage their diabetes in a way that works for their health and their lives. Although knowledge continues to form an essential part of diabetes care, knowledge alone is not sufficient for the sustained behavioural changes that are necessary to manage diabetes for life (14).

**Collaborative care**

Effective long-term diabetes management requires ‘collaborative care’ in which people with diabetes receive ongoing support from care-givers across various aspects of self-care including education, goal-setting and behaviour change (15). Collaborating to develop informed, individual and achievable targets is an important part of helping patients achieve their goals.

A variety of ways of incorporating collaborative care into practical, cost-efficient interventions are currently being investigated. In particular, strategies are being developed to reduce the demand on physician time, which is both limited and expensive. Case managers and nurse-led clinics have been used successfully to improve outcomes in the USA and the UK respectively (16–20). In addition, information technologies ranging from simple telephone systems to sophisticated computer programs can be used to supplement care (15). In a study by Piette et al. (15), participants who received standard care plus bi-weekly automated telephone disease management calls with telephone follow-up by a nurse educator, reported fewer symptoms of depression ($P = 0.023$), greater self-efficacy to conduct self-care activities ($P = 0.006$) and fewer days in bed because of illness ($P = 0.026$) compared with those who received standard care alone.

Cost-effective ongoing collaborative care requires a team of people with different expertise, led by the person with diabetes. We need to consider the best ways of organising these teams, ensuring interaction between team members and assigning roles and responsibilities. Glasgow et al. (21) found that the most effective teams incorporated ongoing patient-centred education, goal-setting and collaboration into everyday care. Although there were key individuals responsible, everyone concerned with the provision of diabetes healthcare — physicians, nurses, dieticians and clerical staff — took responsibility for talking to patients about their goals and goal attainment.

Conveying the importance of diabetes self-management to patients is essential for collaborative care. Although people with diabetes are responsible for managing their condition on a day-to-day basis, we do not always make it clear that this has a huge bearing, not only on their lives today, but also on the prevention of complications that may damage their long-term health and quality of life.

We also need to reframe patient-care-giver relationships and interactions. As healthcare professionals, we offer expertise in diabetes while people with diabetes offer expertise on their own lives and priorities. It can be very effective to start a consultation by asking questions and listening to the response. Rather than increasing the consultation time, questions such as ‘What would you like to accomplish today?’ and ‘What are your concerns?’ can focus the visit and save time (22, 23). This also helps to prevent patients from raising important issues at the end of the consultation, thereby causing the session to overrun. Moreover, addressing the patients’ concerns before those of the consultant reinforces a collaborative relationship and demonstrates that the patients’ issues matter.

As part of the collaborative process, people with diabetes need to be informed about both the positive and negative aspects of diabetes management in order to make decisions about their self-care. However, while offering the best-known standard of care, healthcare professionals must consider and accommodate each individuals’ choices. Understanding personal goals is critical for the successful long-term implementation of management strategies and to ensure that we offer the needed support.

The messages that people with diabetes receive from healthcare professionals can be very powerful. Caregivers tend to focus on glycated haemoglobin (HbA1c) levels and other risk factors that are important from a clinical perspective but often overlook what is really important to patients — leading a normal life despite diabetes, and being able to manage diabetes in a way that gives flexibility, freedom and quality of life. This is especially true with respect to insulin therapy in patients with type 2 diabetes. Insulin is often used as a threat to encourage diet, exercise and the use of oral antidiabetic agents. However, fear tactics are generally ineffective and may contribute to negative behaviour. Using insulin as a threat may increase the
patient’s resistance to insulin in the future. It is more beneficial to ascertain each individuals’ goals and fears and to then offer information and advice that will assist patients to achieve those goals.

There are many effective and practical ways to provide collaborative care. For example, a diabetes passport study is ongoing in Holland, in which people with diabetes carry a record of their goals and information to remind them, and their healthcare providers, when to screen for complications (24). The rationale for the diabetes passport is that treatment goals are more likely to be achieved if patients and care-givers are working towards the same goals. The Dose Adjustment For Normal Eating (DAFNE) trial (25) was based on a German study in which patients with type 1 diabetes were taught to control their glucose levels by adjusting insulin injections, rather than diet and lifestyle (26). DAFNE showed that patients undergoing a similar self-management training course in the UK had significantly reduced glycated haemoglobin levels, and dramatically improved quality of life outcomes. In another example, a problem-based, culturally specific programme was initiated for African-Americans living in inner-city Detroit (27). The curriculum for this successful group programme was provided based on the participants’ questions, experiences, and goals.

Conclusions

As healthcare professionals, we need to collaborate with our patients to develop individual action plans that incorporate provision for ongoing assessment of self-management beliefs, behaviour and knowledge, the identification of barriers and supports to goal attainment, personal goals, and individually tailored strategies and problem-solving ideas (Fig. 1). Asking questions and listening to the responses is a critical part of developing a collaborative relationship and the goal-setting process. Information needs to be framed to meet patients’ goals and needs. Both diabetes care and effective self-care education must be tailored for the individual, taking into consideration culture, age, health status and personal preferences.

Ongoing support is crucial if people with diabetes are to sustain the long-term behavioural changes needed to achieve their treatment goals. Because it is ultimately the responsibility of patients to take charge of their diabetes management, it is vital that they are provided with the knowledge they need to make informed decisions about their own health. As healthcare professionals, our role is to collaborate with our patients, providing the necessary knowledge and skills, supporting their self-selected behavioural changes, and assisting them to discover their own innate ability to gain mastery over their diabetes.

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