Group education for young people with diabetes

Emma Day

Article points

1. Structured education aims to provide information about diabetes to people with the condition.
2. There are several group education programmes for adults with diabetes, but fewer for young people with the condition.
3. Group education has a place in paediatric diabetes care provided it is appropriate for the young person with diabetes.

Key words

- Structured education
- Young people
- Carbohydrate estimation

Emma Day is a Clinical Nurse Specialist at Birmingham Children's Hospital.

Structured education is well recognised as the way forward in the delivery of education to people with diabetes. There is a significant amount of literature that supports education as a cornerstone of diabetes care (Kelnar, 1995; Lowes, 2000; Lucas and Walker, 2004) with structured education programmes being heralded as not only desirable but essential (NICE, 2003; DoH, 2005). In this article the author discusses current group education programmes available to young people with diabetes.

Standard 3 of the National Service Framework for diabetes (DoH, 2003) states:

> *'All children and young people and adults with diabetes will receive a service which encourages partnership and decision making, supports them in managing their diabetes and helps them to adopt and maintain a healthy lifestyle.'*

Structured education is one of the key interventions needed to achieve this.

NICE (2004a) recommends:

> *'Children and young people with type 1 diabetes and their families should be offered timely and ongoing opportunities to access information about the development, management and effects of type 1 diabetes... the method of delivering education and content will depend on the individual and should be appropriate for the child's or young person's age, maturity, culture, wishes and existing knowledge within the family.'*

NICE guidance (2004b) further recommends:

> *'Structured patient education is made available to all people with diabetes at the time of initial diagnosis and then as required on an ongoing basis, based on a formal, regular assessment of need.'*

There is, however, little guidance within any of these documents as to curriculum for structured education programmes for young people with diabetes.

Rickheim and colleagues (2002) undertook a study in the US which demonstrated that:

> *'Group diabetes education was similarly effective [compared with individual education] in delivering key educational components and may allow for more efficient and cost-effective methods in the delivery of diabetes education programs.'*

Several structured education programmes are outlined below and the author discusses the programmes that have been developed in her locality for providing the necessary education to young people with diabetes so that they may be able to manage their condition effectively.

Current use of structured education models for adults with diabetes

There are three national group education

programmes for adults with diabetes: DAFNE (Dose Adjustment For Normal Eating) for type 1 diabetes; and DESMOND (Diabetes Education and Self-Management for Ongoing and Newly Diagnosed) and X-PERT for type 2 diabetes.

DAFNE

DAFNE is a skills-based education programme in which adults with type 1 diabetes learn how to adjust insulin to suit their free choice of food, rather than having to work their food choice around their insulin doses (DAFNE Study Group, 2002). The programme has been developed over 20 years with rigorous research that includes a randomised controlled trial (RCT) conducted in Northern Europe (DAFNE Study Group, 2002).

DESMOND

DESMOND is a relatively new structured group education programme for adults with type 2 diabetes (Skinner et al, 2005). The DESMOND programme supports people in identifying their own health risks and responding to them by setting their own specific behavioural goals. The approach was piloted in early 2004 and the preliminary pilot information was presented at the *Diabetes UK Annual Professional Conference* in April 2005. The programme has undergone an initial peer review, and audit of clinical and psychological outcomes show significant improvement (Skinner et al, 2005).

X-PERT

The X-PERT programme is an RCT-evaluated, patient-centred programme in which the person with type 2 diabetes is able to empower themselves through 6 weeks of structured education (Deakin et al, 2003). X-PERT aims to increase the individual's confidence, skill and knowledge of diabetes in order that they may make informed choices with respect to the self-management of diabetes.

Other programmes

There are a number of other programmes for adults with type 1 diabetes which have been set up more recently. All such programmes are encouraged to participate in the Type 1 Education Network (National Diabetes Support Team, 2005). This group has agreed to benchmark their educational activity against common core elements including core content and audit methodology.

Programmes involved in the Type 1 Network include Bournemouth's Education Resources for Training in Insulin and Eating (BERTIE). The BERTIE curriculum, like DAFNE, is based on the Düsseldorf model (Muhlhauser and Berger, 2002).

Structured group education for young people with diabetes

There is little published work on the subject of paediatric group education for type 1 diabetes. There are, however, a handful of locally initiated programmes in use around the UK – three of which are outlined below:

KICkOFF

Kids In Control OF Food (KICkOFF; Waller et al, 2005) is an educational programme being run in Sheffield along similar lines to the DAFNE approach and is mentioned in the DoH and Diabetes UK *Structured Patient Education in Diabetes – Report from the Patient Education Working Group* (2005).

FACTS

The Families, Adolescents and Children's Teamwork Study (FACTS) was developed in Ipswich in 2003 in response to the need for a family-centred, skills-based type 1 diabetes education programme. The programme aims to improve diabetes self-management by skills training and encouraging parent and young person

Page points

1. Prior to the launch of long-acting insulin analogues, the Diabetes Home Care Team based at Birmingham Children's Hospital transferred very few patients onto multiple daily injections (MDI).
2. An education programme was designed for use with groups of between 2 and 6 individuals aged 13-18 years.
3. Some young people were unsuitable or unwilling or unable to attend the group sessions. Such participants were seen on an individual basis either within their homes or in the diabetes centre at hospital.
4. The uptake of the group sessions was approximately 98%.
5. Young people with diabetes and their parents commented that they had acquired a lot of useful information to help in diabetes self management.

teamwork, and hopefully improving glycaemic control. It consists of four small group sessions: two that are predominantly skills-based (carbohydrate counting and insulin dose adjustment) and two that are based on social learning theory (exploring parental and child responsibilities and communication issues). The programme is fully integrated into routine clinical care, with each session taking place on the same day as the regular quarterly outpatient visit (Wadham et al, 2005).

DIGBY

A programme run in Cambridge for newly diagnosed children with type 1 diabetes known as DIGBY (DIabetes education Given Because you're Young) is also in existence although remains unpublished.

Group education programmes have been shown to have some benefits over individual education; the support from group members and peers is of inestimable value and once a programme has been established it becomes a good use of resources and is cost-effective.

Group diabetes education programmes used in the author's locality

The history and outline of the programme for adolescents with diabetes

Prior to the launch of long-acting insulin analogues, the Diabetes Home Care Team based at Birmingham Children's Hospital transferred very few young people with diabetes onto multiple daily injections (MDI). Following the introduction of long-acting insulin analogues the team were somewhat overwhelmed by the number of young people with diabetes who were requesting a transfer to MDI from their existing insulin regimens.

The advantages of an MDI regimen for young people have been shown to be reduced BMI and flexible lifestyle and meal timing choices (Diabetes Control and Complications Trial Research Group, 1993). The disadvantage of this therapy is the need for four or more injections per day.

In 2002 the author and colleagues considered the approach of bringing young people with diabetes under the care of the diabetes team together in small groups to initiate the training and education required for them to embark on an MDI regimen. This has also been done successfully in Leeds (Robson and Gelder, 2006).

The education programme was designed for use with groups of between two and six individuals aged 13–18 years, with the oldest participant to date being 17 years. Without exception, young people were changing from a regimen of mixed insulin given twice a day before breakfast and before evening meal to MDI.

Some young people were deemed unsuitable, or were unwilling or unable to attend the group sessions. Such participants were seen on an individual basis either within their homes or in the diabetes centre at the hospital.

Participants were identified as being suitable to change their diabetes treatment regimen by their willingness to participate in group activity and commitment to blood glucose testing and returning the food diary. Any learning difficulties or mental health problems were also taken into account. The advantages and disadvantages of the new regimen were discussed during a hospital outpatient visit or during a home visit by the Paediatric Diabetes Specialist Nurse (PDSN) and/or a dietitian.

At the end of the group session (see *Box 1* for details), the young people were taken out to eat and given the chance to put into practice their new carbohydrate estimating knowledge. The meal was sponsored by two pharmaceutical companies. Blood glucose levels were later reported back to diabetes nurses who discussed them with the individuals as an educational resource.

The uptake of these sessions was approximately 98%, mainly because the young people had already requested the change to the new regimen and were therefore highly motivated to attend the sessions. Young people with diabetes and their parents commented that they had learned a lot of useful information to help in diabetes self management, although these outcomes are yet to be formally evaluated.

The Changing-Schools Programme

This programme (designed by the diabetes team and supported by the Diabetes UK Birmingham Parents' Group) is sometimes the first opportunity for the PDSN and dietitian to talk directly to the young person who has diabetes rather than directing information towards their parents.

Groups of up to 20 young people with type 1 diabetes aged 11 years and over were invited to attend two formal education sessions, the first held during the summer holiday before they changed to senior school and the second around 2–3 months after they had changed school. The young people attended without parents or guardians and the objective was to increase their diabetes knowledge.

The programme covers many aspects of diabetes management: what is diabetes; hypoglycaemia and hyperglycaemia management; sick day rules; sports; and dietary aspects. Various teaching methods were used; working from an interactive CD ROM and small groups working with a PDSN and a body model which helped to explain some of the complicated workings of the body. The 'shopping game' is played in which groups are given a brief to select appropriate ingredients for a particular meal or event from an array of boxes of food. Their choices are then looked at and discussed with the group, usually led by a dietitian. Homework from this session includes quizzes, word searches and crosswords – all designed to get the young person to seek out their own answers from the written support information they are given.

These sessions have been running for several years and various attendance levels have been seen from 30–80%. One strategy that did improve attendance initially was to write to the young person to 'invite' them and write separately to the parent explaining why the young person with diabetes should attend. This increased attendance by around 20%.

Page points

1. Up to 20 young people with diabetes aged 11 years and above were invited to attend 2 formal education sessions in the Changing Schools Programme.
2. The programme covers many aspects of diabetes management: what is diabetes; hypoglycaemia and hyperglycaemia management; sick day rules; sports; and dietary aspects.
3. These sessions have run for some time and various attendance levels have been seen from 30–80%.

Box 1. The programme for change from twice daily insulin to multiple daily injections (MDI).

The monthly group training was arranged into two sessions. The aims of the education sessions were as follows:

- To begin the education of adolescent patients wanting to commence MDI.
- To assess food intake and the insulin needs of the individual.
- To enable patients on MDI to estimate carbohydrate (CHO) in food in relation to insulin dose.
- To encourage peer group support and to answer questions.

Module 1

- Insulin and pen supplied by GP is checked by nursing staff.
- Using insulin profile charts the different actions of BD and MDI insulin are discussed.
- The timing and a single site for a basal insulin injection are chosen.
- The young person injects their first dose of basal insulin with the support of the nurses.
- The young person has a mealtime (fixed dose) of bolus insulin with a packed meal brought from home. The dietitian takes this opportunity to discuss the content and advise on the CHO content of this meal.

Following the completion of this module, the young people with diabetes were given the following guidelines:

- Start looking at the carbohydrate labelling on food packets.
- Weigh carbohydrate containing foods to assess typical portion size (e.g. pasta, potatoes, cereals and rice).
- Any food that contains carbohydrate will require a dose of insulin.
- Eat healthily to achieve an appropriate BMI.
- Three or four blood tests will be required both before and after eating. This will help to assess whether the insulin dose is correct.
- Adjust basal insulin dose by increasing 2 units per day until fasting glucose levels are below 7 mmol/l.
- Call the Diabetes Centre 7–10 days after commencement to review blood glucose results.

Module 2

- Teaching young people with diabetes about carbohydrate counting.
- Carbohydrate estimation in food using practical sessions and quizzes.
- Carbohydrate estimation in a 'real life' situation.

Page points

1. A significant consideration when developing programmes of education for children and young people with diabetes is to consider their developmental stage and also the length of time that they have lived with the condition.
2. There is definitely a place within the paediatric setting to undertake group approaches to structure education for young people with type 1 diabetes.

On the return visit the PDSN assesses the homework and from any knowledge gaps can negotiate a programme of education and support.

Concluding remarks

Young people are familiar with being taught in both large and small groups in mainstream education and this is an approach many feel comfortable with.

A significant consideration when developing programmes of education for children and young people with diabetes is to consider their developmental stage and also the length of time that they have lived with the condition (Glasper and Ireland, 2000; Sugarman, 1987; Child, 1986). It may also be prudent to consider educational programmes at specific times – such as moving into the secondary school system or changing to a new insulin regimen. This may help form a link between a group of young people who might have little in common other than diabetes. Peer support and networking is a positive aspect of group education sessions and is a chance for young people to interact without parental influence.

Group dynamics must always be considered and tools for the educator should be in place to divert any disruptive or difficult behaviour. This can be difficult because many educators are trained as nurses not teachers. If there are disruptive individuals in the group then the only option is to remove them. This can be problematic if there are not enough staff to do this safely.

The limitations in using group approaches still remain: the different ages and times at which individuals are diagnosed and the need for treatment to begin immediately and not once enough participants have been recruited for the group.

There is definitely a place within the paediatric setting to undertake group approaches to structure education for young people with type 1 diabetes. There are various benefits to be gleaned from a group approach; the peer support has been found to be invaluable and once programmes are established they are cost effective and a good use of resources. The developmental and educational stage of young people with diabetes should be considered and a variety of learning resources should be used to endeavour to meet all the learning styles of young people with diabetes. ■

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