

Paediatric Diabetes Games: Promoting exercise and peer support in children with type 1 diabetes

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Citation: Pesterfield C, Wilson K, McDonagh T (2013) Paediatric Diabetes Games: Promoting exercise and peer support in children with diabetes. *Diabetes Care for Children & Young People* 2: 34–8

Article points

1. Exercise is an important part of type 1 diabetes management but many children do not meet the Government's targets for weekly exercise.
2. Education about the self-management of diabetes has been shown to improve glycaemic control but many children with diabetes do not receive adequate education about the benefits of exercise.
3. The Paediatric Diabetes Network in the east of England carried out a successful sports day event to raise awareness of the importance of exercise and to improve peer support in the region.

Key words

- Education
- Exercise
- Peer support
- Type 1 diabetes

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Successful management of type 1 diabetes should involve regular exercise; however, research has shown not all children meet the Government's targets for weekly exercise. Many people struggle to make these behavioural changes and it is thought that adequate education and support is lacking. Peer support is another important component of management but healthcare professionals are unclear how to incorporate this into the care of children and young people with type 1 diabetes. This article describes a novel and innovative "sports day" approach carried out by the East of England Paediatric Diabetes Network to tackle these issues.

Exercise is an important component of type 1 diabetes management, along with insulin and nutrition (International Society of Paediatric and Adolescent Diabetes, 2009) and although most studies have shown little impact on overall glycaemic control and HbA_{1c} levels in the short term (Campaigne et al, 1984; Raile et al, 1999), benefits include the prevention of cardiovascular disease, lipid profile, weight control and a greater sense of well-being (Silverstein et al, 2005).

In 2008, research showed that only 33% of boys and 21% of girls aged 4–15 years attained the Government's target for weekly exercise (NHS Health and Social Care Information Centre, 2013). These are worrying trends and in order to optimise the preventative properties of physical activity it is argued that this positive behaviour should be encouraged and supported as early as possible, including during childhood and adolescence (Raile et al, 1999).

Many people struggle to make these behaviour changes and do not receive adequate education regarding the benefits of exercise in the management of diabetes.



Benefits of education and peer support

Education regarding the self-management of diabetes has been shown to be associated with improved glycaemic control (Norris et al, 2002) and is typically delivered in the clinic setting. Unfortunately, this method of delivering education is not always possible due to lack of resources and time and other logistical reasons; therefore, healthcare professionals involved in

diabetes care should recognise the need for new approaches in patient education and support (Grenci, 2010). Education appears to be more effective in young people when it is integrated into routine care, when parents are involved, and when problem solving, goal setting and self-efficacy are promoted (Swift, 2009). This effect is further enhanced when the healthcare professionals involved are perceived by the young people as being “motivated” (Kyngäs et al, 1998).

Peer support is also of great importance in the management of chronic disease in children and young people; however, healthcare professionals are less clear on how to effectively implement these strategies in their day-to-day care (Pendley et al, 2002).

Various studies have shown that an interactive experience helps people to learn (Janes and Cooper, 1996; Gibson et al, 1998) and it was decided that an innovative teaching and peer support event should take place in East Anglia to increase participation in exercise in young people with diabetes and improve knowledge of diabetes management through exercise.

Paediatric Diabetes Network

There are 18 paediatric diabetes units (17 trusts) that form the East of England Paediatric Diabetes Network. This network has been in existence for 3 years and has grown rapidly during this time. One of the largest areas of development has been service user engagement, with a specialist forum set up to meet every 3 months to discuss issues and projects relating to regional diabetes care and support.

A number of focus groups carried out across the region during 2011 and early 2012 revealed that not only was there a huge appetite for children and their families to have an input in the development of their local services but also that families were very keen to meet and gain support from other families living with type 1 diabetes.

It was felt that the best way to do this was through events where the children and young people could participate in activities, while the parents had the opportunity to meet other parents in the same situation. It was also felt that education should be a part of these events.



The Olympic-inspired event ensured there were many smiling faces on the day, despite the bad weather. The children enjoyed meeting other children with diabetes.

Page points

1. Education is effective in young people when it is integrated into routine care, when parents are involved and when problem solving, goal setting and self-efficacy are promoted.
2. Peer support is of great importance in the management of chronic disease in children and young people but healthcare professionals are not clear how to integrate this into day-to-day care.
3. Research has shown that people learn more through an interactive experience and this led to the development of an innovative teaching and peer support event in the east of England.

Page points

1. The event provided a great opportunity for children to meet other children with diabetes in an understanding environment.
2. The authors note that the parents felt that meeting other parents of children with diabetes was helpful.
3. Paediatric diabetes teams reported that they felt the event helped to form better relationships with the families that they support.

The East of England Paediatric Diabetes Games was designed to harness the enthusiasm and motivation caused by the London 2012 Olympic and Paralympic Games. The proposal was discussed at the first official meeting of the regional network’s service users’ forum in January 2012 and it was met with great enthusiasm. Parents felt that a sports event was the perfect opportunity to bring large numbers of young people with diabetes and their families together and the children reported that they would be proud to use their sporting skills to represent their diabetes units, particularly as this was something that they would be unable to do at school. This regional network of service users became a vital tool for promoting the games and recruiting the athletes. As the event drew nearer these representatives also played a key role in helping to organise training sessions and helping to design the banners used in the opening ceremony.

Feedback indicated that this was a positive step and an ideal opportunity to raise the profile of diabetes in the local community, as well as providing the support, education and fun. A small organising committee was formed comprising healthcare professionals, parents and representatives from JDRE, Diabetes UK and the healthcare industry. Donations were received from diabetes-related companies, as well as local companies, which ensured that the day could be funded without any cost to the NHS.

The education element involved the development of a website (www.paediatric-diabetes-games.com) which provided both information regarding the event but also information leaflets on three aspects of diabetes and exercise: *Exercise: where do I start?*; *Diabetes and exercise* and *Diabetes, nutrition and exercise*. These leaflets could also be downloaded and distributed in the clinic setting by individual diabetes team to further widen the message and



A mascot race opened the games.

recruitment of athletes and to ensure that the same up-to-date knowledge was conveyed across the region. This proved to be very beneficial, especially to smaller diabetes teams with limited experience and knowledge regarding diabetes management through exercise.

Each diabetes unit provided a team of athletes aged 4–16 years to compete in three age groups. Activities included welly throwing, the egg-and-spoon race, tag rugby, sprinting, dodgeball and long jump. Volunteers were recruited from the local college to help organise the events and make sure the day ran smoothly.

Support from some diabetes-related companies was hugely beneficial and enabled the event to run a “mascot sprint” as the opening race. Sanofi, Animas and Roche also invited along diabetes ambassadors, Team Type 1 cyclist Kate Evans, international rower Lucy Walczak and Stephen Dixon from Sky News. JDRE, Diabetes UK and Medical Detection Dogs were also present, highlighting the work of their charities. Local radio and TV covered the event and ITV even held a live link during the lunchtime news.

Despite the torrential rain, over 250 children and young people with diabetes took part in the games at the Cambridge University athletics ground. The highlight of the day was the 4x100m relay with each age group running one leg, with the final leg being run by either an adult with diabetes or a member of the diabetes care team. Many children were delighted to see their doctor, nurse or dietitian running the final 100m. By the end of the day, all participants had earned the right to wear their ‘games’ T-shirt with pride as they were presented with their medals.

Positive feedback

The benefits of participating in a day such as this is hard to measure; however, there were many smiling faces on the day. Feedback we have received since the day tells us that it provided a great opportunity for children to meet other children with diabetes and that the children could take part in sport without worrying if they needed to stop to check their blood glucose level or treat hypoglycaemia. Parents reported

that it was helpful to talk to other parents while their children took part in the events, knowing that if something went wrong there would be plenty of help on hand to assist them. Siblings and grandparents also benefitted from the event, with one grandmother saying: “Thank you for remembering us too. This event is amazing, I never knew there were so many children with diabetes and they all look like they are having fun. It’s given me the motivation to take my grandchild out to do sport and feel I can still look after her safely.”

These comments were also echoed by the many healthcare professionals that came along to support the event. One paediatric diabetes specialist nurse commented that: “Many friendships were formed on the day and as the majority of our team were newly diagnosed, it was a real eye opener for parents and children alike.” Paediatric diabetes teams reported that they felt that barriers between them and the families they support had been reduced and that an effective working relationship was formed.

On the day, they were able to support each other in their events, assist with diabetes queries and even held down marquees together before they blew away. It is hoped that this type of informal working together will help healthcare professionals to work effectively with children and families in the management of the child’s diabetes in the clinic setting.

It is the taking part that counts

Although there was an official winning team on the day, it was not about the winning. The event was about taking part, having fun, breaking down the barriers between families and their diabetes care teams, and encouraging children and young people to take part in sport. Following on from the huge success and positive feedback from the games, thoughts are now turning to next steps and whether it will be possible to organise a national event.

Discussions are underway with various diabetes pharmaceutical companies as to how we can all work together to make the next games event even more of a success and involve more participants. So watch this space and get training: the games could be coming to a place near you. ■

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