# **Development of a Hospital's multidisciplinary approach to Diabetes Education**

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In 2015, the Pediatric department of the Royal Free Hospital in North London developed a successful multidisciplinary diabetes education day for parents and their children about to make the transition from primary to secondary school. This led to measurable improvements in care, control and compliance for those who attended. This involved an introductory talk from representatives from Diabetes UK, hands-on activities for identifying foods into high and low carbs, interpreting food labels, carb counting calculations using app versions of Carbs and Cals and an explanation of the benefits of using Diasend products for remotely monitoring blood glucose levels. This model was further developed to introduce and demonstrate how the Freestyle Libra sensor could be used to continuously monitor blood glucose levels as the children completed the educational activities planned throughout the day.

# **Background:**

The National Diabetes Service Improvement Delivery Plan 2013-2018 highlighted the need and desire by patients, families and practitioners for self-directed management through structured patient education programmes. Reviewing the report from the national diabetes audit from 2013/14, only 50% of children with diabetes receive a structured patient education programme nationally.

In addition to providing education through annual review clinics and one-to-one sessions, The Royal Free Hospital recognises the additional benefits of introducing a formal social educational programme in a classroom setting. These benefits include: an improved climate for learning, an opportunity to develop shared teaching strategies that children respond to, a sustainable approach leading to other professional collaborations, a more effective use of outreach professional time in addition to promoting ward ethos, teamwork and a multidisciplinary approach to problem solving.

# Aim:

To further aid the transition of children with diabetes from primary to secondary school through the implementation of educational activities designed to improve their understanding of diabetes and how best it can be controlled and continuously monitored. (Fig. 1)



Lesson Plan

Arrival: register and fill in pre-assessment form

Charities supporting Diabetes Families provided literature from The Juvenile Diabetes Research Foundation and Diabetes UK

Which food would you keep? An elimination exercise to promote discussion on healthy eating

Free Style Libra Administration of glucose monitors for use throughout the day

Carbohydrate Counting Quiz Identifying foods as high and low in carbs



Fig. 1 Mr Matharu from FreeStyle Libra explaining the monitor to a parent



Fig. 2 The multidisciplinary team : Dr Dublon, Mr Green, Mrs Benitez-Castillo, Mrs Bukuku

# Method:

10 patients with diabetes, aged between 10-12 years, and their families were invited to Royal Free Hospital Children's School from 11.30am until

# **Results:**

There was a measurable improvement in both parent and children's knowledge of insulin and carbohydrates, the ability to identify and measure the carbohydrate content of different foods, awareness of charities working in diabetes and an improvement in understanding, access and application of diabetes related technology now available.



# Feedback from the trial of monitors:

Four weeks after the children were given the FreeStyle Libra monitors to trial, parents were contacted by phone and reported

Carbohydrate Counting Using the Carbs and Cals app to calculate the carb content for plates of food

Lunch Children calculate the carbohydrate content of their lunches providing staff the opportunity to monitor and advise at first hand.

**Correction Doses** Worked examples on how to calculate correction doses

#### Fig. 3. Structured activities

3.30pm during the school half term.

The activities outlined in Fig 3 opposite were completed throughout the day as patients trialed the use of the FreeStyle Libra blood glucose monitors

Pre and post evaluation forms were completed at the end of the session, then all patients were contacted two weeks later to assess their impressions regarding the use of the monitors provided on the day.

Identifying foods as high and low in carbs



Simplified worksheets for calculations



Practical carb counting using Apps

### the following:

- All spoke very positively of their experience with the monitors .
- All said they would use them if they were free on the NHS
- All with the exception of two parents, who both said the patches were too expensive, were still using them - the Disability Living Allowance was being used to fund this by some parents.
- All said they would attend the Education Day again.

# Some quotes from parents:

"Really helps kids; better than pricking finger"

"Not socially embarrassing"

"Readings can be taken throughout the day without being painful"

"Doesn't hurt and easy to use"

"Brilliant! Should definitely be available on NHS"



# **Conclusions:**

- A multidisciplinary approach to diabetes education has a large impact on parent and patient confidence and understanding in addressing the challenges associated with good diabetes control.
- Maintaining and developing the programme leads to improved patient outcomes and the generation of a sustainable social network where good practice can be shared. Some parents attended the first Education Day and recommended the session to other families with members diagnosed with diabetes.
- To encourage independent learning, future sessions would benefit from having separate sections of the day designated as patient only. These would follow the structure of a normal school day during half term holidays. The longer day would also allow more time for deeper learning.









The charity for people with diabetes