

Introduction

Currently there are no evaluated diabetes teaching packages for children aged 4-11 years and their families which meet their learning needs and are delivered by trained educators. The KICK-OFF Course for 11-16 year olds, a structured education course based on carbohydrate counting and insulin dose adjustment, was tested as an RCT and showed significant improvement in HbA1c (9mmol/mol, 0.8%) for those with the poorest control (Price et al, Diabetic Medicine, 2015).

Objectives

- Design a teaching package for 4-11 years olds called Junior KICK-OFF, using the lessons learnt from the KICK-OFF RCT
- Conduct a feasibility study to undertake process evaluation of the curriculum and gather evidence of possible biomedical effects

Method

- Primary teachers and an educationalist advised on the delivery of information, timings, resources (eposter EP27)
- Pilot courses for 9 Key Stage 1 (KS1) children (5-6 years) and 8 Key Stage 2 (KS2) children (10-11 years) were delivered
- Parent day sessions were delivered separately
- Key outcomes:
 - ✓ Produce age appropriate resources, delivered in a way that children learn and are taught in school
 - ✓ Observation of teaching by an academic educationalist
 - ✓ Qualitative assessments of curriculum and learning via semi-structured interviews with both children and parents
 - ✓ Quantitative outcomes at baseline and 3 months to include HbA1c and blood glucose testing and variability
 - ✓ Quality-of-life assessment of parents and children at baseline and 3 months
 - ✓ Knowledge Assessment for KS2 children at baseline and 2 weeks



Resources used by all ages

Results

✓ Educationalist evaluation reported:

- Highly skilled educators (previously trained as KICK-OFF educators)
- Children were highly engaged and eager to demonstrate new learning
- Clear purpose to the course with objectives and individual tasks appropriate for their age
- Excellent age appropriate workbooks (KS2), attractive and clearly set out

✓ Qualitative and quantitative results:

Structured interviews described:

- The courses for both children and parents as successful
- Children benefitting from new learning and meeting other peers (fig. 1)
- Parents meeting other families as most useful (fig. 2)
- They reported no new learning, possibly due to the length of diagnosis
- Parents observing greater confidence in their child's ability to self-manage
- Revisions required to the KS1 parent curriculum
- Timing and duration of the KS1 teaching to be revised

HbA1c was unchanged pre and 3 months post course

Analysis of blood testing uploaded onto DIASEND pre and post course showed:

- Increased number of blood tests post course
- Decreased variability in blood glucose especially for KS2 children

Knowledge Assessment using questionnaires for KS2

- Sample group (n=7) scores ranged from 50-63 (63 maximum score)
- Mean pre-intervention score was 56.43 (SD: 3.82)
- Mean post-intervention was 56.29 (SD: 2.29)
- Paired-samples t-test approach establishing significance between 2 scores:
 - ✓ The paired-samples correlation approached significance ($r(5) = .746, p = .054$)
 - ✓ The t-test showed no significant difference ($t(6) = .145, p = .890$)

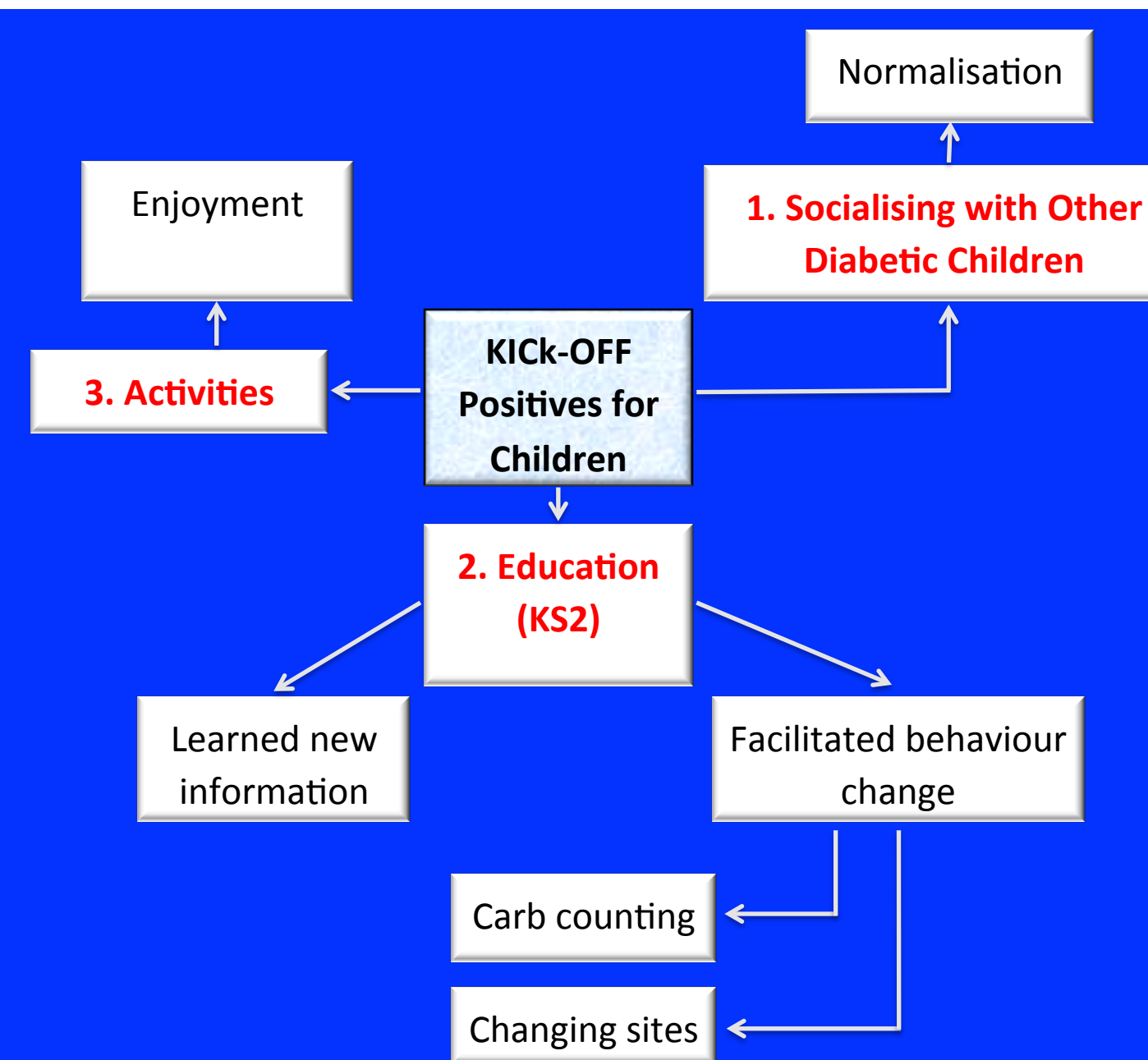


Figure 1: Final Thematic Map for child interviews

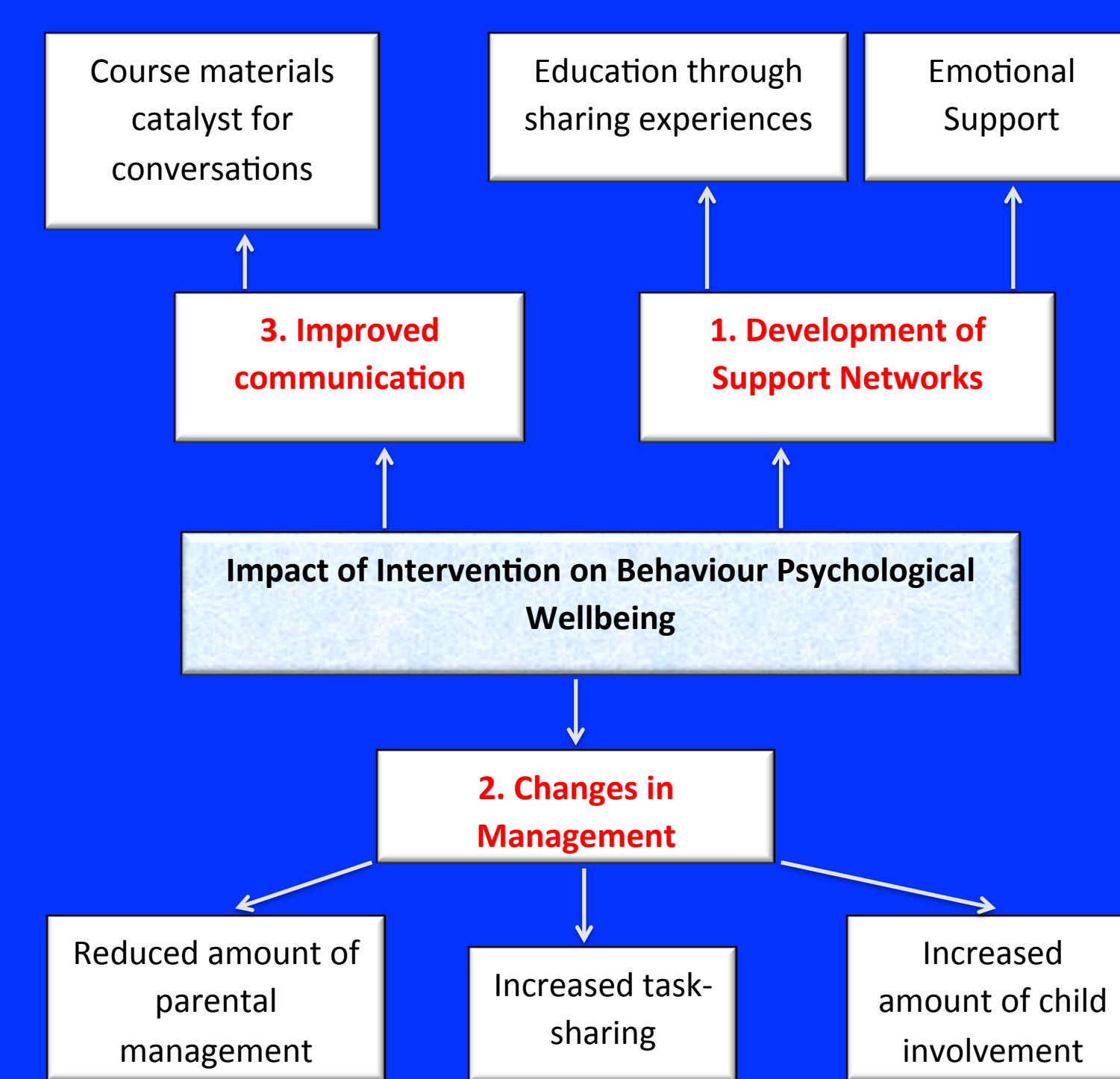
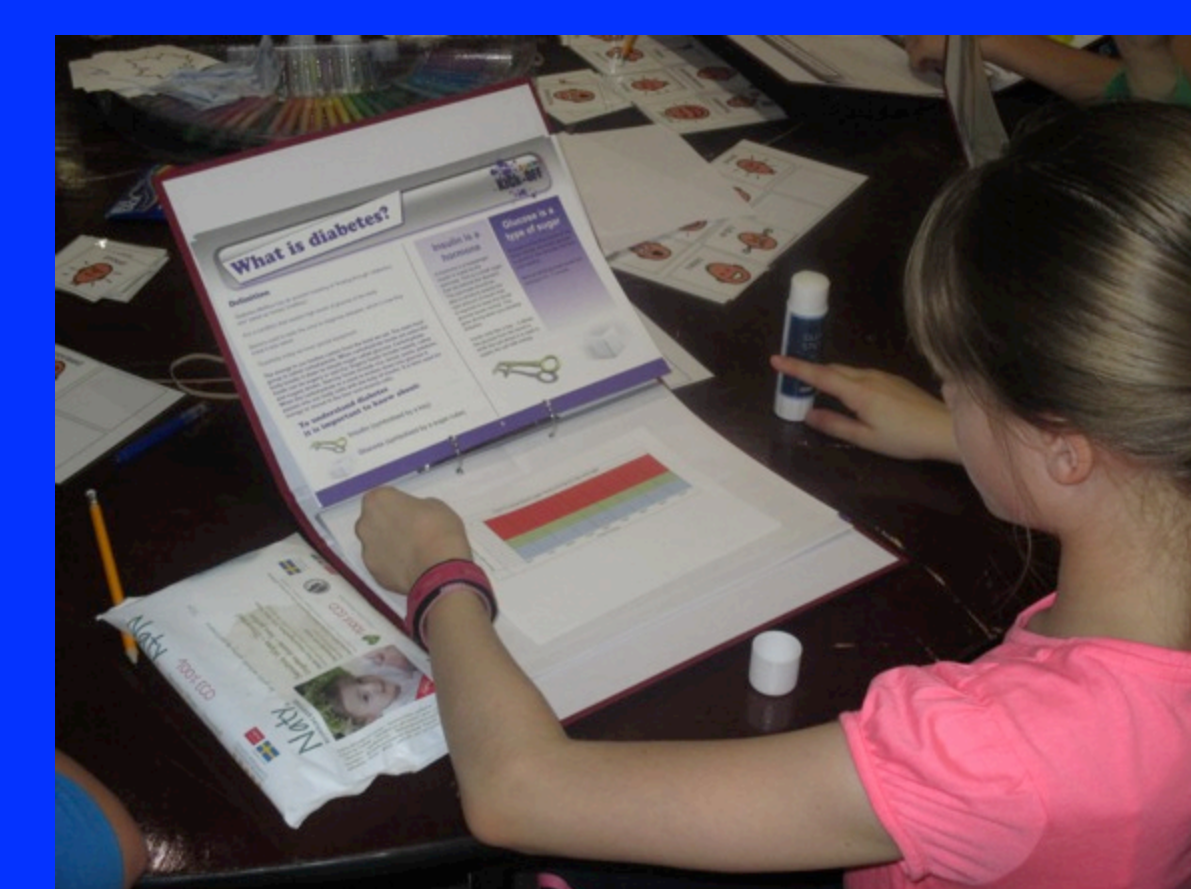


Figure 2: Final Thematic Map for parent interviews

Conclusion

Junior KICK-OFF has been successful for both parents and children but for different reasons. Although the numbers are small (n=17), children have demonstrated new learning, engaged in the activities together with a change in behaviour, especially for KS2. There was no significant difference in KS2 knowledge 2 weeks post course which reflects their high starting knowledge base. However for KS2 children they gained confidence and knowledge to self-manage which is especially important when preparing for their transition into senior school. Take home diabetes related party bags (KS1) and "Healthy me" learning journals (KS2) facilitated continued learning within the home. Providing a relaxed learning environment for families with children of a similar age normalised their experience of caring for their child with diabetes. The benefits of sharing experiences needs facilitating further within the course. Changes to the KS1 curriculum will be made. Both the children and parents recommended Junior KICK-OFF and the challenge is for diabetes teams to incorporate this style of education within normal practice.