



**Helping sick children and young people meet their
healthcare needs, in partnership with parents, carers and
professionals**

Special Smiles Dental Project Evaluation Report

Executive Summary

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Introduction

Action for Sick Children (Scotland) (ASC(S)) is a charity that works towards informing, promoting and campaigning on behalf of the needs of ALL sick children and young people, irrespective of their illness, and their families, within the Scottish healthcare system. In November 2007 ASC(S) secured funding for the Special Smiles Dental Project from the Scottish Government. The basis of the project was to evaluate the specially developed play resources and pilot them in schools for children and young people with complex and additional support needs in one Scottish Health Board Area over a 2-year-period from November 2007 to November 2009. NHS Tayside was selected for the project. The dental play resources, which comprises a Playbox for use at school and a Playpack for use at home, were provided for 8 schools in Perth and Kinross, 11 in Angus and 10 in Dundee. These schools were selected in consultation with local education authorities and included specialist nurseries, primary and secondary schools, sensory services as well as specialist provision for children with complex and additional support needs within mainstream schools. The project was designed to complement the work of NHS Tayside as they implemented the Childsmile Programme.

The purpose of the Special Smiles Dental Project was, therefore, to improve the oral health understanding and oral health practices of children and young people with complex and additional support needs by promoting learning through play using dental play resources.

The Special Smiles Dental Project's specific objectives were to:

1. Improve the oral hygiene understanding and oral health practices of children and young people with complex and additional support needs.
2. Reduce the dental anxiety experienced by children and young people with complex and additional support needs.
3. Heighten carers' and relevant professionals' awareness of the children's and young people's oral health needs.
4. Develop the ability of school, parents and carers to contribute to the children's oral health care.

ASC(S) conducted a number of before and after studies in 2008-2009 to evaluate the programme. In August 2009, ASC(S) commissioned the Oral Health and Health Research

Programme, the Dental Health Services Research Unit (DHSRU), at the University of Dundee to evaluate the success of the project in meeting their aim and objectives. In addition, the data collected by ASC(S) was subjected to statistical analysis and interpretation by DHSRU.

Section 1 – School and School Staff

ASC(S) collected baseline information, conducted a before and after study on the use of the Dental Playbox at school and a qualitative exploration of the staff's views on the content and use of the Dental Playbox in 29 schools. The findings were:

1 Assessment of the schools' oral health education: Baseline study.

- At baseline schools felt that teachers and staff gave oral health a higher priority than parents and children.
- Sixty-three percent of schools felt that the meals and snacks that the children consumed were healthy.
- Sixty-three percent of the schools had daily toothbrushing programmes for the children.
- Fifty-six percent of schools had a child oral health assessment as part of their education plan for pupils.
- Fifteen percent of schools felt that their children would be fearful and resistant to dental treatment.
- Schools would welcome the opportunity to take part in the Childsmile Programmes.

2 Before and after study: School staff

- Between 1 and 30 oral health education sessions for children were conducted within the school year after introduction of the Dental Playbox.
- School staff had increased awareness of the need for effective oral hygiene for their pupils after introduction of the Dental Playbox.
- School staff rated the children's understanding of oral health to be greater after introduction of the Dental Playbox.

3 School and school staff: Qualitative study

- School staff were very positive about the use of the Dental Playbox.
- Range of materials allowed a wide spectrum of children with complex and additional support needs to be engaged in the oral health education sessions.
- The most frequently used materials included role play materials and the large mouth to engage children when demonstrating toothbrushing.

In conclusion, the staff felt that there had been an improvement in their understanding of the children's oral health needs and the children's understanding of oral health matters. The staff felt that the role play materials and those used to demonstrate good toothbrushing practice to the children were of particular value, together with the toothbrushes and toothpaste, to enable them to implement toothbrushing within the school environment.

Section 2 – Families and Children

The second section of the report presents the work conducted by ASC(S) and includes the parents and carers evaluation of the Dental Playpack used at home conducted in 2008-2009. This part of the evaluation included 3 studies. These were a 'Before and after' parent study which evaluated the use of the Dental Playpack; a parents' qualitative study and a 'Before and after' child study which evaluated the use of the Dental Playbox at school. The findings were:

1 Before and after parental study

- Parents' understanding of their children's oral health needs increased from before to after the use of the Dental Playpack with their children at home.
- Parents rated that their children's understanding had increased from before to after the use of the Dental Playpack with their children at home.
- Parents' felt that their child's dental anxiety had decreased from before to after use of the Dental Playpack with their children at home.

2 Parents qualitative study

- Parents' comments were positive in relation to the Dental Playpack.
- Parents felt that the Dental Playpack had reduced child dental anxiety and had allowed the children to access dental care.

3 Before and after child study

- Children's oral health knowledge increased after using the Dental Playbox.
- There was a slight improvement in the children's oral health practices after using the Dental Playbox.

In conclusion, the Dental Playpack used at home with children resulted in an increased parental and child understanding of oral health matters and reduced child dental anxiety.

Section 3 – Families and children: the cross-sectional studies

The final section of the Report presents the evaluation of the Special Smiles Dental Project conducted by the Oral Health and Health Research Programme, DHSRU on behalf of ASC(S). A cross-sectional study design was adopted and questionnaires were distributed in October and November 2009 to families and children who had and had not experience of the Dental Playbox at school. This work included a cross-sectional study of families with and without experience of the Dental Playbox, a dental anxiety qualitative study and a cross-sectional study of children with and without experience of the Dental Playbox. The findings were:

I Cross-sectional parental study

- Most parents in both groups said their child had little or no understanding of oral health. Children whose parents were interviewed as part of the cross sectional study received the Dental Playbox as part of an inclusive class exercise. Some of these children were non-verbal and had severe cognitive disabilities. This may explain why these results contrast with those from the more selective use of the home Playpack, where an improvement in understanding was noted by parents.
- Parents with children who had experience of the Dental Playbox rated their children's oral health practices more highly. Parents whose children had experience of the Dental Playbox stated that their children ate sweets infrequently and brushed their teeth twice daily.
- The parents in this sample had equivalent levels of dental anxiety as the general population. Children with experience of the Dental Playbox were rated by parents as being less frightened of the drill but more frightened of the injection, white coats and

choking. These children were also rated by their parents as being more frightened at their last dental appointment.

- Parents of children with no experience of invasive dental treatment, and who had experience of the Dental Playbox, were rated as less dentally anxious, and less anxious at their last dental visit, when compared with the others.

2 Dental anxiety qualitative study

- Many children with complex and additional support needs experienced profound dental fear on account of their cognitive impairment.
- For children who had used the Dental Playbox at school, the parents felt that the experience of playing at being a dentist and having the opportunity to hold dental mirrors and probes had assisted them when attending for a dental examination.
- The dental centeredness of the schools was also highlighted as being of central importance as this was acknowledged as a factor in reducing the children's dental fear and anxiety. This was felt in part to be due to the Dental Playbox.

3 Children who had experienced and used the Dental Playbox in school:

- Had better oral health understanding and knowledge of toothbrushing and healthy foods and drinks.
- Felt that they had learned a lot about oral health in school.
- Brushed their teeth at least twice a day.
- Were less fearful of the dentist and of dental treatment items (except the injection).
- Enjoyed playing and acting as a dentist and practising their toothbrushing on models and puppets.

In conclusion, there was improved child oral health practices and child oral health understanding. The children who had experience of the Dental Playbox were less fearful of many dental treatment items. While the children experienced an increase in oral health knowledge this was not reflected in their parents' rating of child oral health understanding. This may be due to parents being unaware of the depth of their children's knowledge. Parents felt that the Dental Playbox had increased the dental centeredness of schools which resulted in their children being less frightened of dental treatment and more compliant with dental hygiene regimes both at school and at home.

Overall Conclusions

The findings showed that the Special Smiles Dental Project met its main aim to improve the oral health understanding and practices for children with complex and additional support needs. Oral health understanding improved amongst staff, parents and children, and child dental anxiety was reduced.

The importance of the Dental Playpack was reflected in the findings of the cross-sectional study which showed that while there had been an increase in child oral health knowledge this was not reflected in parental ratings of child oral health understanding. Since parents who had used the Dental Playpack at home with their children recognised their children's oral health awareness, it was suggested that parents who did not have this experience were unaware of the depth of their children's knowledge. Parents felt that the Dental Playbox had increased the dental centeredness of schools which resulted in their children being less frightened of dental treatment and more compliant with dental hygiene regimes at school and at home. The use of the Dental Playbox at school and the Dental Playpack at home provided the greatest increases in parental and child oral health understanding and compliance with oral health practices. Therefore the Special Smiles Dental Project must contain both the Dental Playbox (school) and the Dental Playpack (home) as integral parts of its oral health promotion intervention.

Recommendations

1. The Special Smiles Dental Project must contain both the Dental Playbox (school) and the Dental Playpack (home) as integral parts of its oral health promotion intervention.
2. The Project should be implemented in nurseries and primary schools across Scotland where children with complex and additional support needs attend.
3. The Project should be connected to existing and new core Childsmile toothbrushing programmes to allow the inclusion of children with complex and additional support needs.
4. School and school staff, in both nursery and primary schools where children with complex and additional support needs attend, should be provided with ongoing training to enable them to deliver the Special Smiles Dental Project and use the oral health promotion resources appropriately.
5. All parents, and in particular those parents whose children are dentally anxious, should be provided with the home Dental Playpack to reinforce the children's experiences of the Dental Playbox at school.
6. A post-primary school Dental Playbox should be developed for older children with complex and additional support needs.

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