

Developing a child patient satisfaction survey. A Quality Improvement Project.

Abstract

Aim: To develop a child centred patient satisfaction questionnaire for use in an Outpatient Paediatric Dental Department.

Method: Data from patient satisfaction interviews was used to develop a child satisfaction questionnaire, which was used in two different centres after piloting.

Results: The final questionnaire contained 7 questions and a comments section, using writing and facial images used to record children views. The questionnaire was distributed to 203 children; 95% were happy or okay with the waiting area, 69% were happy about seeing the dentist and 77% children were happy overall.

Conclusion: Measures of satisfaction of children with regard to dental treatment were very different to those commonly used for adults. Further development and implementation of child satisfaction surveys should be considered.

Key words: Paediatric Dentistry, Child, Patient Participation, Qualitative Research, Questionnaires.

Introduction

The aim of The Healthcare Quality Improvement Partnership (HQIP), which is led by members of the Academy of Medical Royal Colleges, National Voices, and the Royal College of Nursing, is to promote quality in health care (Dixon 2013). Patient feedback is needed to apply these standards and to ensure they are met. The views of children are often ignored, and current UK policies have made it a priority for service providers to listen to children's opinions. These include their experience about treatment provided to them and services related directly to them (Department of Health, 2013).

Previous surveys have explored *parent* satisfaction in paediatric dental departments, including: reception area, waiting time, paediatric dental unit, the dentist, the dental assistant, information and explanation provided, parental involvement, and overall care (Bhatia et al., 2012). But there have been no validated questionnaires to measure children's satisfaction as service users, in terms of dental services and preventive interventions (Morgan et al, 2014). In medicine, recent examples seeking children's views have used questionnaires to measure children views and feedback. Two of these questionnaires were developed by modifying the adult version (Attwood et al., 2014; Care Quality Commission, 2015). The survey developed by the Royal College of Paediatric and Child Health in 2012; 'Patients Reported Experience Measure for Paediatric Patients in Urgent and Emergency Care' was designed in collaboration with children (Davies et al., 2012).

Currently, the Paediatric Dentistry Department at the Eastman Dental Hospital (EDH) and the University Dental Hospital (UDH), Cardiff, are using a standard questionnaire that considers the views of parents/carers to evaluate the services provided. The parent/carer is requested to complete a questionnaire provided by the NHS (NHS the Friends and Family test, 2014) following their child's visit. There may be a difference between parents and children's views due to differences in needs and expectations. Therefore, there is a need to develop dental patient satisfaction surveys specifically designed for children. This can only be achieved by involving children in the development of a suitable tool for children. Therefore the aim of this study was to develop a child centred patient satisfaction questionnaire for use in an Outpatient Paediatric Dental Department.

Materials and method:

When involving children in this research, several factors need to be considered. Children's use of language differs from that of adults and may lead to discrepancies between the understanding of the children and the researcher. In addition to the language factor, the analysis of the data provided by children must avoid imposing the researcher's view on the data collection and interpretation. Other issues are the power imbalance between the researcher and the child, and ethical considerations. Common methods used in research with children include quantitative techniques such as questionnaires, and qualitative approaches including interviewing individuals or groups (Marshman and Hall, 2008).

To develop a suitable questionnaire for children, the initial phase involved identifying key themes from interviews with children, and an evaluation phase when the questionnaire was tested in two different paediatric dentistry clinics.

Initial phase

In order to better understand the satisfaction of child patients, children undergoing dental treatment at the Eastman Dental Hospital were interviewed between February and March 2016 on their experiences at the end of their dental appointment.

The information from these short interviews was used to develop a patient satisfaction questionnaire, appropriate for children. The questionnaire was subsequently tested at the Eastman Dental Hospital in April 2016 and at the Paediatric Dental Department at the University Dental Hospital in Cardiff from March to April 2017. As the data used in this project had been previously collected to support clinical service provision and was fully anonymised, this project was classified as Quality Improvement Project (QiP) and did not require ethical approval (Dixon 2017).

Evaluation phase

Children aged 4-16 years, attending the Paediatric Dentistry Department at the Eastman Dental Hospital were invited to participate in the development and evaluation phase of the questionnaire, and those attending the University Dental Hospital in Cardiff were invited to participate in the evaluation phase only. In the evaluation phase, families who accepted to complete the standard parent satisfaction questionnaire were approached to see if their child was also willing to answer

some questions, whilst the parent completed the standard questionnaire. As a result, the data provided for the questionnaire development depended on the parent's agreement and the child's willingness to answer. This formed a convenience sample and was intended for use as part of a separate Quality Improvement Project looking at satisfaction with the service. To ensure that the patients were asked similar questions to get a valuable feedback, a topic guide was developed by the research team to guide the researcher (AA) collecting the information. The guide includes an introduction about the topic and the need for considering children's view, as well as a reminder to obtain the consent from both the parent and the child. This was followed by questions about the child's satisfaction.

A simple framework analysis was undertaken for three age groups (<8 years, 8-10 years, >10 years), and quotes were transcribed into an excel spreadsheet, one for each main theme, with each line representing a quote from one of the age bands and columns representing an identified subtheme. Initially, it was planned to design separate questionnaires for each age group, but due to similarities in responses and interests between the three groups, and the logistics of ensuring that the appropriate questionnaire would be given to the correct child by the staff at reception, it was decided to produce only one version of the survey that would be suitable for all ages.

Following agreement on the identified key themes and content of the questionnaire, three different design versions of the same content questionnaire were developed (with and without horizontal lines and columns), and piloted amongst 15 children (aged 4 to 16 years) at the Eastman Dental Institute, to see which one was preferred by the children. In addition, the children were asked if the questions were easy to read and understand. Minor changes were made to the questionnaire following the pilot testing to modify the presentation including the addition of a note requesting parents to give the questionnaire to their child to complete, as there was some confusion regarding who was to complete the questionnaire. Other layout changes included moving the patient details (age and gender) to the top of the questionnaire and expanding the comments section to accommodate children with a larger handwriting. The final version of the child satisfaction questionnaire is shown in Figure 1.

The questionnaire was handed out to all children attending the Paediatric Dental Department at the EDH for a one-week period in April 2016, during which it was filled in by 103 children. Questionnaires were also disseminated to 100 children at UDH in March to April 2017, Cardiff.

Results:

A total of 29 child patients were interviewed to find out about their satisfaction with the service. Data from the interviews (in the form of quotes and comments) was grouped into three age groups: younger than 8 years (10 children), 8-10 years (11 children) , and older than 10 years (8 children), respectively.

A total of 203 children from both centres took part in the evaluation phase. Analysis was undertaken using the three age groups used in the piloting stage to highlight age related characteristics leading to service improvement.

Five key themes were identified from the interviews: waiting area, the dentist, appointment length, treatment provided, and the staff. The waiting area and waiting time before they were called in to see the dentist were most interesting to the children in group one (under 8 years), while all themes were of interest to the two older age groups. The need for more toys and games in the waiting area was a common quote from group one (under 8 years of age). Group two (8- 10 years of age) were interested in video games, and group three (more than 10 years of age) were mostly interested in the availability of books and magazines. As the children in the last two groups became more aware about their dental needs and health at this age, children belonging to group 2 and 3 were particularly focused on the dentist and the treatment provided. They cared about the dentist welcoming them and the explanation provided prior to the treatment.

Children felt that their views were taken into consideration when the researcher asked them for help and advice. Younger children needed more time to fill the questionnaire. With no personal information (name) required, the introduction was more suitable for younger children in addition to the one-page display and accompanying answers with faces. As the children understood the idea of helping the department improve the services for them, it was helpful to remind them that there

is no wrong or write answer and that this was not an exam, which made them feel relaxed towards participating.

Children Satisfaction Questionnaire

Kindly pass this to your child after reading it. Then ask them to tick the box that express their feeling e.g.:

HAPPY

Please answer the following questions about seeing us today.

GIRL BOY AGE

What do you think about the toys and games in the waiting area?	<input type="checkbox"/> HAPPY <input type="checkbox"/> OK <input type="checkbox"/> SAD
What do you think about the books/magazines in the waiting area?	<input type="checkbox"/> HAPPY <input type="checkbox"/> OK <input type="checkbox"/> SAD
What do you think about the TV in the waiting area?	<input type="checkbox"/> HAPPY <input type="checkbox"/> OK <input type="checkbox"/> SAD
Did you wait before you saw the dentist today?	<input type="checkbox"/> No <input type="checkbox"/> YES A LITTLE <input type="checkbox"/> YES A LOT
How do you feel about seeing the dentist today?	<input type="checkbox"/> HAPPY <input type="checkbox"/> OK <input type="checkbox"/> SAD
Did your dentist explain everything to you?	<input type="checkbox"/> YES A LOT <input type="checkbox"/> YES A LITTLE <input type="checkbox"/> No
How was your visit today?	<input type="checkbox"/> HAPPY <input type="checkbox"/> OK <input type="checkbox"/> SAD
How can we make your visit even better?	

Figure 1. children satisfaction questionnaire

Group Analysis:

Of the 203 children interviewed, three forms were excluded due to incomplete responses. The 200 remaining questionnaires were equally distributed within the two centres (Table. 1).

Table 1. Questionnaire results with gender spread

		Eastman		Dental College Wales	
Gender	Age Group	Number of test subjects	%	Number of test subjects	%

Girls	Group 1 (<8)	16	7.75 %	13	6.75%
	Group 2 (8-10)	14	6.8 %	23	11.7 %
	Group 3 (>10)	19	9.2 %	15	7.8 %
Boys	Group 1 (<8)	21	10.2 %	22	10.65 %
	Group 2 (8-10)	16	7.75 %	12	5.9 %
	Group 3 (>10)	17	8.25 %	15	7.25 %

The data from the questionnaires were transferred to an Excel spreadsheet after coding the responses. Qualitative analysis was used to determine the percentages for each response. In general, the responses from both centres were similar, with patients largely ok or happy with the service and facilities provided. In five questions, over half of the children were happy with their experience, none of the unhappy responses exceeded 10% of the sample. The most positive responses were associated with the last three questions ('how do you feel', 'did your dentist explain', 'how was your visit'). The question with the least 'happy' responses was around the waiting time (Figure 2).

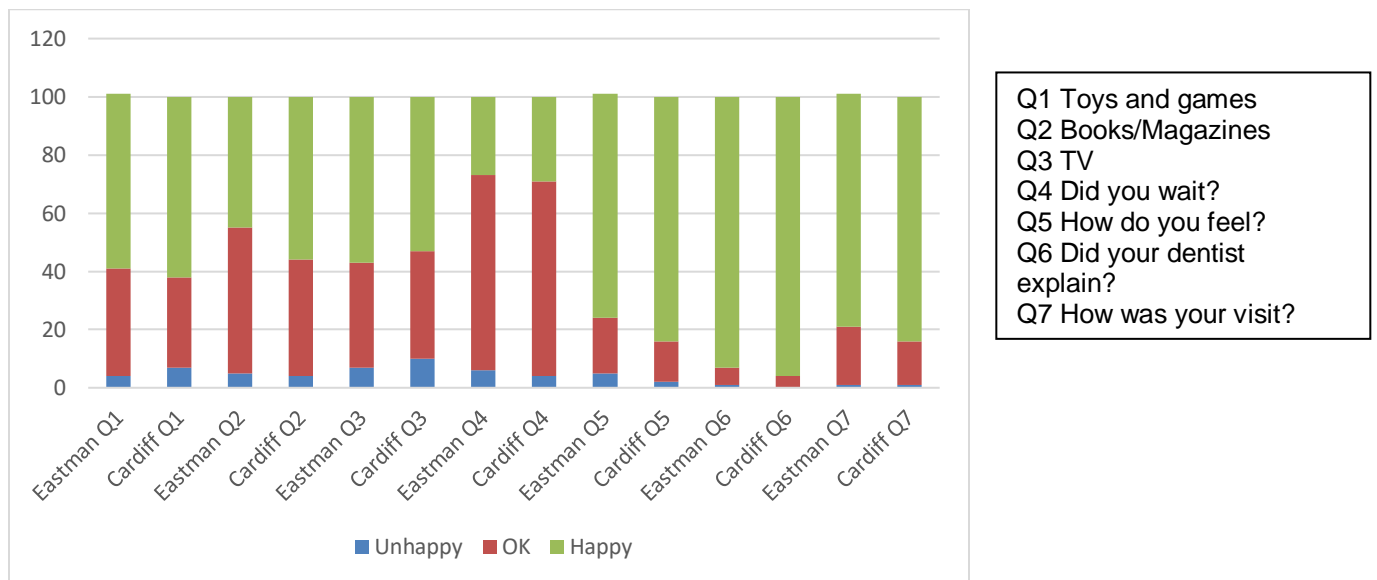


Figure 2. Responses from the Eastman and Cardiff Dental School

For the first age group (under 8 years old), question 6 was the one that children from both centres agreed on, with more than 85% as happy with their experience. About 5% of negative responses were given for books and magazine at both centres (question 2) as shown in Figure 3.

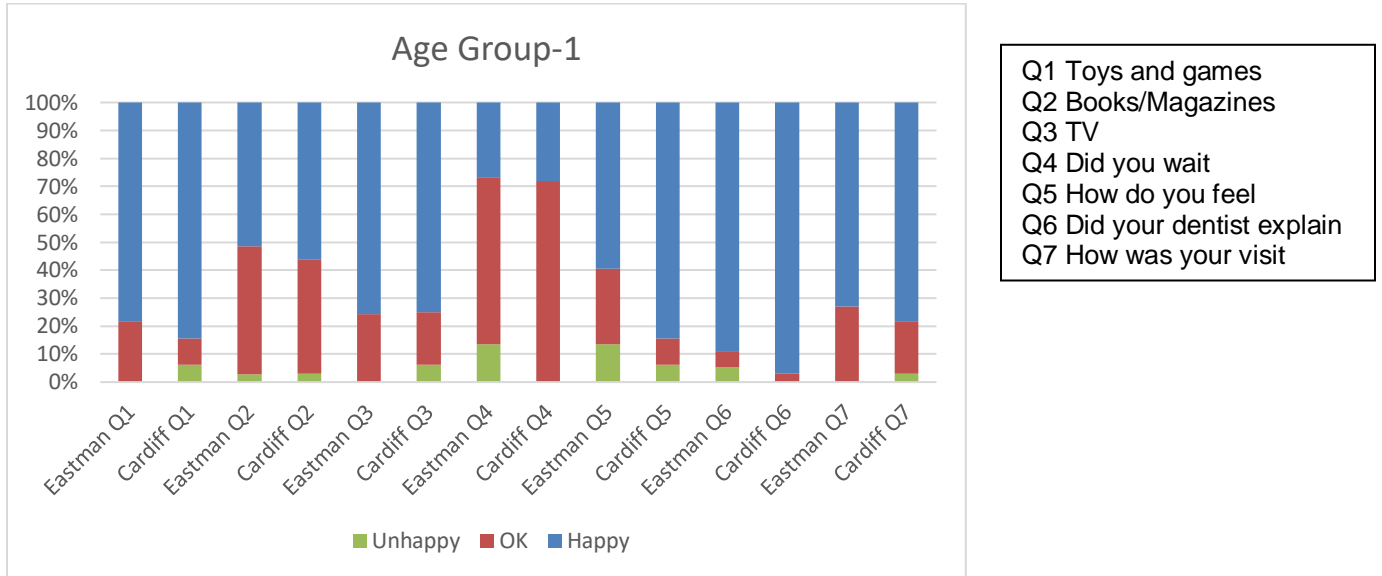


Figure 3. Responses from the Eastman and Cardiff Dental School - group 1 -

The second group, children between 8-10 years old, reported no negative responses for questions 6 and 7. More than half of the children reported a waiting period before seeing the dentist (Q4), which produced the lowest positive response. Question 6 was again the question with the most ‘happy’ responses (Figure 4).

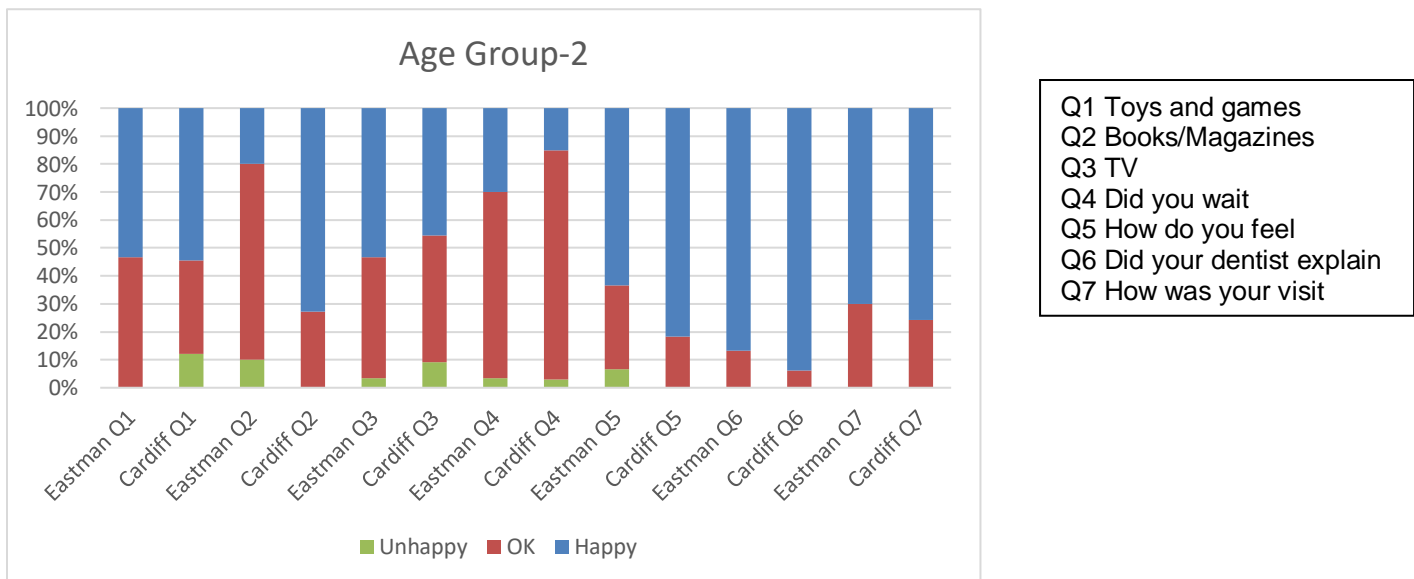


Figure 4. Responses from the Eastman and Cardiff Dental School - group 2 -

In the last group, children above 10 years old, question 3 (TV), had the most ‘unhappy’ responses (15%) (Figure 5).

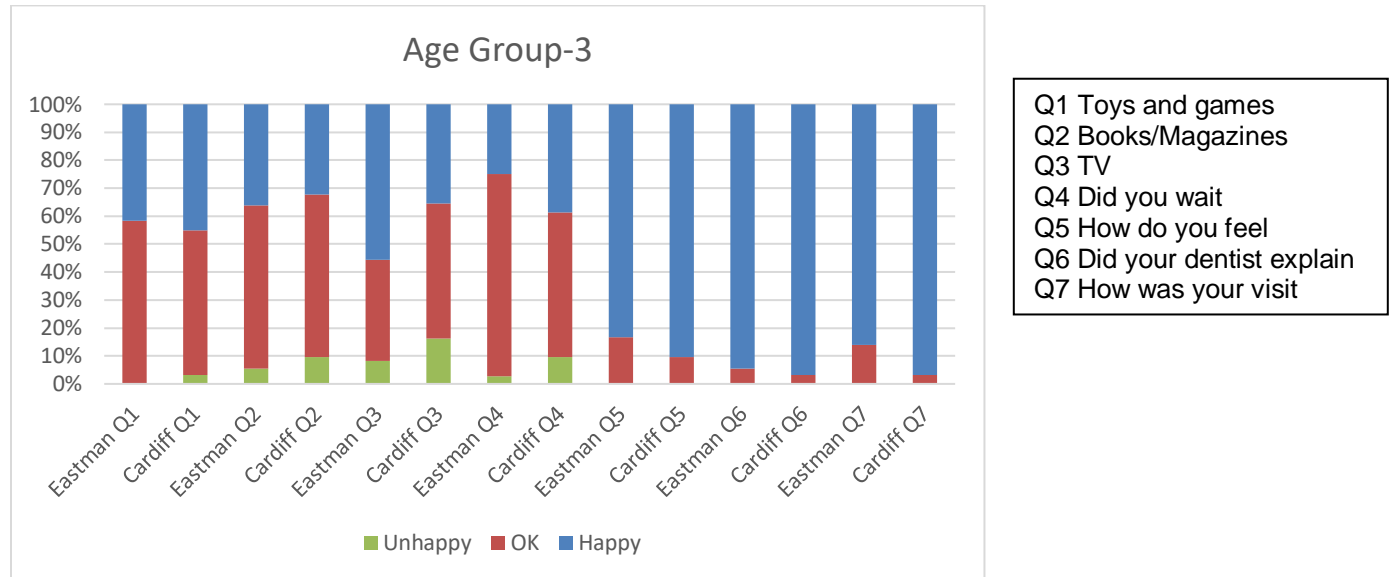


Figure 5. Responses from the Eastman and Cardiff Dental School - group 3 -

Data from the individual age groups was supported by the comments at the bottom of the satisfaction survey sheet. A variety of comments were obtained, and provided additional useful information, such as the waiting area facilities and items not always being appropriate for older children. Many children asked for items suitable for their age, stating that waiting area was currently designed to accommodate those aged below 8 years old. Some children in group two expressed that the waiting time was an issue. Group three asked for Wi-Fi for Internet access, TV for teenagers, and books.

Comparison between the child satisfaction and the adult satisfaction surveys at the Eastman Dental Hospital

Currently at the Eastman Dental Hospital, satisfaction is measured using the Friends and Family survey (England NH 2014) which is completed by adults (example in Figure 6). In general, the children satisfaction score agreed with the adults’ satisfaction score, with 67% of adults extremely likely to recommend the department to others, while 77% of children gave a happy response about their visit.

The other question common to both surveys was regarding waiting times. A 52% of adults reported they were seen on time, whilst 27% of children reported the same (Figures 7 and 8). However, a direct comparison was difficult, as a child arriving early for an appointment may be seen on time, but may not like the wait for that appointment.

THE NHS FRIENDS AND FAMILY TEST



We would like you to think about your recent experience of our service.

How likely are you to recommend our dental practice to friends and family if they needed similar care or treatment?

Extremely Likely	Likely	Neither likely or unlikely	Unlikely	Extremely Unlikely	Don't Know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
😊	←————→			☹️	?

Thinking about your response to this question, what is the main reason why you feel this way?

Figure 6. NHS Friends and Family Test

9. How many minutes after your appointment time were you seen? (Overall score: 81.50%)

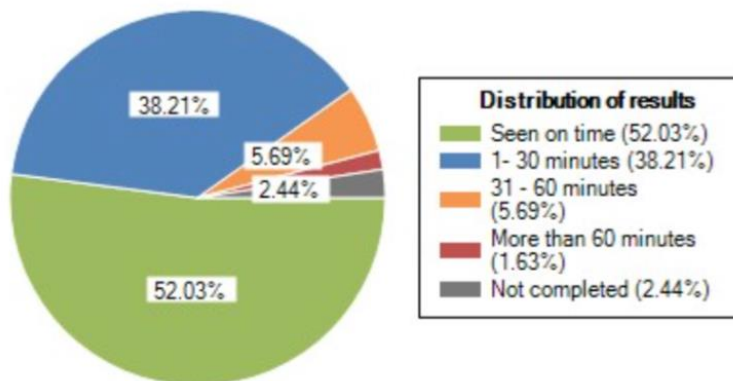


Figure 7. Waiting time, adult questionnaire

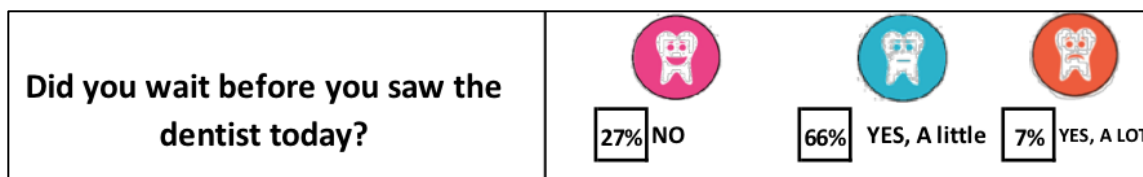


Figure 7. Waiting time, children questionnaire

Adults comments were different compared to children, for example, many adults expressed the need of air conditioning and parking (almost half of the comments), whereas no children mentioned these issues. Other adult comments were mostly about the appointment availability and the appointment time.

Comparison between the child satisfaction and the adult satisfaction surveys at Cardiff Dental Hospital

Satisfaction in Cardiff was measured using a 12-point survey targeted for adults. Questions asked are summarised below. Data for comparison with the child satisfaction survey was from 2014.

1. Were you happy with the quality of service by reception?
2. How long did you wait (from your appointment time) to be seen today?
3. Were you satisfied with the appearance and arrangement of the waiting room?
4. Were you satisfied with the appearance and arrangement of our clinic?
5. Was the appearance and behaviour of the dentist professional?
6. Was the attitude of the dentist friendly and approachable?
7. Was the attitude of the dentist assistant friendly and approachable?
8. Was the dental assistant's appearance and behaviour professional?
9. Were you satisfied with the information given about the condition of your child's teeth?
10. Were you happy with your child's teeth?
11. Did you feel involved in the decision making about your child's dental care?
12. Were you satisfied with the overall care your child received today?

Satisfaction survey used in Cardiff results

As with the Eastman, overall levels of satisfaction were high, 96% of adults were satisfied with the overall care, and 84% of children reported they were happy. Again, as with the Eastman adult survey, the only other common question was around waiting time; 35% of adults reported they were seen within 5 minutes of the appointment time, and 29% of children reported they did not wait. In the comments section, as with the Eastman, parents were concerned with parking, the length of time between appointments, and privacy during treatment.

Discussion

This report describes the development of a questionnaire for assessing children's experiences using services at two paediatric dentistry departments. Patient experience is a significant part of service evaluation to ensure provision of high-quality care.

During the development of the survey, the decision was made to create one survey for children of all ages. However, children from different age groups showed different interests and responses – some older children found the survey too simplistic too complete, while some of the younger children needed some help filling it in. Further development of the survey might consider developing surveys targeted at different ages; this was not done for this evaluation, as it was felt it would be too complicated to administer.

The approach we followed to develop a children satisfaction survey was a pragmatic one. Our data may not have been from a representative sample of children. Further development could be improved through prospective qualitative interviews with children in a similar method to that described by The Development of a Patient Reported Experience Measure (PREM) Survey for Children aged 0 to 16 years in Urgent and Emergency Care (Davies et al., 2012). In PREM development, a focus group was used as the qualitative research method followed by an interview to test the cognitive ability. Nevertheless, when the satisfaction survey was used in an unrelated group of children at Cardiff Dental School, it was interesting to note that their likes and dislikes were very similar, suggesting the survey was sensitive to common themes relevant to child satisfaction with their dental visit.

The questionnaire consisted of seven questions following children interests. The first four were about the waiting area and waiting time, as a point of high importance. The 'unhappy' and 'ok' responses were more noticed in these four questions compared to the last three. This could be due to different demands children have during their waiting time and how much they enjoy the waiting area depending on what is available. For example, some children mentioned how busy the waiting area was with no available space to play. The perceptions of time between young children and

teenagers may also vary, and separate questionnaires by age group may capture this more accurately. However, almost no unhappy responses were selected for the last three questions in both centres. This reflects the general agreement about the standard of care and the service provided.

The five themes identified following the analysis of the direct interview were more related to children interests and different than the adults survey themes. The parents/carer themes included the recommendation of the department to others, welcoming during arrival, check in, staff kindness, and waiting time. Children are not concerned on recommending the department to others, while adult's feedback on that is mandated to maintain a good overall reputation. When arriving to the department, children have no roll in check in or communication with reception staff, whereas adults did care about the ease of this process and the availability of friendly staff if assistance was needed. Although both children and adults care about waiting time, it seems that children care more about the quality while adults care about quantity. Enjoyment while waiting is what all children ask for. Therefore, multiple sources of entertainment are required such as video games, TV, toys, books, and magazines. In addition, the adult should be informed about any delay in their child care so they will not feel ignored while the staff is trying to attend their child as soon as possible.

The difference between the questions used in the adult survey and the child survey highlighted that the adult survey is not measuring the satisfaction of child patients, only their caregivers. Whilst some input from caregivers is important, much more emphasis must be placed on the satisfaction of children. The child satisfaction survey developed in this study, or similar, should be implemented in paediatric dentistry units as soon as possible to ensure the right metrics are being recorded to shape service delivery.

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Conflict of interest

The authors declare no conflict of interest.

Research involving animals and human participants

This article does not contain any studies with human participants or animals performed by any of the authors.

Patient Number:

Age:

Gender

Number of previous visits:

Parent's verbal agreement ...

Hello

We would like to find out how children feel about coming to the dentist and what they like / don't like.

We would like to speak to your child about their experience of visiting our department – would you be happy for us to talk to them? (It should only take a few minutes)

Could you please help us, by answering a few questions??

There is no right or wrong answers; we are just interested in what you think

What is the most important thing for you when you come to visit us?

What things make you happy when you visit us? What do you like?

What things don't you like? Why?