The perceptions of users about barriers to the use of free systematic oral care among Finnish pre-school children—a qualitative study

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With the economic recession in the early 1990s in mind, and the change in the provision of healthcare services, our aim was to explore qualitatively what barriers families of Finnish pre-school children had perceived related to the use of free systematic oral healthcare. Qualitative interviews were carried out with the parents of 12 pre-school children attending an oral health examination to ascertain what barriers those using oral services had overcome, and what they considered to be the reasons for the non-attendance of other families. Content analysis was used by classifying groups of barriers and their reported importance as well as the reasons for non-attendance. The barriers discovered were related to: difficulties in the (i) change of daily routines or (ii) booking time for care, (iii) poor coordination with other healthcare services, (iv) fear and negative image of oral care, and (v) inconsistent content of oral health information. When parents replied to the externalized question about reasons for the non-attendance of some families, they most often mentioned difficulties in changing daily routines, laziness, lack of interest and fear. Barriers to attending oral healthcare could be lowered by emphasizing the positive image of oral health services, by providing more effective coordination with mother and child health services, and by providing appointment times later in the day. □ *Attendance; dental services; non-usage; utilization*

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In Finland, oral healthcare services have been provided free of charge to all children and adolescents under 18 and 19 years of age since 1976 and 1979, respectively (1). These systematic and comprehensive services have included regular (often annual) examinations, preventive care, and the treatment needed. The aim of these systematic services has been to create a life-long, regular, preventive oral healthcare relationship based on the customer's self-care and individual recall intervals. The oral health services are partly integrated with the mother and child health (MCH) care activities, which are used by virtually all families in Finland and strongly emphasize health promotion.

According to a national survey, 85% of the pre-school children who were invited to oral examinations annually visited a dentist in 1981; non-users did not differ from users in terms of socio-economic status, distance to the health center or type of residential area (2). In a study conducted in 1981, the non-attendance of children was related to: (i) living in a single-parent family with a low level of education and difficulties in getting time off work, (ii) dental fear of the child, and (iii) not having received an invitation to the examination (3). In their literature review, terHorst and deWit (4) classified the barriers that affect utilization of oral care services into two types: (i) dentist-oriented and (ii) patient-oriented. The barriers that were more or less under the control of the dentist were: the high cost of treatment, inaccessibility of the practice, the difficulty of getting an appointment when desired, restricted amount of dental services offered, and the dentist's attitude, inexperience, way of communicating and knowledge (4). Barriers related to patient characteristics were: lack of perceived need, pain, fear, dislike, forgetfulness, lack of time, laziness, poor expectations, lack of perceived seriousness, inconvenience and un-cooperativeness (in the case of treatment of children) (4).

Since the 1980s, the oral health of pre-school children in Finland has, on average, improved, thus creating the impression that caries is no longer a problem among children (1). Among 5-year-olds, the average dmft decreased from 1.4 in 1981 to 0.8 in 1993 (5). At the same time the caries problem polarized: 78% of the 5-year-olds were caries-free (dmft = 0) in 1993, whereas only 8% of the children accounted for 76% of all decayed teeth (5). Simultaneously with this polarization, the delivery of oral health services was affected by an economic recession, which in Finland has been the most severe since the 1930s. Public health expenditure was cut by more than 8% between 1992 and 1995 (6). Besides the cut in expenditure for healthcare, the general philosophy in the Nordic welfare system has also changed. The out-reaching support to individuals has been diminished and people's own activity in taking care of their health is emphasized. In many municipalities this has been seen as, among other things, a decrease in the coverage of annual invitations for oral examinations and in the group oral health education in schools and kindergartens. Seeking oral care has also become more dependent on the family's own activity.

Table 1. Description of the interviewed families

ID no. used in the text	Sex of the interviewed parent	Age of the child	Sex of the child	No. of siblings	Site of the interview*	Time of interview in relation to examination
1	M & F	2 y	F	1	health	before & after
2	M	6 mo	F	0	health	before & after
3	F	6 mo	M	0	health	before & after
4	F	2 y	M	0	health	before
5	F	5 mo	F	1	health	before
6	F	2 y	F	1	health	before
7	F	2 y	F	0	health	before
8	F	3 y	F	0	city	before
9	F	3 y†	F	1	city	after
10	F	3 mo	F	8	suburban	after
11	F	3 mo	F	1	suburban	after

* City = representing city center area, suburban = suburban area inhabited mainly by large families, health = representing area inhabited mainly by families working in the health sector.
† = Twins.

In the city of Oulu, the coverage of annual oral health examinations among pre-school children decreased from 78% in 1990 to 56% and 68% in 1994 and 1995, respectively. Honkala et al. (8) reported that in 1993 the utilization of oral care services no longer varied according to socio-economic status among adolescents. However, concentration of poor oral health to a minor part of the population has also been found among 15-year-olds (5) and this could reflect the accumulation of less favorable attitudes towards oral healthcare in some groups. In addition, adolescents attend oral health services from school, whereas parents with pre-school children have to arrange the examinations themselves, which leaves the less empowered families at risk of also dropping out of preventive oral health services. Bearing in mind the changes in the children's oral health and the economic recession in the 1990s, our aims were: (i) to examine qualitatively what barriers families had perceived related to the use of oral health services and (ii) to identify items, and especially their phrasing, for a questionnaire on attendance barriers to be used among a group of non-attenders. Less regular attenders seem to be less willing to participate in a questionnaire survey (7). Thus, in this phase, our specific aim was to investigate what barriers those using oral health services had overcome and what they considered to be reasons for non-attendance among other families. This was done to develop a proper methodology to approach non-attenders.

Methods

This qualitative study was conducted using semi-structured interviews (9). In a pilot phase, four active and extroverted key-informant mothers of pre-school children were interviewed by the first author in order to find possible sensitive areas and to formulate the questions of the interview as neutrally as possible. During the pilot phase, the main question for identifying the barriers that parents had had to overcome was formulated as follows: "*How did this morning/day differ from the usual mornings/days in your family because of this visit?*". The participants were encouraged to express their experiences as widely as possible. Additional questions were used when necessary to specify the replies or to help the participants to orientate themselves to the interview. These were for example: "*Did you book the time for the examination yourself or was it booked for you?*", "*What was your reason for booking time for an oral examination?*", "*Was this visit exciting?*" and "*Did you get any new/interesting information about oral health?*". Reasons for non-attendance were determined with externalized questions like: "*Why do you think some parents do not bring their child to oral examinations?*". The method of externalization was used as it enabled the participants to reflect their own hidden barriers. A check-list was used so that the participants could give their comments on all the areas mentioned in previous studies (3, 4). The structure of the interviews changed over time as the results were analyzed continuously. In particular, the analyses influenced the phrasing of the questions. To emphasize the confidentiality of the interview and to encourage the respondents to discuss their opinions freely, the only background variables included in the interviews were number of children in the family, age of the child, and distance from home to the health center.

To obtain information from different parts of the city of Oulu, three sites were selected. Areas included were characterized by (i) proximity of two big hospitals and a health center (health), (ii) urban city center (city), and (iii) a suburban area inhabited mainly by large families (suburban). However, during the interviews no systematic differences were found in the replies from these three areas. One day was selected for "urban" and "suburban" areas and 2 days for "health" area, and all visitors in the dental health center during that day were invited to the interview. Only 1 parent refused and that was because she had to hurry to work. The interviews were carried out

until no new information was obtained from the replies. Parents (at least 1) of 12 pre-school children (including a pair of twins) attending the oral health examination participated in the interviews, which lasted on average 40 min (range 20 min to 1 h 15 min). Children under 1 year of age were first-time visitors and the others had visited the dentist once or twice.

Completing the interviews took 4 full days. Interviews were carried out mainly in the waiting rooms of health centers and sometimes in the operating room for privacy. This was done in order to obtain immediate information about the barriers parents had experienced and overcome. The interviewer (first author) was dressed casually and introduced herself as coming from the dental school but did not mention her position. Five respondents mentioned that they considered her to be a student to whom it was easy to talk. All families lived within 2 km of the health center. A description of the interviewed families, i.e. the sex of the parent(s) and child(ren), age of the child(ren), number of siblings, and area of residence, is presented in Table 1.

The interviews, which were tape-recorded and typed, comprised 60 pages (double-spaced) of data. Content analysis was used by classifying groups of barriers that the families had overcome and their descriptions concerning the importance of these barriers. The externalized reasons for non-attendance were grouped in similar fashion.

Results

The barriers discovered were classified into the following groups: (i) change of daily routines, (ii) booking time for care, (iii) coordination with other healthcare services, (iv) image of oral care, and (v) content of oral health information. All parents gave at least one comment on each group except 5, who did not mention the image of oral care. The descriptions about the inconvenience or hindrance that families had overcome were similar, varying only according to whether the mother was working outside the home or stayed at home. Participants mentioned the barriers in the first three groups more often than the barriers in the latter two groups.

Of the change in daily routines, taking time off from work was considered to be the most disturbing. One mother described the situation: 8 "*And then we are here and all this time is during my working hours, without pay, time-card time-off. It means three hours off work. It takes a lot to catch up, it means working overtime. It can take many weeks*." Those mothers who were taking care of their child at home, mostly on maternity leave, mentioned the major barrier to be changing the sleeping and eating rhythm of the child. They also described the visit to the health center as a positive change in daily routines: 3 "*Well, it was good to have some time away from home*". However, same mothers worried about the difficulties when they return to work like: 5 "*But then when I'm working again, it makes me think about how I will manage? I will have to take a one-day leave and I cannot take so many of them*".

Half of the parents had received a pre-arranged time for the examination; the others had booked the appointment themselves. All those who had received an invitation considered it to be a good arrangement, e.g.: 6 "*Well, it* (the booking of the visit) *could even be forgotten, so it is better that you have a given time*". None of those who had booked the time themselves mentioned it to be positive or emphasized the possibility for their own choice of time. On the contrary, complaints about booking time by telephone were mentioned, e.g.: 4 "*Really, it is difficult to get through* (to the health center) *by phone*" or 3 "*And then when the child is there at home, then you must hope that he keeps quiet so that you can* (call) *and then you finally get through and there is a terrible noise and I have to say 'excuse me, now I just cannot talk'*".

Coordination with other healthcare services, mainly with the MCH clinic, was usually considered to operate smoothly. MCH nurses either booked the time for the parents or reminded parents about it. As regards timing of the oral and MCH examinations, opinions were divided equally. Half of the parents wanted both examinations to take place on the same day, the main reason being working arrangements: 8 "*If you have to take leave, it is easier to make both* (visits) *at once and not one at a time and take several days of leave*". They also mentioned that the oral examination should take place before the MCH examination, which often includes vaccinations that might upset the child. Those who preferred separate visits also mentioned the stress the vaccinations caused for the child. Another reason for separate visits was the impatience of the child, which did not allow the parent to listen to the information given: 1 "*They* (children) *do not have patience. All the time they are going to play and then the door is open all the time and they go here and back. Here and back to look at things. Then one doesn't want to be alone there, comes back. And the mother's attention gets lost and she can miss something important*".

Fear and negative image of oral care appeared mainly as part of other themes when the practical arrangements were discussed, but also arose spontaneously later in the discussions. Many parents wanted especially to emphasize how cheery the child had been this time when coming to the examination: 1 "*Well, I thought she would not open her mouth but then she came and briskly opened wide*" or 6 "*She always comes so willingly, she likes to play here with the toys*". However, fear and negative image appeared in the latter part of some discussions, showing that coming to the check-up was not all that positive for the family. 8 "*You can see it even in the child that I must have used all the bribing so that she would come here. I have promised cartoon stickers and other things after the visit*" or 6 "*So she asks whether it is sure they will not drill. And I promised that they won't drill, for sure they won't drill.*—Where did she get the idea of drilling?—*Well, I have visited the dentist and then we have talked about it, sometimes it happens that she does not brush her teeth. So I have said that you must brush the bugbears so that you don't have to go to the dentist and so that they don't have to drill*". The personality of the oral health professional performing the examination was strongly emphasized by many respon-

dents, e.g. 7 "*Such a person who can get along with these little children and can manage them in a calm way when they are suspicious. It is so important that the person is confident when examining*".

Finally, the inconsistency of the content of the oral health information given, even though considered important and not overlapping with other health information, was felt to change rapidly and thus to cause confusion. Examples of this were the advice on use of fluoride tablets or toothpaste, and brushing techniques, e.g. 3 "*But just this fluoride when the instructions* (for use) *change all the time*" or 5 "*Even if I have received information with the older children,* (I come to get it) *to make sure it is up to date*" or 1 "*There are changing and different* (brushing) *techniques and you feel that no one has emphasized enough that the most important thing is to get the teeth clean*".

The reasons suggested for non-attendance among other families were usually laziness, lack of interest, fear and change of routines. Laziness and lack of interest were often mentioned: 10 "*I really do not know. It must be passiveness"* or 11 "*Maybe they just don't feel it is important, that they are only the teeth*". Comments were often related to the inferior importance of the teeth, especially the primary teeth, compared to general health, e.g.: 6 "*Maybe they think that the child does not have problems, that they are only milk teeth and not so important*". Fear occurred often in connection with other issues, e.g.: 9 "*When they have these phobias for doctors*". However, changing daily routines was considered to be an understandable reason for non-attendance. Families that had experienced difficulties arranging working times and transportation mentioned this in particular as being a reason for non-attendance: 1 "*Of course, it can be the working times, arranging working times and all the traveling related to that*" or 3 "*It could be that you have troubled times in your life and then you see going to work as more important or you are just so busy*".

Discussion

The barriers mentioned in the interviews covered all the areas reported in previous studies (3, 4), so the content validity of the study can be considered appropriate for obtaining information about barriers to attending oral care. In addition, more in-depth descriptions about the barriers were found. The respondents were very willing to tell about their experiences and discussed freely after they warmed up for 1 or 2 min. The fact that the interviews were carried out in waiting rooms might have made the situation a bit formal. This could have increased the willingness to participate, but on the other hand the comments of the participants might have been more polite than in other surroundings. The casual behavior and appearance of the interviewer clearly eased the situation. However, the fact that participants knew the interviewer was attached to the dental school might have softened the most critical opinions. The venue of the interviews and the background of the interviewer might have affected the participants' responses when fear and negative image of oral care were discussed. However, especially towards the end of the interview, the expressions of the respondents became more descriptive and also more critical. The study suggests that a qualitative approach, which was a learning process for the researchers, gave authentic information on lay opinions, and can also be considered to have had validity.

To avoid hesitancy in giving replies, background variables that have previously been found to explain the utilization of services were not included. In this study, the use of a group of attending families was justified in order to obtain respondents who had immediate experiences in the use of services and could tell what they considered to be the barriers they had overcome in order to attend the check-up.

In this study the observed barriers to attending oral care were related to patient/family characteristics and to dentists' characteristics and were generally similar to those found in previous studies (3, 4). The barriers mentioned were related mainly to change of daily routines in arranging the visit and to fear and negative image of oral care. Even if the oral care services were provided free of charge, the indirect costs related to the visit played an important role for the families. The barrier "change of daily routines" could be lowered by also arranging appointments outside normal working hours so that families would not need to take time off work. As most parents use MCH services, and cooperation with MCH clinics was considered to be smooth and positive, the issue of the oral health examination should be taken up routinely during the MCH visit, either by recommending an examination or by reminding parents about booking a time for their child's oral health check-up. If resources permit, the appointment can even be booked during the MCH visit so that parents can choose a time that suits them. Cooperation in which MCH workers would also pay attention to oral health could improve the slightly lower status of oral healthcare compared to other health services. This would be a better solution than the suggested provision of ready-booked times for examination, which would consume a lot of resources from oral care in terms of mailing and missed appointments.

Fear and negative image of oral care often occurred in connection with other issues. This might imply that the respondents hesitated to mention it directly to the interviewer at the beginning of the interview, but that after they had relaxed they could express their opinion more freely later in the discussions. This appeared especially when they told about the problem of making the child visit the dentist or of motivating them to brush their teeth in the evening. At first the parents wanted to emphasize how positive and willing the child was, but later they admitted to the use of bribes and threats in motivating the child. In this study,the importance of fear and negative image as a barrier might be underestimated because of the hesitancy of the participants. Even though the children themselves might not so far have had negative experiences about oral care, the opinions of their parents

could reflect their perceptions. Thus, special emphasis should be paid by the oral health personnel to the positive image of oral healthcare from the first visit. Parents should be advised as to how they can create more positive attitudes towards oral health and avoid creating dental anxiety. It should be suggested that parents avoid motivating children to brush their teeth by instilling fear of drilling and pain. Gentle and patient behavior by the oral health personnel when performing the examination or providing information, especially during the first visit, should be ensured. In order to avoid confusion caused by changing recommendations, information about brushing techniques and fluoride doses should be linked to parents' present knowledge.

When the reasons for the non-attendance of some families were identified by using externalized questions, changes in daily routines, which were also experienced by the participating families, were described in great detail as a possible and very understandable reason. This may imply that also these attending families might sometimes skip the oral health visit because of problems in changing their daily routines. In this situation the method of externalizing the questions proved to be useful. However, expressive descriptions of other reasons for non-attendance, such as laziness or lack of interest, could not be given. This might be due to the fact that, in general, the respondents belonged to a social network which uses oral health services. As most respondents came from the proximity of two hospitals and a health center, the values of people living in this area could be more health-oriented. This type of subculture could be so positive towards the use of health services that it was impossible for them to understand and describe a situation in which oral health would not be considered important. People belonging to this subculture too might not have had negative, possibly pain-provoking, experiences about dental treatment. Thus, fear and negative image of oral care could be a much more important factor among non-users who might avoid taking their children to check-ups because of dental anxiety.

Even though no clear new factors related to non-attendance were found in this study, detailed descriptions of the barriers faced by the attending families provided useful information about the reasons why some families might not take their child to a check-up. Previous studies have usually identified a number of factors related to non-attendance (2–4), but no attempt has been made to analyze what combinations of barriers lead to non-attendance. In particular, the descriptions of the processes that families go through when preparing for and attending a dental examination provided important information. Most families experienced changing of daily routines as a barrier to taking their child to a dental check-up. When this is combined with the negative or less important image of oral healthcare compared to other health services and the possible fear of the child, these barriers could pile up to become one which families cannot overcome. The rather non-expressive and abstract reasons like laziness and lack of importance might actually consist of a combination of the above-mentioned barriers. Thus, in further studies the combinations of the barriers should be examined. Use of an open-ended externalized question to ascertain the reasons for non-attendance should also be included, as it proved to be a useful way of avoiding hesitation even among the attending families.

This study provided useful practical suggestions for improving oral health services. Provision of visiting times outside normal working hours and improved cooperation with MCH services were the most important areas for lowering the barrier of changing daily routines. Another important area for improvement was avoiding the motivation of children with pain or possible negative experiences of oral healthcare. The description of the participants about the importance of the barriers and their comments related to the barriers also provided useful information for developing, especially in phrasing, a questionnaire for a further study of the barriers to attending oral care in a group of non-attending pre-school children.

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