

## Exploring the Attitudes of Fathers/Teachers Towards the Oral Health of School Children Aged 6 to 7 Years in Ha'il City: Qualitative Study

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### ABSTRACT

**Aim:** Exploring the fathers and schoolteacher's role in establishing and maintaining primary school children's oral health behaviours.

**Methods:** Qualitative study; semi-structured interview were utilised method. purposive sampling adopted. Target sample were fathers and teachers of children aged 6 to 7 years in Hail city. Thematic analysis was adopted in this study.

**Results:** Totally of 45 participants; 18 fathers and 27 teachers. Numbers of barriers regarding maintaining good oral health of children were mentioned due to: Saudi life style, routine and cultural norms. Furthermore, shortage of knowledge regarding promoting oral health and asking children to brush their teeth was count. The preventable visit to dentist was not necessary according to participants, as it only required when treatment is request. Teachers agreed about the importance of a school programme and expressed their willingness to be part of it; however, they expressed a lack of their knowledge about promoting it.

**Conclusion:** Hail's population are keen to keep their children healthy but they don't know the correct methods. Furthermore, they have some anxiety about doing. Preventive dental visit lack due to past experiences. Social life structures have some effect on oral health practice and sugar consumptions. Teachers are willing to promote oral health.

**Key words:** Oral health behaviours, Sugar consumption, Dental clinic prevention visit

### INTRODUCTION

It is well known that oral diseases are one of the most common diseases around the world, especially dental caries among children, which can be classified as a chronic disease<sup>1</sup>. In any community, the children are the most important part of it. Although it is useful to maintain the status of children's oral health as it is critical for their advancement. Some studies argue that oral health is related to the children's growth, development, weight and general wellbeing<sup>2,3</sup>. Children who have dental caries may suffer from pain, which will affect their sleep and feeding and their school attendance<sup>4</sup>. Furthermore, oral health status can affect the children psychologically<sup>5</sup>. However, maintaining the children's oral health has a long term.<sup>6</sup> argued that children with good oral health are more likely to have good oral health when they become adults, which leads to the understanding that preventing oral health problems needs to start early. That was also indicated by<sup>7</sup>, when she stated that setting oral health habits during childhood is important.

Dental caries is a multifactorial illness that contributed between three factors: biological, social and behaviours factors<sup>2,8,9</sup> indicated that socioeconomic status (SES) is associated with children's oral health, arguing that children from low socioeconomic status (SES) tend to have bad oral health.<sup>10</sup>, declared in their cohort study that dental caries in children is related to social factors of their parents (such as their SES, parent's education level, parent's income and type of home). Furthermore, there have been arguments concerning other factors. An eight-year-long cohort study conducted in China investigated other risk factors of dental caries, arguing that the presence of dental caries on primary teeth is one of the risk factors for dental caries on permanent teeth<sup>11</sup>.

Regarding dental caries among Saudi children, a systematic review conducted by<sup>12</sup> to investigate the prevalence of dental caries in Saudi children between 1988 and 2010 found that 80% of Saudi children have dental caries within their primary teeth. Comparing these results of dental caries prevalence in children across Saudi with the United

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Kingdom, which is only 40%<sup>13</sup>, one can state that Saudi Arabia has a high prevalence of dental caries in its children. Another systematic review was conducted by<sup>14</sup> to measure dmft in Saudi, and found that the mean dmft of children aged from 3 to 7 years old is 7.34, which confirm our stated. As a result, the question of the reason behind, and solutions to this high prevalence of dental caries arose.

As result, there was a clear need to conduct a study that would explore the reasons for the high caries levels, especially in children focussing mainly on oral health behaviours, sugar consumption and preventive dental visits.

This information demands an in-depth qualitative exploration that will help produce a complete understanding of the causes of dental caries prevalence in Saudi society.

Potential issues may include families' knowledge of oral health and the value they place on their children having good oral health; families' culture and/or beliefs and the potential effect they may have on children's oral health; and accessibility to dental service caries prevention programmes. In addition, from a teacher's/school's point of view, issues may include knowledge regarding oral hygiene behaviours and the importance of oral health (including impact learning).

This research has two main objectives:

- 1) To understand how parents, care for their children's oral health through an exploration of their attitudes, beliefs and behaviours regarding their children's oral health.
- 2) To understand how primary school teachers, care for their pupils' oral health through an exploration of their attitudes, beliefs and behaviours regarding their pupils' oral health.

## METHODOLOGY

This study utilised a semi-structured interview. This has been likened to a "conversation with a purpose" to explore topics relevant to the research question a long with allowing unexpected themes and information to arise (Burgess 1984, p. 102).

In terms of the dental field,<sup>15</sup> claimed that interview research could help to explore "views, experiences, beliefs/ motivations of individuals on specific matters (e.g., factors that influence their attendance to the dentist)" (p.292).

**Location of the Study and Target Participants:** The research took place in the northwest side of Saudi Arabia (Hail province). Target participants of this research were teachers and fathers of 6-7-year-old children.

**Sampling Methods:** This research used purposive sampling methods. Primary schools were used as the sampling frame for this study because they included the age range that we wanted to target, children aged 6 to 7 years. In our research, we only included the primary schools located in Hail city (urban area).<sup>16</sup> stated in his study that there was no difference regarding oral health in Saudi between urban and rural areas. The inclusion criteria for participants were as follows:

### For Fathers

- Father of children aged from 6 to 7 years who were attending the school to study in either the 1st or the 2nd grade.

### For the Teachers

- Teachers of the 1st and 2nd grade.

- Teachers who normally spent more than 15 teaching hours a week with children aged 6-7 yrs.

**The Sample Size:** We included a number of participants (fathers and teachers) until we reached the saturation point. (Where no more information is gained from participants, they start to repeat the information from previous interviews<sup>15</sup>).

**Ethical Approval:** Before we conducted this research, we gained ethical approval from the University of Manchester with reference number (2018-2542-5663)

**Data Collecting Procedure:** The data collection of this research went through three stages. The first one was selecting the schools from where the teachers and fathers would be recruited. The second stage was recruitment of the teachers who met the inclusion criteria of this research. The final stage was recruitment of the fathers who were capable of being part of this research.

## Interview Procedure

**Selecting the Schools:** The number and location of primary schools were taken from the Ministry of Education (Table 1). There are many primary public schools in Hail city, and we could not include them all in our study. Thus, we decided to select schools randomly from each compass direction of Hail city. Therefore, two schools were selected from each direction (north, west, east and south) of the city. For the special needs primary school, we randomly selected one school from each direction. As there are only seven private schools, we included them all. However, after visiting the private schools, it transpired that three of them are international schools (where the majority of students are not Saudi), so we excluded them and just included four private schools.

**Table1:** Type and distribution of primary schools in Hail.

Type of school	Number of schools	Number of students	Number of teachers	School gender
Public (general education)	292	28715	3147	Male
Private (general education)	7	3017	271	Male
Public (general education)	247	29579	3717	Female
Private (general education)	7	776	78	Female
Public (special needs)	36	235	175	Male
Public (special needs)	7	106	58	Female

## Recruitment Process

**Teachers:** Each school was contacted via email to request a formal meeting with the school director. At this meeting, information sheets and consent forms were provided to the school director, who was asked to distribute these to teachers meeting the inclusion criteria of this study. It was also arranged that the researcher would hold a meeting at the school with teachers who were interested in the study in order to answer any questions, formally enrol participants on to the study and collect the signed consent forms.

**Parents:** The best way in which to contact fathers was by sending the information sheets home with the children. This avoided the need to collect personal details of potential participants in order to contact

them directly. School directors agreed to facilitate the distribution of information sheets and consent forms to fathers via their children.

**Confidentiality and Anonymity:** All participants were informed through the participant information form and again at the start of the interview that the interviews were being recorded using a digital voice recorder. Furthermore, it was clearly explained to the participants that none of them or the institutions will be identified or named.

**Pilot Study:** Before conducting the main study, a smaller version of the research was carried out in order to make sure that the interview questions and guidance were appropriate and to test the interview questions.

**Procedure:** Interviews were conducted over a three-month period. Each interview conducted in separate day, there was not more than an interview in one day. There was at least a day off between each interview, to be sure that I will not mix the thoughts between different interviews. Before conducting the interviews, I always reminded participants that they could ask me any question or request a clarification of any question they did not understand. Also, I reminded them that they could skip any question they did not want to answer.

The privacy of the interviewees was a high priority and as such all interviews took place in private rooms or in quiet public areas in order to ensure that no one listened in. All the interviews with teachers took place on the school premises in private rooms. The majority of interviews with fathers also took place on school premises in private rooms; however, for four fathers it was more convenient to meet elsewhere. These interviews were conducted in quiet coffee shops. During every interview, refreshments were made available to the participants. At the end of the interview, participants were asked to complete a sociodemographic checklist. All participants were thanked for their time and provided with contact details should they want to contact me with any questions.

During each interview, the series of the general interview guide questions was followed. The interview started with general questions about themselves and what they do, to help participants relax during the interview. The questions in the interview guide were then asked, with probing questions later on. The probing questions sought deeper knowledge of fathers' thoughts about child oral health and its importance; why children do not brush their teeth (weak oral health behaviours); their thoughts and beliefs regarding preventive dental clinic visits; access to dental clinics; sugar consumption and the schools' programmes and their duty regarding child oral health.

Furthermore, the probing interview guide sought teachers' thoughts about current oral health school programmes; their thoughts on how to improve them; their ideas of increasing the children's awareness of oral health as well as their thoughts on being part of school's promotion programmes and being part of tooth brushing activity (such as supervising tooth brushing).

All the interview guides were developed to meet the aims of this study (have deep knowledge on factors relating to poor oral health behaviours, lack of preventive dental visits, sugar consumption, what are their thoughts on current promotion programmes (school) and teacher's willingness to be part of school promotion programmes). The interviews lasted from 30 to 45 minutes.

All interviews were transcribed and encrypted in Arabic then translated into English later on. The participants' real names have not been used; rather, they have been replaced with false names to keep the identity

of the participants private. All the transcription and translation were carried out by the researcher alone.

**Methods of Analysis:** The first step of analysing the interviews was by analysing the socio-demographic information in order to know the participants' age group, education level, employment status and SES. After I understood the SES of each of my participants, we started the second step of analysing, using 'thematic analysis'<sup>17</sup>.

## RESULTS

**Participants:** In this research, it was thought that more information could be gained from the fathers; however, more information was gained from the teachers, as all the teachers who were included in this study were fathers as well. There were 45 participants, 18 fathers and 27 teachers (Tables 2 & 3). Most of the participants were aged from 31 to 40 years old. However, there were two senior teachers who were over 50 years old. All the teachers had a bachelor's degree, which is the minimal requirement to be a teacher in Saudi Arabia. Teachers in Saudi almost earn the same salary. In general fathers/teachers were from a good SES.

**Table 2:** Number of participants in the study

Sampling Group	Public Schools		Private Schools	
	General Education	Special need education	General Education	Special need education
Teachers	14	7	3	3
Fathers	7	5	3	3

**Table 3:** Summary of participants' socio- demographic characteristics

Characteristics	Fathers (n=18)	Teachers (n=27)
Age group	31-35	5
	36-40	13
	46-50	0
Education degree	High school	2
	Bachelor's degree	15
	Master's degree	1
Employed status	Employed	18
	Non- employed	0
Family income	1500- 2200 £	0
	2300_ 3300£	15
	> 3400£	3
Family members	1-2	12
	3-4	5
	>5	0
Accommodation type	House	18
	Flat	0

**Themes:** During the interviews, all participants provided rich information regarding the value of oral health and they all agreed that it was important. Some of them explained that was because it is related to general health. In addition, they all agreed that primary teeth are as valuable as permanent teeth due because they are important from a nutrition point of view, i.e. these teeth are necessary in order for children to eat.

The data was categorised into 7 themes: 1) Perception of oral health, 2) knowledge around prevention of oral disease, 3) knowledge around dietary behaviours for oral health, 4) attitudes to dental visits, 5) priorities and daily structure and 6) oral health education within schools.

**Perception of Oral Health:** Perception of oral health was gauged by the participants in two ways, firstly through appearance and also through function. It was generally agreed that, if teeth were white in colour with no obvious defects and the child could eat and speak effectively, oral health was good. A good appearance to teeth was thought to be a sign of no disease. Dental caries was most often talked about, with only one participant (a teacher) referring to periodontal disease and no mention of dental trauma, which can be common among school children.

*“Regarding children, I think if the child has white teeth without any different colours and this child does not show any sort of pain when he is eating, then we can say that this child apparently is in good oral health.” Fahad (Father)*

Interestingly, the appearance of the mouth and teeth was linked not just with oral health, but with the health of the whole body and cleanliness in general.

*“It [having good primary teeth] is very important as it is related to the whole-body health” Mashial (Teacher)*

Appearance of the mouth and teeth was thought to have far reaching consequences for the child. It was considered by two participants that appearance could impact on the interactions between children at school and might result in isolation or loneliness for the child with a sub-optimal appearance.

*“From my experience as a teacher, if the teeth of a child are unhealthy the other children will make fun of him and might not [be friends with] him and call him the dirty boy who does not clean his teeth. That for sure will affect his psychological life.” Talal (Teacher)*

A number of participants commented on how having poor oral health could impact on general health because food was passing through the unhealthy mouth to the rest of the body. This represents a slightly different aspect of function, as children may be able to physically eat food with poor oral health condition but they may then spread disease to the rest of the body. Thus the function of eating still happens but it does harm to the body.

*“If your teeth are not healthy, that means they will have dental caries and cavities that will contain some food that had been eaten earlier; then, when the person is eating again, the cavities will mix the new food with the old food, which will make it unhealthy and can be the reason for a number of illnesses, especially for the stomach.” Mustafa (Teacher)*

The ability to speak without any problems was also associated with good oral health from the participants' viewpoint, as some participants argued that good oral health is important for being able to speak.

*“Teeth have many different roles, one of them is speaking; without using them, speaking becomes a very hard job.” Saud (Teacher)*

#### **Knowledge and Behaviour Around Prevention of Oral Diseases:**

Throughout the interviews, it became clear that participants had a positive attitude around the about the importance of keeping children's teeth healthy and in good condition. They were all in agreement that primary teeth and permanent teeth are both important and have the same value. Some of them thought that primary teeth need more attention as they are weak and can get caries easier than the permanent teeth.

*“As you know, primary teeth are linked to children so children's food will go through the primary teeth and the child can be affected by*

*anything as his immune system is still weak so, in order to keep your child healthy and avoid sickness, you need to [take] care of the primary teeth, and primary teeth, as far as I know, are weak so they need extra care than permanent teeth.” Shafi (Teacher)*

The participants reported that their children did not have much information about oral health. Some participants felt that their children did not know the reasons why they should brush their teeth or of the importance of tooth brushing. This was considered, by participants, to be one of the reasons that their children did not brush their teeth.

*Omar (Father): “They do not like to brush their teeth and I am sure they do not understand the reasons for teeth brushing.” Omar (Father)*

Interestingly, participants indicated that they had not tried themselves to educate their children about tooth brushing or oral health more generally. Instead they felt that any information their children had on the matter would have been gleaned from other sources such as TV or from the school, but not from them.

*“I think if they get some they will get it from TV and from school.” Salman (Father)*

Participants argued that their children were still young and careless about their own health. They reported that children at this age (6 to 7 years old) are much more interested in entertainment such as play and watching the television. It was also considered that this was normal for the age group.

*“I do not think they are ready yet to brush their teeth. More than that, they need to understand the importance of oral health. I think if we start telling them about the difference between black teeth and white teeth and how the teeth get black and how they can keep their teeth, they will for sure brush their teeth.” Fadi (Father)*

Of the fathers included in this study, it seemed apparent that they lacked the confidence to encourage tooth brushing behaviour in their children. This appeared to be because they were worried that the children would not like brushing their teeth. This was considered to be a reasonable course of action because the children were still young and did not need to brush their teeth until they were older.

*“Well, it is not easy to take care of children, especially when talking of oral health as they do not like to brush their teeth.” Masood (Father):*

Some participants admitted that they were so worried that they would become unpopular with their children if they forced the issue of tooth brushing, that they didn't bother. This was seemingly justified through concern that forcing tooth brushing on children would negatively impact on their health behaviours as adults.

*“If I force them to brush their teeth they [will] for sure hate me and they will never like brushing.” Dhafiar (Father)*

Some of the participants admitted that they did not carry out tooth brushing themselves. Children may pick up on actions of their parents who model behaviour to them. This may help to explain why their children did not brush either.

*“From my experience with my students, I can tell you that usually children have the same character as their fathers. I can teach the student how to brush [their] teeth but they still need to see their father do it.” Saleh (Teacher)*

Most of the participants stated that they have toothbrushes and toothpaste in their house. Some of them admitted that it is not hard to get a toothbrush as they are provided free of charge.

*"Toothbrushes and paste are one of the basic needs in my house; they are always available for everyone [who] wants to use them."* Omar (Father)

Generally, it was felt that children with healthy teeth (i.e. appearance and function is fine) did not need to brush their teeth because they were already healthy and did not need to become more so. That is to say, tooth brushing was seen to be a treatment rather than a preventive activity. This was further confirmed when participants argued that they would ask their children to brush their teeth if they noticed a problem with their teeth.

*"The good thing [with] my children [is] that they all have very good oral health with white teeth, so they do not brush them, but for sure if someone has sensitive teeth I will force him to brush his teeth."* Rakan (Teacher)

To sum up, participants believe that children lack knowledge around oral health and the importance of oral health. There appears to be a belief that increasing this knowledge would have a positive impact on their children's oral health behaviours. However, the participants in this study did not attempt to improve child oral health knowledge despite believing that such an action would have a positive impact. It is possible that this is due to low confidence in their ability to deliver this information in an effective way. The data also indicates that parents may feel uncomfortable in giving oral health information or in encouraging oral health behaviours, for example there seems to be a belief that 'forcing' children to enact oral health behaviours may have a negative impact on father-child relationships.

Interestingly, the data also revealed that parents lack knowledge around oral health and oral health behaviours themselves. Some parents believe that tooth brushing is only necessary once a dental problem has been identified seeing it as a treatment for poor oral health rather than a preventive measure.

**Knowledge Around Dietary Behaviours for Oral Health:** Similar to their ideas about healthy food, some participants considered that the type of food eaten by children might have an impact on their oral health.

*"Me and their mother make sure that they drink a lot of milk as it will help them to have strong bones and teeth. There also other foods which one time I read about that also help in maintaining teeth health, such as cheese."* Saleh (Teacher)

From this data, it can be seen that participants have an understanding of the role of oral health for nutrition. Regarding sugar consumption, some participants admitted that they felt unable to control their children's levels of sugar consumption due to sugar being readily available in the immediate environment. They clarified that, when visiting friends and relatives, it would be expected that sugary foods and drinks would be offered to their children.

*"You know even if you have some control in your house, that control will disappear when they visit my family or my wife's family."* Fahad (Teacher)

Some participants said that they did not feel it would be feasible to ban sugar from their house because they felt this would be unkind to their

children. Additionally, they thought their children would feel such an action was unfair when sugar is so ubiquitous within their society.

*"I cannot ask my children not to eat sweets when other children in the school eat [them]."* Khalid (Teacher)

The point was made by others that sugary food is often given as a prize or reward for children's achievements.

*"When we have [a] competition usually the prize will be sweet food or toys"* Khalid (Teacher)

It was also considered that reducing the sugary food and drink available to children could result in them protesting by refusing to eat other foods.

*"Those children are in love with sweet food, they can stop eating for days if I or their mother try to reduce the sweet food."* Saleh (Father)

Participants interviewed reported an inability to control child sugar consumption and also appeared to be more concerned about the impact of fizzy drinks rather than sugary food. Sugary food was reported as being widely and easily available and part of normal life.

**Attitudes to Dental Visits:** The majority of participants stated that they take children to a dentist when there was a reason for it. Some of them indicated that, if their children were in pain, they went to the dentist to ascertain the reason behind the pain and treat it. None of them said that they would go only for check-ups, especially for their children.

*"I will not drive my child to a dentist when there is no need to see one... if my child [is] in pain, at that time I will take him to be checked up by one and seek [the reason for the pain]."* Khalid (Teacher)

Another issue that arose during the interviews was phobia of seeing a dentist. Some participants claimed that they were scared of dentists and doctors as they were fearful of hearing bad news. Furthermore, some participants worried that dentists might make their children scared.

*"Do not think I will ever take my children to [a] dentist just for check-up, especially in this age... I get scared [in] the dentist chair and I do not want my child to face the same feeling. If you go to a dentist, even if you do not complain of anything, he or she will make your teeth bad and tell you that your teeth or your child's teeth need to be fixed."* Saleh (Teacher)

Some participants claimed that visiting a dentist without any reason does not make any difference to children's oral health. They thought that the dentist would only give them information that they already knew.

*"Visiting [a] dentist without any reason is just a waste of time. If you need any advice for your child's oral health, you can gain it either from [a] website or from [a] pharmacy."* Abdo (Father)

Participants appeared to be sceptical about the necessity of asymptomatic dental visits. It is not considered that there is a benefit from such visits, in fact it seems there is perceived harm from these visits, both through exposure unnecessary intervention and also to possible dental fear. At best, asymptomatic dental visits are considered to be a waste of time.

**Priorities and Daily Structure:** A number of participants reported that they did not feel they had the time to take care of their children's oral health needs. It was reported that lifestyles are too busy and this leads to them forgetting to help their children to brush their teeth. They

would rather spend their free time from work socialising with friends and family rather than dealing with child oral health behaviours.

*"The person these days is too busy, working from morning until afternoon. After that, your body needs to have a nap in order to relax. After that, you need to do some stuff for your home, your family and visit your relatives. Of course, at night you need to visit your friends and when back home you will be so tired [you] forget about teeth brushing and asking other people inside [the] house to brush as well, and [you are] just thinking of sleeping and asking your children to sleep so they can get up [for] school [the] next day."* Faris (Teacher)

Some participants reported that their children do not have specified bedtimes. This sometimes leads to them not brushing their teeth as freedom around bedtime seems to be prioritised over tooth brushing.

*"when you talk of the youngest ones [children], as they most of time sleep without any notice, they usually sleep before dinner time."* Ammar (Father)

This data indicates that the participants placed higher priority on their own social lives and their children's sleep rather than on their children brushing their teeth. A further barrier to tooth brushing appeared to be the unstructured days which do not allow for tooth brushing routines to be easily put in place.

**Oral Health Education Within Schools:** Many teachers and some fathers felt that there was a lack of oral health education in schools. In fact, it appeared that there was no training on offer than addressed the health of pupils at all.

*"I think the Ministry of Education does not really pay any attention to health or oral health, even [though] it is important to have some courses in order to know how to deal with those issue. For example, if any student has a health problem or oral health problem, we do not know how to deal with [it], I mean first aid."* Khalied (Teacher)

All the teachers interviewed welcomed the idea of being part of oral health promotion programme.

*"I am willing to be part of it. I can ask students to brush their teeth and next day I will give a prize to the students who brushed their teeth, such as a pen, or write [their] names on the board."* Raid (Teacher)

Some teachers believed that a school programme could be more effective for improving oral health knowledge and behaviours among the children as children follow teacher's advice over their parents.

*"From my experience, students follow the teacher's instruction and believe their information, even if it [is] wrong."* Saleh (Teacher)

Similarly, fathers seemed to agree that children were more likely to be influenced by their teachers than their families.

*"Whenever I do something that does not [agree] with what my son's teacher tells him, my son does not accept it."* Hammdan (Father)

However, some of the teachers discussed the limitations of such an approach. Not all teachers felt that a single programme would provide them with enough information to promote good oral health.

*"If such [a] programme [is] admitted by the Ministry, I am happy to be part of it for free, but I think I need to read more about oral health or*

*have [a] little course in order to know what to say to my students and my children as well."* Khalid (Teacher)

Generally, teachers reported that they would welcome being part of an oral health programme. However, there was some concern about confrontation with parents over their children's oral health. Additionally, teachers felt that they would not feel well equipped to deliver such education. This may indicate low confidence among teachers for providing oral health education to pupils.

## DISCUSSION

The aim of this study was to explore the attitudes of teachers/fathers in Hail city towards the oral health of children aged 6 to 7 years old. Participants reported positive attitudes to oral health in general but their knowledge, particularly around prevention of disease was low. A reason for low levels of brushing behaviours was considered, by fathers themselves, to be a lack of demonstrating this behaviour to their children. That is to say, fathers did not brush their own teeth and their children followed this example. This finding is supported by a study conducted by<sup>18</sup> in which it was found that father's ideas and beliefs would be reflected in their children and in their own behaviours. Several studies<sup>19,20</sup> suggest that the oral health practices of fathers can be reflected in the oral health habits of their children. Hence, one could predict the risk of caries by looking at the practices of the fathers. It is the fathers that have the power to determine the oral hygiene practices of their children.

Furthermore, significant proportion of fathers admitted that they never promote oral health to their children even though they know the importance of oral health, especially for children in this age group, and some of them claimed that they do not know how to effectively convey this information. This again demonstrates the low levels of oral health knowledge among fathers as well as low levels of confidence for encouraging these health behaviours. This is important because it has been shown that reminding children to brush their teeth or helping them to do so can have an impact on caries outcomes<sup>21</sup>. Fathers claimed that they do not remind their children for a variety of reasons, such as having unstructured bedtime routines or no routines at all. Ultimately, they reported that tooth brushing was a low priority for them compared with their own social lives and letting their children sleep when they wanted to. All participants reported that they couldn't control sugar consumption for different reasons; one was because of the Saudi social lifestyle in which sugary food is everywhere. Some of them stated that their children would refuse to eat any food if it was not sweet.

Positive health habits adopted from a young age are likely to have an impact later in life. This view is supported by<sup>22</sup>, who also add that the dietary preferences of children are linked to several elements, including advertising and modelling, and social and cultural norms<sup>23</sup>. indicated that, in the UK, there were strong trends to educate children inside the school, which had the benefit of making children aware of the importance of oral health. The authors stated that, inside the school, toys, games and books as well as a group-brushing club were all incorporated to educate children about oral health and give positive results. However,<sup>23</sup> also argued that education of young school children alone is not enough as there is a need to educate parents as well. They argued that parents have a choice in the food types that they buy and when to book an appointment to see a dentist, especially for young children. In Saudi Arabia, <sup>24</sup> stated that children in Saudi Arabia aged 3 to 6 years old who attend preschool get their oral health behaviours from mothers. In their study they argued that children's oral health is associated with the mother's oral health practice. As results, we can conclude that maternal oral health knowledge and practice have a direct effect on their children.

Regarding teachers, we found that schoolteachers had a very positive attitude to promote oral health across their students. Most of them stated that they would be more than happy to do so. However, most of them were not sure if that should be their duty, as their duty is to teach students and not to take part in oral health promotion. They argued that oral health education and promotion should be the parents' duty and not theirs. The same result was found by a quantitative study conducted by<sup>25</sup>, whose study was conducted among teachers in the rural area of Riyadh (Al-Kharj). They found that schoolteachers have good knowledge regarding oral health but they do not want to be part of any oral health promotion programmes. Furthermore, many of them refused to ask the children to see a dentist when they noticed that they had an oral health problem. The same results were found in our study, and the teachers argued that they would be scared of upsetting the fathers if they complained or provided advice regarding their children's oral health. However, this concern was not shared by the fathers in this study.

Although, all teachers showed a positive attitude regarding oral health and all of them expressed their willingness to be part of an oral health promotion programme, they also expressed some worries regarding their lack of knowledge of how to maintain good oral health. Some of the teachers reported that school children sometimes are involved in accidents at school that result in dental trauma. They argued that they do not know what to do except to call the father and tell him what has happened. A study conducted by<sup>26</sup> targeting primary schools in Riyadh concluded that most teachers do not know how to deal with dental trauma when it happens inside the school. The study also stated that most teachers would just call the fathers. The same result was found in later on studies (Al-Shamiri et al, 2015). Thus, there is a need to educate schoolteachers on how to deal with dental trauma when it occurs.

As a Saudi citizen, father and dental professional, I took into consideration that when interviewing my participants (fathers and teachers), that I needed to be and remain neutral, putting away my own views, attitude, beliefs and reactions, trying my best to listen from the perspective of a researcher. For example, I used the information from the literature review to prepare myself for the likelihood that I would receive a large number of responses that were contrary what I as a dental professional believe to be the best method of ensuring child oral health. This was a form of expectation management for myself – being aware of the prevalence of poor hygiene practices allowed me to mute my reactions. However, this process was a little difficult for me to be entirely objective and to put away my personal experience. Furthermore, all the participants were from a city where I was born and raised, so we share the same attitude in some points.

In terms of the limitations of this piece of research, even though there were attempts made to select the target schools by random, the participants within the schools were self-selecting meaning that there may be common features among the participants included in this study. This may limit the generalizability of the study findings. Furthermore, interviews were conducted in the Arabic language, as not all the participants could speak English and interviews were transcribed and translated into English. It is possible that some of the original meaning was lost through the translation process.

Finally, the most significant limitation of this research is that it was restricted to men only. This was as a result of me, a man, being the only researcher involved in the data collection of this study. Some fathers expressed the view that their wives were closer to their children than they were because of the lifestyle and so would know better than them

about their children's oral practice. It is therefore likely that important information about home life is missing from this study. Further research might seek to circumvent this problem through the use of surveys.

## CONCLUSION

**Fathers and teachers (Hail population) are willing to improve child oral health; however, they do not have the information as to how to improve it. It was found that there are some elements playing roles in the maintenance of child oral health in Hail city. The social life structure including daily routines have some effect on oral health practice (tooth brushing). Furthermore, the cultural norms in Saudi Arabia associate with sugar consumption in the form of dates, chocolate and sweet drinks provided to guests as a sign of welcoming and part of hospitality, which is a highly regarded cultural value. Fathers past experience is related to the child's preventive dental visits. Furthermore, the lack of fathers' knowledge of the importance of preventive dental visits for their children was evident. Teachers welcomed the idea to of an oral health school programme that aimed to improve child oral health. Furthermore, confidence for educating children and improving their oral health was low.**

**Why this paper is important to paediatric dentists:**

- 1) As far as researchers know it's the first of its kind study that seek to exploring reasons why children in Saudi Arabia have shortages regarding oral health practices (tooth brusher), consuming lot of sugar and lack regarding dental clinics visit for preventive purpose.
- 2) This study will help to produce interventions that can help children in Saudi Arabia to increase oral health practice, access to dental clinic for preventive and decreasing sugar consuming
- 3) Helping in improving the oral health among the Saudi. As this journal is focusing in children, I believe this study will be fit on it and within its aim and scope.

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## REFERENCES

1. Gussy MG, Waters EG, Walsh O, et al. Early childhood caries: Current evidence for aetiology and prevention. *J Paediatr Child Health* 2006; 42(1):37-43.
2. Selwitz RH, Ismail AI, Pitts NB. Dental caries. *Lancet* 2007; 369(9555):51-9.
3. Sheiham A. Dental caries affects body weight, growth and quality of life in pre-school children. *Br Dent J* 2006; 201(10):625-6.
4. Jackson SL, Vann WF, Kotch JB, et al. Impact of poor oral health on children's school attendance and performance. *Am J Public Health* 2011; 101(10):1900-6.
5. Sheiham A. Oral health, general health and quality of life. *Bull World Health Organ* 2005; 83(9): 644.

6. Nunn JH. The burden of oral ill health for children. *Arch Dis Child* 2006; 91(3): 251-3.
7. O'Malley L. The Development and Evaluation of a novel health promotion intervention (Kitten's First Tooth) to improve children's oral health in a deprived area of Northwest England. UK Univ Salford, 2013.
8. Locker D. Deprivation and oral health: A review. *Community Dent Oral Epidemiol* 2000; 28(3):161-9.
9. Locker D. Disparities in oral health-related quality of life in a population of Canadian children. *Community Dent Oral Epidemiol* 2007; 28(3):161-9.
10. Peres KG, Peres MA, Araujo CLP, et al. Social and dental status along the life course and oral health impacts in adolescents: A population-based birth cohort. *Health Qual Life Outcomes* 2009; 7:95.
11. Li Y, Wang W. Predicting caries in permanent teeth from caries in primary teeth: An eight-year cohort study. *J Dent Res* 2002; 81(8):561-6.
12. Al Agili DE. A systematic review of population-based dental caries studies among children in Saudi Arabia. *Saudi Dent J* 2013; 25(1):3-11.
13. Vernazza CR, Rolland SL, Chadwick B, et al. Caries experience, the caries burden and associated factors in children in England, Wales and Northern Ireland 2013. *Br Dent J* 2016; 221(6):315-20.
14. Al-Ansari A. Prevalence, severity, and secular trends of dental caries among various Saudi populations: A literature review. *Saudi J Med Med Sci* 2014; 2(3): 142-150.
15. Gallagher J, Clarke W, Wilson N. Understanding the motivation: A qualitative study of dental students' choice of professional career. *Eur J Dent Educ* 2008; 12(2):89-98.
16. Al-Shammery AR. Caries experience of urban and rural children in Saudi Arabia. *J Public Health Dent* 1999; 59(1):60-4.
17. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006; 3(2): 77-101.
18. Rubin KH, Chung OB. Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective. *Parenting Beliefs, Behaviors, and Parent-Child Relations: A Cross-Cultural Perspective*. 2006.
19. Sasahara H, Kawamura M, Kawabata K, et al. Relationship between mothers' gingival condition and caries experience of their 3-year-old children. *Int J Paediatr Dent* 1998; 8(4):261-7.
20. Okada M, Kawamura M, Kaihara Y, et al. Influence of parents' oral health behaviour on oral health status of their school children: An exploratory study employing a causal modelling technique. *Int J Paediatr Dent* 2002; 12(2):101-8.
21. O'Malley L, Adair P, Burnside G, et al. An evaluation of a storybook targeting parental attitudes, intention, and self-efficacy to change their child's oral health behavior. *Heal Psychol* 2017; 36(2):152-9.
22. Birch LL, Fisher JO. Development of eating behaviors among children and adolescents. *Pediatrics* 1998; 101(3 Pt 2):539-49.
23. Davies G, Bridgman C. Improving oral health among schoolchildren - Which approach is best? *Br Dent J* 2011; 210(2):59-61.
24. Al Zahidy HA. Prevalence of Dental Caries among Children in Jeddah-Saudi Arabia-2015. *EC Dent Sci* 2017;15-20.
25. Al-Jobair A, Al-Saleem A, Al-Wadee K, et al. Oral Health Knowledge, Practice, and Attitudes among Saudi Public Schoolteachers in Al-Kharj. *J Int Oral Heal* 2016; 8(1): 27-31.
26. Al-Obaida M. Knowledge and management of traumatic dental injuries in a group of Saudi primary schools teachers. *Dent Traumatol* 2010; 26(4):338-41.