

Determining the Knowledge, Awareness and Perception of Parents' toward Space Maintainer's in Taif city: A Cross Sectional Questionnaire Study

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Abstract

Aim: The aim of this study was to assess the knowledge, awareness and perception of parent's towards the use of space maintainer's in Taif city. **Settings & Design:** A cross sectional study was planned to randomly select parents from the city of Taif aged between 20 years to 60 years. **Materials & Methods:** An online google form based questionnaires in Arabic was distributed by e-mail to the parents to explore their demographic data as well as their awareness and perception towards space maintainers. **Statistical Analysis:** All the responses collected were analysed using SPSS Version 21.0. Demographic data were described using frequencies and percentage. Responses to questionnaire were subjected to Chi square test, with level of significance set at $p < 0.05$. Demographic variables also have been crossed with responses to check their statistical significance. **Results:** The frequency and percentages for the gender, age group and education level for the study sample showed female participation to 92.7%, age group of participation around 62.5% within age range of 20-40 and bachelor level of education of samples to around 55.4%. All the questionnaires related to the study showed a p value of less than .000 and were statistically significant. **Conclusion:** The parents of Taif city are aware of the importance of primary teeth and their maintenance. But they are unaware and show relatively less perception related to the space maintainers and their use in facilitating permanent dentition, their maintenance, and benefits.

Keywords: Space maintainers; Knowledge and awareness; Parents; Primary teeth; Perception

Introduction

Parents have a major impact on their children oral health behavior, so it's important to improve the parents knowledge and behavior regarding their oral health as they are the role models for their children. [1] A study conducted by Bozorgmehr et al. [1] revealed that the factor that caused poor oral health status of parents caused poor dental health in their children as well, for example, increased consumption of sweet food had a significant relationship of this behavior with their children, moreover they also showed that the frequency of tooth brushing in parents is significantly associated with their children tooth brushing frequency. The presence and maintenance of primary teeth for the 1863 child is important for several factors like eating, speaking and aesthetic therefore primary teeth plays a vital role on the overall health of a child. [1]

One of the world widespread problems regarding the children oral health is the premature exfoliation of their primary dentition. Early loss of the primary teeth can stimulate the remaining teeth to migrate which will create multiple problems such as lack of space, malocclusion and midline discrepancies in the permanent teeth. Multiple reasons can lead to the premature exfoliation of primary teeth such as dental caries, trauma, premature root resorptions and periodontal diseases which appear to be the major factors that playing essential roles leading to this problem. [2]

There was an increase in the number of malocclusion cases which caused by the premature exfoliation of the deciduous

teeth. The treatment phases of the malocclusion include a preventive phase and corrective phase, when the early signs of malocclusion or start to be noticeable in the deciduous or in the early mixed dentition the preventive treatment should be applied. [3-7] These early preventive interventions will minimize the severity of the malocclusion and the difficulty of the treatment, and in addition it will also minimize the time and the cost of the treatment. One of the preventive intervention is the use of an appliance named space maintainers. [7] Space maintainers are fixed or removable appliances used to preserve arch length following the premature loss or elective extraction of primary tooth. [5] The space maintainers play in important role in maintaining the arch length in the deciduous and early mixed dentition. By maintaining the arch length space during these periods it will help preventing future conditions such as ectopic eruption, crowding, teeth impaction and dental midline discrepancies.

The aim of this study is to assess the knowledge, awareness and perception of parent's towards the use of space maintainer's in Taif city.

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Materials and Methods

This is a cross sectional questionnaire study in which an e-questionnaire were made in both languages Arabic and English and was randomly distributed among the male and female parents who lived in Taif city of the kingdom of Saudi Arabia. The study was approved by research ethics committee, Taif University with the decision no. HAO-02-T-105 dated 27-09-2021. The questionnaire consists of a sixteen multiple choice questions. The questionnaire designed so that the questions falls into three categories. The first section gathered demographic characteristics of the parents: Gender, age, educational level. The second section surveyed parents' knowledge of oral health; the importance of primary teeth, the frequency of dental visits, the experience of premature exfoliation of primary teeth and the dental treatment regarding primary teeth. The third section surveyed parents' knowledge and awareness toward space maintainers, how they work. The previous children's experience with space maintainer's uses of space maintainers, type of food avoided with space maintainers, and brushing care of space maintainers and when to remove the space maintainers.

Results

After interpretation of 762 respondents we received, the Results of Demographic data shows that a total of 706 (92.7%) questionnaire were answered by female and a total of 56 (7.3%) questionnaire were answered by male. And Regarding Age variations, the majority of the respondents falls in the age group of 20-40 years old (62.5%) while the minority of respondents falls in the age group >60 years old (2.6%). The results shows that majority of the parents have bachelor degrees 422 (55.4%) while parents with post-grade certificates are resembling the minority by 64 (8.4%) [Table 1 and Figure 1].

When we asked the parents about their oral health knowledge, around 88% of parents answered that primary teeth are important. And 80% of parents think that the child should visit the dentist every 6 months, and more than 85% of parents agreed that it's important to restore decayed tooth of their children of 5 years old or younger. Parents reported that their child had an experience of missing a deciduous tooth are more than 65% [Table 2 and Figure 2].

Regarding parents knowledge about space maintainers appliances, 74% of parents respondents that they don't know what is space maintainers appliances, And 77% of parents said they didn't receive any information about space maintainers appliances, and 51% of parents don't know if the space maintainers will aid in the eruption of permanent teeth, And 61% of parents don't know when the space maintainers will be used, when we asked the parents what is the purpose of using space maintainers 69% of them answered to prevent crowding while 28% reported that they don't know. And last question regarding their knowledge about space maintainers we asked

Table 1: Demographic data of parents participated in the study.

		Frequency	Percent
Gender	Male	56	7.3
	Female	706	92.7
Age group	20-40	476	62.5
	40-60	266	34.9
	<60	20	2.6
Education level	High school	276	36.2
	Bachelor	422	55.4
	Post graduate	64	8.4
	Total	762	100

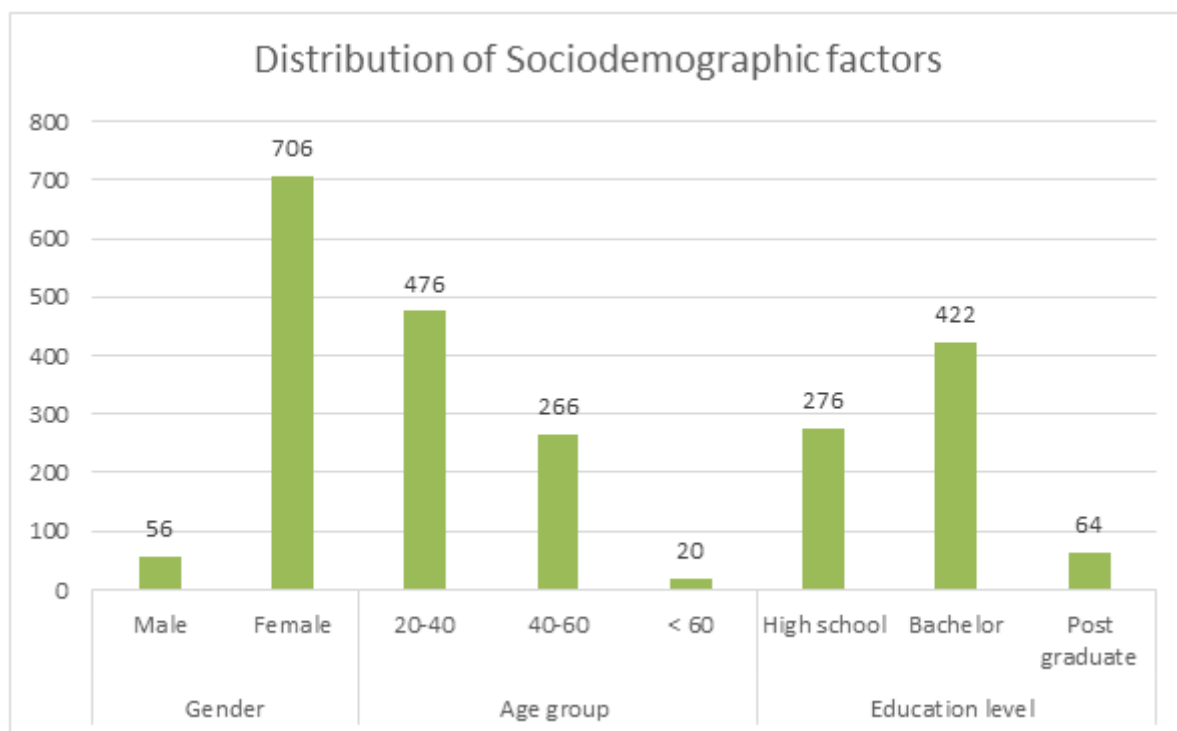


Figure 1: Graphical representation of demographic data.

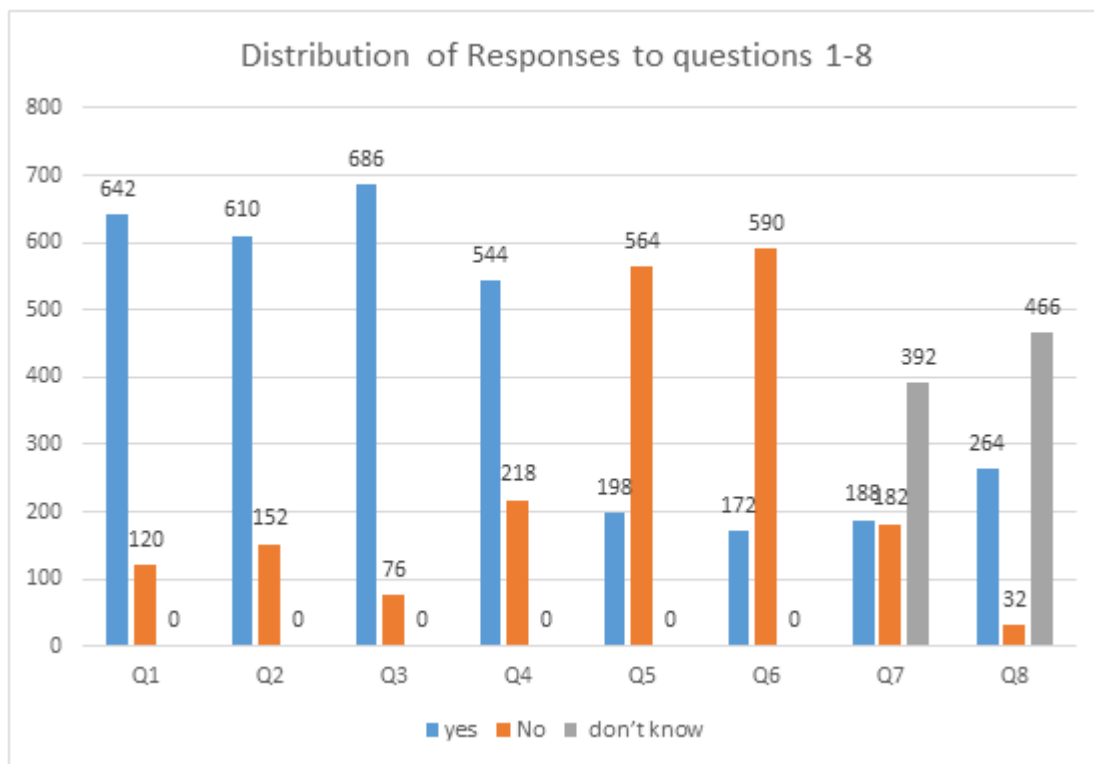


Figure 2: Graphical representation of statistical data for the Q1-Q8.

Table 2: Statistical data for the Q1 to Q8.

	yes	No	Don't know	Chi-square	P value
Q1	642	120	-	178.795	0
Q2	610	152	-	137.64	0
Q3	686	76	-	244.16	0
Q4	544	218	-	69.735	0
Q5	198	564	-	87.898	0
Q6	172	590	-	114.648	0
Q7	188	182	392	56.268	0
Q8	264	32	466	185.685	0

Table 3: Statistical data for the Q9 to Q10.

Q9	Crowding 530	Gum disease 10	Dental Caries 8	Don't know 214	Chi-Square 476.9	P value 0
Q10	Crowns 30	Space maintainers 252	Leave it as its 264	Don't know 216	Chi-Square 93.425	P value 0

them that if deciduous tooth is lost how can it be treated and 34% said leave it as it's and 28% said I don't know while 33% answered with space maintainers [Table 3 and Figure 3].

Q11, Q12, Q13 interpretation

We asked the parents a question regarding if they know which type of food your child should be avoiding while wearing the space maintainer appliance, 546 parents answered I don't know and 112 parents mentioned candy and sticky food, and 104 parents answered hard food. 592 parents answered yes if they think that space maintainer appliance required a special care with brushing and 382 out of the yes group mentioned they don't

know how, and 170 parents said that they don't think that space maintainer appliance required a special care with brushing. At the end of the questionnaire we asked the parents if they know when the space maintainer appliance should be removed and 647 of them answered that they don't know and 115 parents answered yes when the permanent tooth start to appear in the child mouth.

Discussion

The awareness levels of parents about their children needs is important for overall development of the latter. Dentistry as a specialty and its awareness was limited in the society till

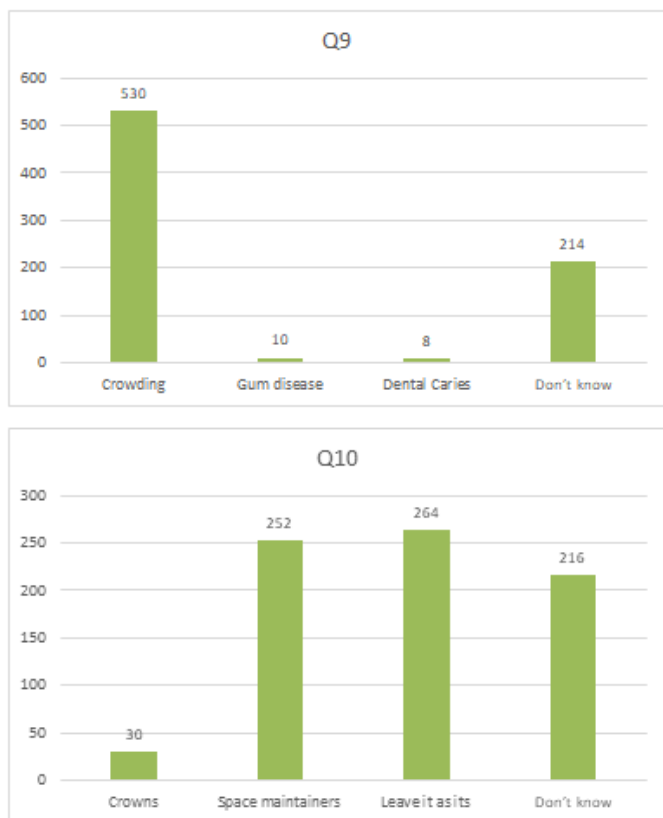


Figure 3: Graphical representation of statistical data for the Q9-Q10.

recent past. With the advancement in technology and software applications in the modern society, the level of awareness about dentistry has surpass the expected levels. The specific early dental treatments provided to prevent future unfavorable sequel of normal development needs awareness in the society. Parent's oral health awareness and its related knowledge plays a significant role in assessing their knowledge of present availability of various treatments. [1]

The awareness about primary teeth is low in the society. [7] Our study aimed to determine the knowledge, awareness and perception about space maintainers in Taif city. This cross sectional study conducted through questionnaire covered parents of different age group as well as education backgrounds of Taif city. The results were promising as the statistical results of this study showed significant P values for most of the questions, which indicates the awareness levels of the parents about the dental needs of children. However, the awareness levels about specific needs is limited like the use of space maintainers.

The parents were of opinion that primary teeth are important for the child. These results are in accordance with the previous studies. [6]

The parents didn't agreed on the child's need of visit to the dentist in every 6 months and this depicts their level of awareness about how much importance they do give to their child's oral health. Our study results are not supportive of previously published literature. [1]

More than 70% parents felt the need of restorations of decayed teeth of their children within 5 years. These results are promising and supportive of the previously published articles. [3]

The personal experience of the parents of their child having a missing deciduous tooth was reported to be 65% in this study. These results are when compared to the 51%. [8,9] Most of the respondents were unaware of the fact that there are appliances available for their child's missing teeth as an early treatment. This is in accordance with the other studies published. [10]

For the questions 6 and 7, the parent's response was negative level of awareness and this was alarming. The statistical significance shows that they are unaware of this treatment modality. This finding is in accordance with the previously published literature in different parts of the kingdom. [4] The specific use of space of maintainers and its purpose was also not known to the parents.

The level of unawareness and knowledge about the space maintainers results in decreased response rates about the last few queries like 11, 12 and 13. Our study results are similar to the other studies. [2]

Strengths and limitations of the study

The knowledge and perception of the parents about the space maintainers and its uses needs to be addressed in the Taif city. Although the awareness levels of parents about their child dental needs are promising, the knowledge about specific treatments and their long term advantages needs to be stressed at the society level. The heads of dental institutions and clinics in Taif city must increase the dental awareness programs about specific treatments in schools and public places to fill this void of knowledge in parent's day today life.

The limitation of the study is it is a cross sectional study with most of the respondents in their 20-40 age groups which limits their knowledge and exposure levels of specific dental needs. Most of the respondents were females and this is also a limitation to the study as they rarely visit dental schools or clinics for their dental needs.

Conclusion

The parents of Taif city are aware of the importance of primary teeth and their maintenance. But they are unaware and show relatively less perception related to the space maintainers and their use in facilitating permanent dentition, their maintenance, and benefits.

Contributions from Authors

1. Omar Ibrahim Alotaibi- Concept; Design of the study; Ethical Approval.
2. Dr. Raghu Devanna- Manuscript drafting; Review of literature.
3. Dr. Amith Vasantkumar Holenarsipur- Statistics for the study and results.
4. Meshari Saeed Alzahrani- Collection of data; Discussion.
5. Dr. Bheema S M- Discussion; References and Review of manuscript.

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