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Parental Awareness to Baby Bottle Tooth Decay in KSA

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Abstract

Background: Preventive oral health of a child is dependent on the parental knowledge toward caries control, care of deciduous tooth, use of space maintainers for malocclusion, and utilization of various procedures available for preventing oral diseases by oral health professionals. This study was aimed to assess the attitude and awareness of preventive dentistry among parents residing in Kingdom of Saudi Arabia.

Methodology: A cross-sectional, questionnaire study was conducted among 941 parents. Questionnaire was sent through the use of social media, and responses were collected.

Results: The study included 941 participants. Among them there were 692 mothers (73.5%) and 249 fathers (26.5%). The educational level of most of participants was college (n= 576, 61.2%). It is noticed from table one that most of participants agreed with the symptoms listed

in the study questionnaire. They strongly agreed on black or brown spots on the teeth are the main symptom of tooth decay. The most prevalent preventive measure was limiting sugary drinks followed by proper teeth brushing. There was statistically significant relationship between proper teeth brushing and level of education (P= 0.001).

Conclusion: Awareness about preventive dentistry was more among Saudi parents, but utilization rate was directly correlated to their education and income. After The utilization of preventive procedures was significant according to education (P < 0.05).

Keywords: Dental Services, Malocclusion, Preventive Procedures, Primary Teeth

Introduction

The knowledge and awareness of parents of their children's oral health is a fundamental component that gene-rates a preventive measure thus, leading to establishing a sound oral health status of their children [1]. Moreover, lack of parents' knowledge and awareness of their oral health will also affect their children future oral health attitudes and practices that they adopt which will be carried over into adulthood [2, 3].

It has been reported that a lack of parental awareness was an important indicator of children's poor oral hygiene [4]. Parents usually receive oral health care advices from their primary health care physicians, dentists, friends, and families. Parents usually ask specific questions about the time of teeth eruption, time of periodic visit for the dentist, time and frequency of tooth brushing, use of fluoride toothpaste and diet and sugar intake [5]. It had been reported that dental caries was higher among children whose parents lack awareness and knowledge of oral health [6].

Knowledge and awareness of children's oral health by parents were studied previously. In developing countries, many studies had reported poor parents' knowledge and awareness of oral health [2, 7-11]. However, other studies from industrialized countries revealed the opposite [12-14]. Searching the dental literature, no studies had evaluated the knowledge and awareness of Saudi parents related to their children's oral health.

Baby bottle tooth decay is extremely easy to prevent. However, most parents are not aware that it is a problem and therefore don't take proper preventative measures to prevent it from happening to their child.

Pediatric dentists along with healthcare providers are working to raise awareness about this common problem. By raising awareness these professionals hope parents will learn valuable information they can use on a daily basis to prevent baby bottle tooth decay.

Literature Review

The main diseases of the oral cavity include dental caries and periodontitis which results from the activity of bacterial dental plaque. Dental plaque consists of many microorganisms colonized on tooth surfaces, especially on pit and fissures and along the gingival margin [15]. Dentists deal with carious lesions or previously treated caries lesions known as recurrent or secondary caries lesions.

One of the main reasons for tooth loss in primary teeth among in Saudi children is due to carious lesions in deciduous teeth [16]. Dental caries is increasing in Saudi Arabia due to change in lifestyle, increased sugar consumption, carbonated drinks, and improper oral hygiene maintenance [17-18]. A recent study conducted reported 83% of prevalence of dental caries in Riyadh [19].

Many oral health conditions are preventable and can be treated in their early stages. Primary prevention aims at

the initial stages, whereas secondary aims to stop disease progression [20]. Interception is done best at earliest or initial stages. Dental plaque can be prevented by reducing dietary sugar exposure and improving the resilience of the teeth. Routine dental check-up spaced at 6 months' interval is the best way toward the prevention of dental decay along with population focused prevention.

Children oral health largely depends on parents who make decisions for their child's dental therapy. There are various preventive procedures available for children such as topical and systemic fluorides, rematerializing dentifrices/chewing gums, pit and fissure sealants, fluoride varnish, mouth guards for protecting accidental injuries during contact sports, and also interceptive orthodontics to prevent malocclusion. These procedures require a professional guidance. Dental appliances which aid in guided jaw growth correct minor problems but may affect at later stages [21].

Early intervention prevents many diseases including oral diseases [22]. Preventive dentistry is the area of dentistry prevent the beginning or progression of oral disease. It starts from home dental care by patients, as well as professional care and education by dental staff in office or clinic.

Preventive dental care should begin from infancy, i.e., before the teeth appearance and throughout the life like for infants, cleaning gums after feeding, brushing and flossing in adolescence, and wearing custom-made mouth guards in contact sports.

Knowledge of parents about preventive dentistry procedures is essential for the utilization of the dental services.

Regarding the vaccination, diet and nutrition and prevention of injuries and accidents, parents are usually educated during their routine visit to hospital, whereas there is less information on oral health which make them to visit the dentist at a later stage of caries progression or malocclusion etc.

Parents feel or believe it's not worth to spend time/money on deciduous teeth as they will be shed anyway. Even in developed nations, curative treatments were the choice than preventive for their kids by parents.

Methods

Study Design: This was an analytical cross-sectional study to evaluate parents' knowledge about baby bottle tooth decay. Since the aim of the study was to assess parents' knowledge and awareness about baby bottle tooth decay and the prevalence of tooth decay, this is the suitable design for this research.

Study setting: The study was carried out at universities, hospitals and malls in KSA. Data were collected from parents among general population during a period from June to November 2021.

Sampling and sample: Participants were chosen via probability simple random sampling technique. Participants were selected from the general population. The final number of sample size was 500 participants. However, the study included 941 participants.

Inclusion criteria: parents from general population

Exclusion criteria: other.

Instruments: Data collection tool was self-designed and base on latest literature. It contained the following information: (1) basic information about participants and (2) disease related information.

Statistical analysis

Data obtained from questionnaire were entered and analyzed using SPSS program version 23 computer software. Sociodemographic data are presented using descriptive statistics as means, median, percentages and standard deviation. Independent T test and one-way Anova are used to show statistical significance among

patients' characteristics and tool scores. Chi square test is used to show relationship between categorical variables. Univariate and multivariate analysis will be performed to investigate association between gender of parents , education level and knowledge and prevent of tooth decay. statistical significance is set at a P value of 0.05 or less.

Permission and ethical considerations

Administrative approval will be sought from the unit of biomedical ethics research committee Ethical approval was sought from the ethical committee of the faculty of medicine, king Abdul-Aziz university. An informed consent was sought from the participants.

Results

The study included 941 participants. Among them there were 692 mothers (73.5%) and 249 fathers (26.5%). The educational level of most of participants was college (n= 576, 61.2%). Distribution of educational level is presented in figure 1.

Participants were asked about the symptoms they believe that these are the symptoms of tooth decay. Participants answers ranged from strongly disagree (labelled 1) to strongly agree (labelled 5). Participants' responses are presented in table 1. It is noticed from table one that most of participants agreed with the symptoms listed in the study questionnaire. They strongly agreed on black or brown spots on the teeth is the main symptom of tooth decay. All responses had no statistically significant relationship with either educational level or respondent.

Table 2 represents participants' responses to the preventive measure of teeth decay. It is observed that they strongly agreed to most of measures. The most prevalent preventive measure was limiting sugary drinks followed by proper teeth brushing.

Figure 1: Distribution of educational level among study participants

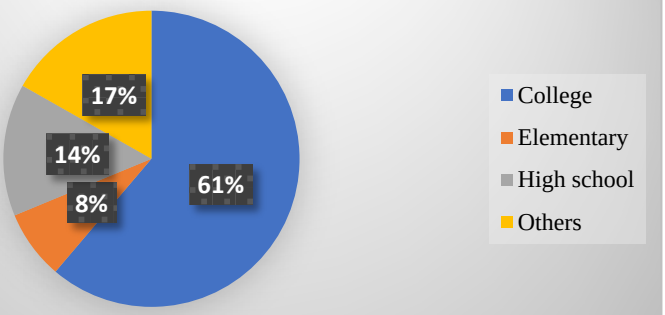

Table 1: Participants responses to the symptoms of tooth decay

Symptom	Mean	SD	1	2	3	4	5
Red or inflamed gums	4.1	0.67	20	86	180	346	309
Irritability or mood change	3.8	0.94	18	93	201	382	247
Black or brown spots on the teeth	4.2	0.6	24	59	148	331	379
Baby breath	3.8	1.10	22	73	256	335	255
Fever	3.6	0.78	31	134	243	297	236

SD: standard deviation; 1: strongly disagree; 2: disagree; 3: neutral; 4: agree; 5: strongly agree

Table 2: Participants responses to the symptoms of tooth decay							
Tooth decay prevention	Mean	SD	1	2	3	4	5
Limiting sugary drinks	4.5	0.3	9	17	47	236	632
Offering water or milk instead of juices	4.3	0.6	26	80	143	265	427
Diluting sugary drinks in water	4.2	0.7	38	126	178	259	340
Proper teeth brushing	4.6	0.3	7	20	66	229	619
SD: standard deviation; 1: strongly disagree; 2: disagree; 3: neutral; 4: agree; 5: strongly agree							

There was statistically significant relationship between proper teeth brushing and level of education (P= 0.001).

Lastly, participants were asked if their child suffered from tooth decay due to baby bottle feeding. Their answers were as follows: yes (n= 344, 36.6%) and no (n= 597, 63.4%). Thus, most of study participants' children didn't suffer from tooth decay due to baby bottle feeding.

Discussion

The role for parents is very important to address oral disease prevention in children as oral health of children is associated with oral health knowledge of their parents [23].

Seventy-four percent Saudi male parents had positive attitude toward the prevention of oral diseases which can be compared to a study done by Duguma and Banchiamilak [24] at Ethiopia where 72.5% had participants had positive attitude toward childhood caries. Attitude toward dental disease prevention depends on their knowledge. 65.7% of study participants agreed that the first dental visit should be very early this result is in accordance to American Academy of Pediatric Dentistry [25].

81.7% of male parents agreed that primary teeth are important and 68.7% said that problems in primary teeth will lead to problems on permanent teeth. This was in accordance with the study done by Alaa et al. [26] where it was mentioned that consideration of primary teeth is very important as they are considered as the natural space maintainers for permanent teeth.

Awareness of preventive dentistry among parents depends on its practice and different preventive measures among dental staff [27-29]. This differs from country to country, but the common goal is improvement in oral health. The reasons behind the differences can be legislation, work load, dental workforce, insurance, age of practice, etc [27, 30-31].

The differences are due to legislation on oral health care, acceptance, and appreciation of preventive approaches by patients and the community, availability of preventive agents, and work load of restorative care, as well as dentists' age, location, experience, and income [26, 29-30].

Fluoride have a great role in reducing caries incidence, and the present study shows that 82.8% of the parent were highly educated that reflects good knowledge about fluoride and it's mechanism to prevent caries, as compared with the study of Horst JA et al., which reported that only 46% of the responded parents know the importance of fluoride [26].

The present study showed good information about various preventive procedures available for the prevention of oral diseases among male parents, but there are very few studies on this among male parents in Riyadh Saudi Arabia.

Many studies assessed knowledge, attitude, and practice of preventive dentistry and different preventive measures

among dentists and dental auxiliaries [26-29]. It showed the choice of preventive measures and its use by dental practitioners differ between countries, individual dentists. The differences are due to many factors [26, 30-31], but the ultimate truth was it seemed to be a distance between what is known about preventing oral diseases and what is provided in private practice, dental schools, and community-based programs [32].

There is no separate oral health policy in many countries, which influence on knowledge and utilization of preventive dentistry utilization. In general, people were aware of the importance of oral hygiene for the prevention of oral diseases which was similar to our study. Lower educational level is consistently associated with a low level of knowledge [33].

Conclusion

Majority of parents in Saudi had a preventive dental knowledge, which is related to their educational level. However, still, there is a gap in knowledge and utilization of services making it part of dentists role to re-emphasis on utilization of services.

Hence, it should be the duty of every dentist to practice these preventive modalities and also educate the patients at either the office and/or at the community. Dental education programs about preventive dentistry and its utilization should be conducted on a regular basis.

References

1. Okada M, Kawamura M, Kaihara Y, et al. Influence of parents' oral[1]health behaviour on oral health status of their school children: Anexploratory study employing a causal modelling technique. Int JPaediatr Dent 2002; 12(2): 101-8.
2. Sehrawat P, Shivlingesh KK, Gupta B, Anand R, Sharma A, Chaudhry, M. Oral health knowledge, awareness and associated practices of pre-school children's mothers in Greater Noida, India. Niger Postgrad MedJ 2016; 23(3): 152-7.
3. Guidelines on Oral Healthcare for Pre-School Children. Oral Health[3]Division Ministry of Health Malaysia. https://www.mah.se/upload/FAKULTETER/OD/Avdelningar/who/WPRO/Malaysia/data/oral_healthcare_for_the_pre-school_children.pdf
4. Vanagas G, Milasauskiene Z, Grabauskas V, Mickeviciene A.[4]Associations between parental skills and their attitudes towardimportance to develop good oral hygiene skills in their children.Medicina (Kaunas) 2009; 45(9): 718-23.
5. Felton A, Chapman A, Felton S. Basic Guide to oral health education[5]and promotion, 2nd ed. john wiley & sons, Ltd, The Atrium, SouthernGate, Chichester, West Sussex, PO19 8SQ, UK.
6. Amin TT, Al-Abad BM. Oral hygiene practices, dental knowledge, dietary habits and their relation to caries among male primary schoolchildren in Al Hassa, Saudi Arabia. Int J Dent Hyg 2008; 6(4): 361-70.
7. Chhabra N, Chhabra A. Parental knowledge, attitudes and cultural[7]beliefs regarding oral health and dental care of preschool children in an Indian population: A quantitative study. Eur Arch Paediatr Dent2012; 13(2): 76-82.
8. Al-Shalan TA, Al-Musa BA, Al-Khamis AM. Parents' attitude[8]towards children's first dental visit in the College of Dentistry, Riyadh,Saudi Arabia. Saudi Med J 2002; 23(9): 1110-4.
9. Nazari Z, Taherpour M. mothers' Awareness, regarding orodental[9]health of their children at age of 16 years old in Shirvan. J NorthKhorasan Univ Med Sci 2013; 5: 979-86.

10. Prabhu A, Rao AP, Reddy V, Ahamed SS, Muhammad S, Thayu-[10]manavan S. Parental knowledge of pre-school child oral health. JCommunity Health 2013; 38(5): 880-4.
11. Alyahya L. Parental knowledge and practices regarding their[11]children's oral health in Kuwait. Eur J Paediatr Dent 2016; 17(4):267-73.
12. Chia L, Densie I, Morgan C. An exploratory study of parental[12]knowledge of early childhood oral health care in Southland, NewZealand. N Z Dent J 2015; 111(1): 18-24.
13. Apniarska K, Buła K, Hilt A. Parent's pro-health awareness con-[13]cerning oral health of their children in the light of survey research.Przegl Epidemiol 2016; 70(1): 59-63, 137-140.
14. Laganà G, Abazi Y, Beshiri Nastasi E, et al. Oral health conditions in[14]an Albanian adolescent population: An epidemiological study. BMCOral Health 2015; 15: 67.
15. Holt R, Roberts G, Scully C. Dental damage, sequelae, and prevention. West J Med. 2001;174:288–90.
16. Alesia K, Khalil HS. Reasons for and patterns relating to the extraction of permanent teeth in a subset of the Saudi population. Clin Cosmet Investig Dent. 2013;5:51–6.
17. Musaiger AO, Takruri HR, Hassan AS, Abu-Tarboush H. Food-based dietary guidelines for the arab gulf countries. J Nutr Metab. 2012;2012:905303.
18. Sohn W, Burt BA, Sowers MR. Carbonated soft drinks and dental caries in the primary dentition. J Dent Res. 2006;85:262–6.
19. Alhabdan YA, Albeshr AG, Yenugadhati N, Jradi H. Prevalence of dental caries and associated factors among primary school children: A population-based cross-sectional study in Riyadh, Saudi Arabia. Environ Health Prev Med. 2018;23:60.
20. Horst JA, Tanzer JM, Milgrom PM. Fluorides and other preventive strategies for tooth decay. Dent Clin North Am. 2018;62:207–34.
21. Khanna P, Sunda S, Mittal S. "Keep My Space" – A review article. Int J Oral Health Dent. 2015;1:11–5.
22. Johnsen DC. Baby bottle tooth decay: A preventable health problem in infants. Update Pediatr Dent. 1988;2:1–4.
23. Hooley M, Skouteris H, Boganin C, Satur J, Kilpatrick N. Parental influence and the development of dental caries in children aged 0-6 years: A systematic review of the literature. J Dent. 2012;40:787–872.
24. Duguma FK, Banchiamilak Z. Assessment of Knowledge, Attitude and Practice (KAP) of parents towards childhooddental caries attending pediatrics and dental clinic at alert center, Addis Ababa, Ethiopia, January 2018. Adv Dent Oral Health. 2019;11:29–42.
25. American Academy of Pediatric Dentistry Clinical Affairs Committee – Infant Oral Health Subcommittee. Guideline on infant oral health care. Pediatr Dent. 2012;34:e148–52.
26. Alaa HS, Mohammed IA, Robert JS, Aghareed MG. Parent's perception on the importance of their children's first dental visit (A cross sectional pilot study in Malaysia) J Oral Res. 2013;1:17–24.
27. Chen M. Preventive dentistry in Texas, USA. Community Dent Oral Epidemiol. 1990; 18:239–43.
28. Gonzalez CD, Frazier PJ, Messer LB. Sealant use by general practitioners: A Minnesota survey. ASDC J Dent Child. 1991;58:38–45.

29. Main PA, Lewis DW, Hawkins RJ. A survey of general dentists in Ontario, Part I: Sealant use and knowledge. J Can Dent Assoc. 1997;63:542, 545–53.
30. Helminen SE, Vehkalahti M, Lammi R, Ketomäki TM, Murtomaa H. Dentists' decisions as to mode of preventive treatment in adolescents and young adults in Finland. Community Dent Health. 1999;16:250–5.
31. Helminen SK, Vehkalahti MM. Does caries prevention correspond to caries status and orthodontic care in 0- to 18-year-olds in the free public dental service? Acta Odontol Scand. 2003;61:29–33.
32. Horowitz AM. The public's oral health: The gaps between what we know and what we practice. Adv Dent Res. 1995;9:91–5.
33. Roberts-Thomson KF, Spencer AJ. Public knowledge of the prevention of dental decay and gum diseases. Aust Dent J. 1999;44:253–8.