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Assessment of Parental Knowledge and Awareness about Preventive Dentistry - A Questionnaire Study

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Abstract: ***Background: Preventive interventions particularly among children, have become extremely important due to increased dental caries and lesions. Because parents have such a significant role in their children's lives, their understanding and attitude toward preventative measures will significantly influence their dental health. Aim: The present study was aimed to assess the parental awareness toward the prevention of oral diseases and awareness and utilization of preventive dentistry procedures among the parents. Material and methods: In this study, a set of 15 questions were designed, to be answered by the parents eligible for the study.100 parents who visited the Department of Pediatric and Preventive Dentistry, V. S Dental College and Hospital, Bangalore for seeking any dental treatment for their children of age group 0 - 14 years are participated in the study by completing a questionnaire which included questions related to their Demographic data, reasons for seeking dental treatment for the child. Questions are also designed to determine parental knowledge and awareness toward caries control, care of deciduous tooth, use of space maintainers for malocclusion, and utilization of various procedures available for preventing oral diseases. A structured and validated questionnaire was modified from questionnaires used previously in studies done by Baradaran Nakhjavani, et al., (2013) and Blumer, et al., (2018). Result: Awareness of preventive dentistry procedures varied among the study population from 6.3% for fluoride varnish to 62.3% for dental floss. Utilization rate was highest topical fluoride application with 17.7% followed by r pit and fissure sealant with 6.3%. Statistically few of the procedures are significant according to education and income (P < 0.05). No difference was found with age group and preventive dentistry procedures (P > 0.05). Conclusion: This study showed that there is a low level of awareness in parents regarding knowledge and attitude toward the oral health of children.***

Keywords: parental awareness, preventive dentistry, dental flossing

1. Introduction

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. [1] 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 in children is due to carious lesions in deciduous teeth. [2] Dental caries is increasing in children due to change in lifestyle, increased sugar consumption, carbonated drinks, and improper oral hygiene maintenance. [3]

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. [4] 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 corrects minor problems but may affect at later stages. [5]

Early intervention prevents many diseases including oral diseases. [6] 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.

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. Hence, the present study was planned to check the parental awareness toward the prevention of oral diseases and awareness and utilization of preventive dentistry procedures among the parents.

2. Materials and Methods

In this study, a set of 15 questions were designed, to be answered by the parents eligible for the study.100 parents

who visited the Department of Pediatric and Preventive Dentistry, V. S Dental College and Hospital, Bangalore for seeking any dental treatment for their children of age group 0 - 14 years are participated in the study by completing a questionnaire which included questions related to their Demographic data, reasons for seeking dental treatment for the child. Questions are also designed to determine parental knowledge and awareness toward caries control, care of deciduous tooth, use of space maintainers for malocclusion, and utilization of various procedures available for preventing oral diseases. A structured and validated questionnaire was modified from questionnaires used previously in studies done by Baradaran Nakhjavani, et al., (2013) and Blumer, et al., (2018).

Descriptive statistics were computed, and the data were analyzed statistically using the Chi - square test with 95% confidence interval, and $P < 0.05$ was considered statistically significant. All analyses were performed in SPSS software version 22.0.

3. Results

100 questionnaires were filled. Table 1 summarized the main data on demographics. The study sample consisted of 100 parents, of which 42 (42%) were fathers, and 58 (58%) were mothers. Approximately half 43% of the parents were from 30 to 39 age groups. Nearly 68% of the parents had university - level education, 27% of the parents were homemakers/unemployed, while 63.6% employees. Mostly 75.2% of families had three or more children. Almost half the children, 44% had visited first time to the dentist. The main reason for the dental visits was routine dental treatment 19%, then 42% sought emergency treatment at their last dental visit. Table1 shows various sources of parental oral health knowledge. Dentists were the primary source for most parents 58%, followed by the internet 19%, friends 7%, and media 11%.

Table 1: Summary of main demographics

Variables		n (%)
Parents Gender	Male	42 (42%)
	Females	58 (58%)
Parents Age	20 - 29	15 (15%)
	30 - 39	43 (43%)
	40 and older	42 (42%)
Education level of parents	Below high school	8 (8%)
	High school	24 (24%)
	University level	68 (68%)
Occupation status of parents	Working	73 (73%)
	Not working	27 (27%)
Number of children in family	1	38 (38%)
	2	46 (46%)
	More than 2	16 (16%)

Table 2: Responses of parent's knowledge toward preventable oral diseases

Questions	Responses	Frequency (%)	P value
Source of oral (dental) knowledge	Dentist Internet Media Friends Self - knowledge	58 (58%) 19 (19%) 11 (11%) 7 (7%) 5 (5%)	<0.05
last dental visit with your child	First visit 6 months back 1 year back 2 years back None of the above	44 (44%) 21 (21%) 24 (24%) 13 (13%)	<0.05
The main reason for the dental visit	Routine dental check - up Emergency treatment Decayed tooth Others	19 (19%) 42 (42%) 39 (39%)	<0.05
milk teeth are important for child's health	Agree Dis agree Don't know	92 (92%) 3 (3%) 5 (5%)	<0.05
Defect in milk teeth will affect child's permanent teeth	Agree Dis agree Don't know	67 (67%) 18 (18%) 15 (15%)	>0.05
Oral health affects the general health of the child	Agree Dis agree Don't know	29 (29%) 38 (38%) 33 (33%)	<0.05
Using fluoridated toothpaste helps to prevent tooth decay	Agree Dis agree Don't know	64 (64%) 10 (10%) 26 (26%)	<0.05
Parents have an important role in developing a child's dental attitude	Agree Dis agree Don't know	96 (96%) 4 (4%)	<0.05
It is important to visit the dentist as early as possible	Agree Dis agree Don't know	66 (66%) 23 (23%) 11 (11%)	<0.05
Correct method of brushing teeth can prevent teeth decay	Agree Dis agree Don't know	87 (87%) 8 (8%) 5 (5%)	<0.05
Irregular teeth can be preventable	Agree	15 (15%)	<0.05

	Dis agree Don't know	11 (11%) 74 (74%)	

Awareness toward preventive dental procedures

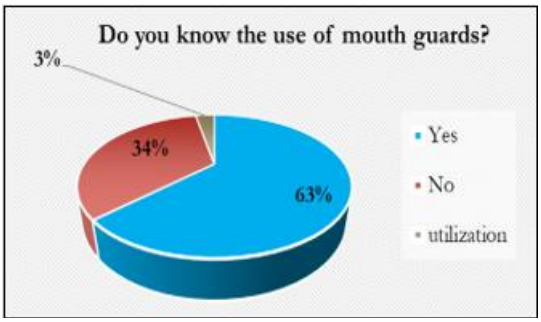

Figure 1: P<0.05

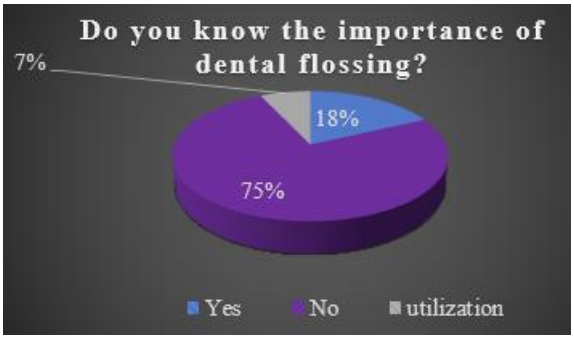

Figure 2: P<0.05

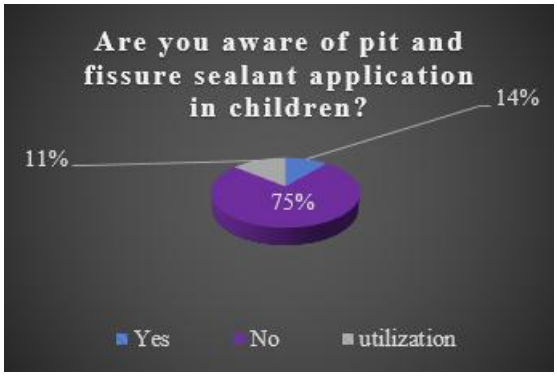

Figure 3: P<0.05

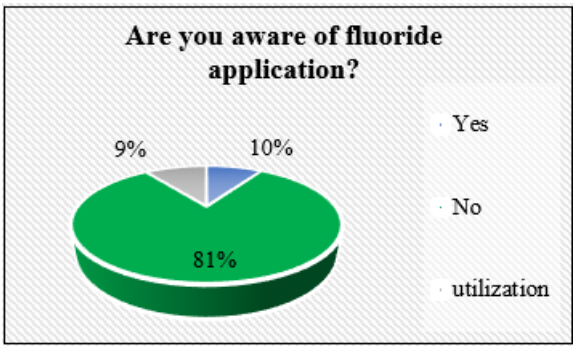

Figure 4: P<0.05

P<0.05 was considered as statistically significant

92% of study subjects have stated that primary teeth are important for child's health.67% of parents agreed that problem in deciduous teeth will affect permanent teeth. Only 29% agreed that oral health affects general health.27% of population agreed for fluoridated toothpaste helps in preventing tooth decay. Ninety - six percent of parents reported that they have a role in developing a child's dental attitude.66% of study subject thinks that visiting a dentist as early as possible is important.87% of parents think that correct method of brushing can prevent dental decay. Only 15% of subjects agreed malocclusion can be preventable whereas 74% reported that they don't know. Majority of the questions were not statistically significant according to age group and income. Whereas majority of questions are statistically significant according to education.

Awareness of preventive dentistry procedures varied among the study population from 6.3% for fluoride varnish to 62.3% for dental floss. Utilization rate was highest topical fluoride application with 17.7% followed by *r* pit and fissure sealant with 6.3%. Statistically few of the procedures are significant according to education and income ($P < 0.05$). No difference was found with age group and preventive dentistry procedures ($P > 0.05$).

Figure1 overall awareness of mouth guard was about 63% among parents. Utilization rate was only 3%. Around 34% of the study population is not aware of the use of mouth guards in preventive dentistry procedures.

Figure2 overall awareness of dental flossing was about 18% among parents. Utilization rate was only 7%. Around 75% of the study population is not aware of the importance of dental flossing in children.

Figure3 overall awareness of pit and fissure application in children was about 14% among parents. Utilization rate was only 11%. Around 75% of the study population is not aware of the use pit and fissure sealant application.

Figure4 overall awareness of fluoride application was about 81% among parents. Utilization rate was only 9%. Around 10% of the study population is not aware of the use of fluoride application in children.

4. Discussion

Oral health is a critical component of general health and is considered a determinant of the good quality of a child's life (Petersen 2009). Parental knowledge and practices play an essential role in preventing oral diseases and improving dental health in children. In addition, oral health maintenance is initially a parental responsibility, which later involves both parents and children (American Academy of Pediatric Dentistry 2020). Because parents' knowledge is vital in maintaining proper health care for their children at a young age, it's essential to examine their knowledge for preventative measures to avoid dental caries in their children.

Ninety six percent parents had positive attitude toward the prevention of oral diseases which can be compared to a study done by Duguma and Banchiamilak [7] at Ethiopia where 72.5% had participants had positive attitude toward childhood caries. Attitude toward dental disease prevention depends on

their knowledge.66% of study participants agreed that the first dental visit should be very early this result is in accordance to American Academy of Pediatric Dentistry. [8]

92% of parents agreed that primary teeth are important and 67% 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.* [9] 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. [10] 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. [11]

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. [12]
Fluoride has a great role in reducing caries incidence, and the present study shows that 64% of the parent were highly educated that reflects good knowledge about fluoride and its 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. [13]

Many studies assessed knowledge, attitude, and practice of preventive dentistry and different preventive measures among dentists and dental auxiliaries. [14] 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, [15] 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. [16]

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. [15]

5. Conclusion

This study showed that there is a low level of awareness in parents regarding knowledge and attitude toward the oral health of children. Parents can play a very important role in promoting good oral habits and by imbibing good habits themselves can positively influence their children. There is a need to create more awareness about the knowledge and importance of deciduous teeth and regular dental visits among the society and implementation of oral health awareness programs for parents. Greater effort should be made by the health care providers and government organizations to impart primary dental care knowledge to parents, as they have greater influence on their children. The role of dentists was observed to be more in creating awareness among the parents regarding preventive procedure. However, still, there is a gap in knowledge and utilization of services making it part of dentist role to re - emphasise 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.

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