EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICES OF PARENTS TOWARD THEIR CHILDREN'S ORAL HEALTH COMPARED WITH THEIR DENTAL CARIES STATUS

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ABSTRACT

Introduction

Oral health is an integral component of overall health and well-being.Unfavorable oral hygiene habits cause early development of dental caries. Parents play a vital role in the oral health habits of their children. The oral care for the children can be improved by enhancing the oral health knowledge of their parents.

Objectives

The objective of this study was to find out the knowledge, attitude and practices of parents toward their children oral health compared with dental caries status.

Methodology

The sample consisting of 168 parent-child pair attending the Pedodontics department from November-December 2017 participated in the study after approval from Institutional review committee. A validated Nepali version of a structured questionnaire was used to collect the information on the knowledge, attitude and practice of the parents about oral health which was compared with the dental caries status of children and parents. The caries status was evaluated using the WHO criteria. The data was tabulated and subjected for statistical analysis.

Results

Most of the parents (89.3 %) were aware that dental caries was the most common dental disease affecting children. Around 57.7% knew the importance of fluoride in prevention of dental caries. The children had higher dental caries rate than parents which was statistically significant. The overall oral health knowledge and attitude of the parents was adequate but their practice was inadequate. Inadequate attitude and practice of the parents had statistically significant impact on the caries status of the child.

Conclusions

The parent's oral hygiene knowledge has an effect on their children oral health. So adequate education for parents is necessary to improve the influence of their dental health habits on their children's oral health.

KEY WORDS

Children; dental caries; knowledge; parents

INTRODUCTION

Childhood, the golden period of life needs close monitoring for growth into a healthy adult. Good oral health boosts a child's confidence and allows them to eat, speak and socialize without experiencing any discomfort or embarrassment.[1-3] Unfortunately children suffer from dental caries from an early age, an increase in prevalence occurs with the age. Improper oral hygiene is a major contributor of dental caries and children with poor oral hygiene are more likely to develop it.[4]

Parents are the primary decision makers for children and the first role models. Therefore, their oral health knowledge, attitude and practices as well as habits influence their children.[3-7]Appreciating and exploring the parental perception about their children oral health may help the dental community understand some of the reasons why children do not receive the dental care they need. [1, 6] One way to increase of oral health awareness among children would be to provide up-to-date oral health information, education and motivation to parents.[8] Many research have highlighted the role of mother in child care while that of the father needs to be researched more. This study aims to determine the knowledge, attitude and practices (KAP) of parents toward their children's oral health and compared it with their dental caries status.

METHODOLOGY

A cross sectional study was conducted on 168 parents accompanying their 3 to 12 year old children to the Department of Pediatric Dentistry (Pedodontics), Kantipur Dental College for a routine dental check up from November to December 2017. Ethical clearance was obtained from Institutional Review Committee and informed consent was obtained from the study participants. The exclusion criteria were guardians other than parents and children with the presence of organic or psychiatric syndromes, systemic illnesses and severe in tellective or behavioral deficits.

A closed structured questionnaires on knowledge, attitude and practices (KAP) was adopted.[5] It was translated in Nepali by two dentists who were fluent in both English and Nepali. The Nepali version was then back translated into English by another two people fluent in both Nepali and English. The back translated version was compared with the English version to verify that the questions were properly translated. The questionnaire was filled by the parents in the waiting area of the department. It consisted of 28 questions, 10 related to knowledge, 6 to attitude, 8 to practices and 4 were general questions. The response was assessed by using a scoring system, where scores were based on correct answers. For the knowledge and practice items, the right answer was coded as 1 and the wrong answer as 0. Attitude items were coded, score 1 indicated a positive attitude while score 0 indicated a negative attitude. The individual scores were then summed up to yield a total score.

Maximum possible score was 10, 6 and 8 for KAP respectively. Mean Score of <40% and≥ 40 % were considered as inadequate and adequate performance respectively.

The oral assessment of each parent as well as child was done in the dental chair by two calibrated dentists. The dental caries status evaluation was based on WHO criteria for decayed, missing and filled teeth (DMFT / dmft). The DMFT scores were taken for the parents and dmft scores for children having deciduous teeth. In the mixed dentition, dmft and DMFT were recorded separately and the sum of both was used for each child.

The statistical package for social sciences (SPSS) version 20.0 was used to analyze the data. Descriptive statistics was carried out to calculate responses for each question and was set as frequencies and percentages. 2-tailed Independent t-test was used to compare the association between different variables and oral health knowledge, attitude and practices. The P-value was calculated under the predetermined level of significance of 0.05 at the confidence interval of 95%.

RESULTS

There were 168 parent-child pair; children were categorized into 2 groups – 3 to 6 years and 7 to 12 years while the parents were divided into 3 groups (20-30 years, 31-40 years and 41-50 years). The mean age of child was 7.59 years whereas that of parent was 35.06 years. There were more boys (59.5%) among children and more mothers (61.9%) as participants. (Table1) The responses of the participants to questions regarding oral health knowledge, attitude, practices and general questions are depicted in table 2, 3. The parents had adequate knowledge about oral health but their practice was inadequate (Figure 1) although there was no difference in the KAP between the mother and father (Table 4). The comparison of child and parents mean DMFT showed that the children had higher dental caries rate than

Table 1: Distribution according to Age Categories (n = 168)

Age Category (years)	Male n (%)	Female n (%)	n (%)	Mean S.D. (years)
Children				
3-6	34 (20.2)	29 (17.3)	63 (37.5)	7.58± 2.61
7-12	66 (39.3)	39 (23.2)	105 (62.5)	
Total	**100 (59.5)**	**68 (40.5)**	**168**	
Parent				
20-30	11 (6.5)	36 (21.4)	47 (28.0)	
31-40	36 (21.4)	56 (33.3)	92 (54.8)	35.06 ± 6.10
41-50	17 (10.1)	12 (7.1)	29 (17.3)	
Total	**64 (38.1)**	**104 (61.9)**	**168**	

parents which was statistically significant. (Table 5). The comparison of knowledge, attitude and practice individually with Mean DMFT of child and parents was done using Independent t-test (2-tailed). It depicted that knowledge of parents did not alter the dental caries status. The parents who had inadequate attitude had children with statistically significant high levels of DMFT and higher caries rate was also found in children of parents with inadequate practice which was statistically significant. (Table 6)

Table 2: Responses of the participants to knowledge, attitude and practice (n = 168)

			Correct answer	n (%)
K	1.	How many milk teeth are there in child's mouth ?	20	68 (40.5)
N	2.	Does the tooth paste contain fluoride?	Yes	119 (70.8)
O	3.	What is the role of the fluoride in the tooth paste ?	Prevents tooth decay	97 (57.7)
W	4.	What is the most common dental disease in the child ?	Tooth decay	150 (89.3)
L	5.	Which of the food items can lead to tooth decay ?	All of the above	35 (20.8)
E	6.	Which do you think prevents tooth decay ?	All of the above	59 (35.1)
D	7.	Causes for gum disease?	All of the above	48 (28.6)
G	8.	Which do you think prevents gum disease?	All of the above	49 (29.2)
E	9.	Which can lead to irregular teeth?	All of the above	40 (23.8)
	10.	Can irregularly placed teeth be aligned in correct position?	Yes	147 (87.5)
A	1.	It is necessary to take child for regular dental visits.	Agree	96 (57.1)
T	2.	Cleaning of child's mouth done/ supervised by parents.	Agree	130 (77.4)
T	3.	It is necessary to clean the child's mouth after every meal.	Agree	102(60.7)
I	4.	Milk teeth do not require good care as it is going to fall.	Disagree	80 (47.6)
T	5.	Good oral health is related to good general health.	Agree	119 (70.8)
U	6.	Healthy milk teeth are essential to chew food properly.	Agree	108 (64.3)
D				
E				
P	1.	When do you take your child to visit the dentist ?	Every 6 months	20 (11.9)
R	2.	When did you start cleaning your child's teeth ?	Soon after first milk tooth eruption	64(38.1)
A	3.	Which of the following are used to clean your child's teeth?	Tooth brush	95(56.5)
C	4.	How many times does your child's brush his teeth ?	Once or twice in a day or after meal	l65(38.7)
T	5.	When do you change your child's tooth brush ?	Every 2-3 months/ bristles fray out	54(32.1)
I	6	What material does your child use to clean teeth?	Tooth paste	149 (88.7)
C	7.	Does your child rinse the mouth after eating/drinking ?	Yes	93(55.4)
E	8.	When do you give the sugary food to your child ?	With meals	8 (4.8)

Table 3: Responses of the participants to general questions (n = 168)

GENERAL QUESTIONS		Answers	n (%)
1. Source of information regarding oral health	A.	Dentist	37 (22.0)
	B.	Pediatrician	47 (28.0)
	C.	Newspaper, TV	20 (11.9)
	D.	All of the above	50 (29.8)
	E.	Any other	14 (8.3)
2. How do you rate your child's oral health?	A.	Good	19 (11.3)
	B.	Fair	130 (77.4)
	C.	Poor	19 (11.3)
3. How may teeth are decayed in your child's mouth?	A.	<3 teeth	50(29.8)
	B.	3–6 teeth	57(33.9)
	C.	>6 teeth	35(20.8)
	D.	Have not checked	26(15.5)
4. How are your child's teeth aligned?	A .	Well aligned	54(32.1)
	B.	Not aligned properly	103 (61.3)
	C.	Have not checked	11 (6.6)

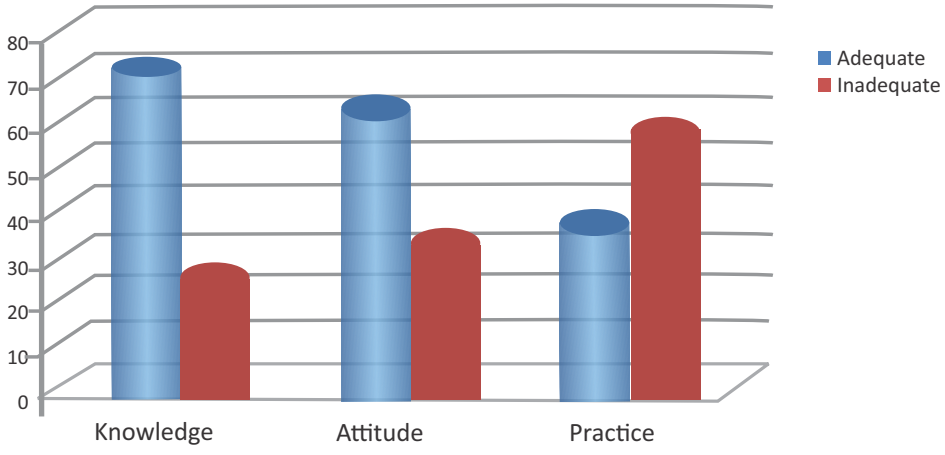

Figure 1: Adequacy of knowledge, attitude and practice in parents. (n = 168)

Table 4: KAP scores compared with parent's sex.

			Mean	Standard Deviation	Standard Error Mean	p-value
Knowledge Score	Male	64 (38.1)	4.97	1.90	0.23	0.469
	Female	104 (61.9)	4.75	1.89	0.18	
Attitude Score	Male	64 (38.1)	4.05	2.01	0.25	0.181
	Female	104 (61.9)	3.62	2.02	0.19	
Practice Score	Male	60 (38.1)	3.05	1.30	0.16	0.090
	Female	104 (61.9)	3.39	1.27	0.12	

Table 5: Parent and child DMFT(dmft/ DMFT) (n = 168)

	Mean	Standard Deviation	Standard Error Mean	p-value (2-tailed independent t-test)
Parent's DMFT	2.89	2.31	0.17	<0.001
Child's DMFT (dmft/DMFT)	6.33	3.66	0.28	

Table 6: KAP of parents compared with DMFT (n = 168)

		n (%)	Mean	Standard Deviation	Standard Error Mean	p-value(2- tailed Independent t-test
Knowledge	Adequate	123 (73.2)	2.89	2.32	0.21	0.98
	Inadequate	45 (26.8)	2.89	2.31	0.34	
Attitude	Adequate	109 (64.9)	2.81	2.18	0.21	
	Inadequate	59 (35.1)	3.05	2.55	0.33	
Practice	Adequate	67 (39.9)	2.79	2.10	0.25	
	Inadequate	101 (60.1)	2.96	2.45	0.24	
Children's DMFT (dmft/DMFT)						
Knowledge	Adequate	123 (73.2)	6.13	3.41	0.30	0.30
	Inadequate	45 (26.8)	6.87	4.28	0.63	
Attitude	Adequate	109 (64.9)	5.20	2.97	0.28	<0.001
	Inadequate	59 (35.1)	8.41	3.93	0.51	
Practice	Adequate	67 (39.9)	5.31	3.28	0.40	0.003
	Inadequate	101 (60.1)	7.00	3.77	0.37	

DISCUSSION

The response rate of this hospital-based cross-sectional study was 100%. The sex distribution of the children showed a high male to female ratio (1.47:1) similar to study by Hadeya MH et al [9], while that of parents showed a higher female to male ratio (1:1.62) highlighting the fact that more mothers accompany the child to the dentist.

Around 40.5% parents in this study had the knowledge that the children have 20 teeth, 64.3% agreed that healthy teeth are required to chew food properly and it was necessary to take good care of the milk teeth although it is going to fall (47.6%). Similarly Mubeen N et al found that 63% mothers and Oredungba F et al reported that 95.2% knew that primary teeth are important and should be taken care of, in their respective studies.[10,11]

Although 57.1% parents agreed that it was necessary to take child for regular dental visits but only 11.9 % parents visited the dentist every 6 months. This was inconsistent with findings of Abeer A et al where the majority of mothers (89.7%) reported that regular dental visits are not required.[6] The barriers for regular visits as seen in the study may be apprehension, costly dental care, inaccessible dental clinics or lack of motivation.

Regarding questions on malaligned teeth , 23.8% parents gave the correct answer for cause of malaligned teeth, 61.3% considered their child's teeth was not well aligned and 87.5% knew that irregular teeth can be aligned in correct position.

In regard to the question on knowledge of the parents regarding dental decay being the most common dental disease affecting children, most (89.3 %) responded correctly. This was in line with the other studies. [5,6] The question on food items causing or preventing dental decay were answered correctly by 20.8% and 35.1 % parents respectively. Only 28.6% and 29.2% knew the cause and prevention of gum diseases respectively. Oral hygiene knowledge and practices, response revealed that 38.1% parents started cleaning their child's teeth soon after eruption of the first one. This was in contrast to findings by A beer A et al where only 12.1% of mothers responded similarly.[6] The reason for starting brushing later could be the lack of awareness or a fear that child will swallow tooth paste.

Parents used toothbrush (56.5%) and toothpaste (88.7%) to clean the teeth their child's teeth which was done twice a day or after meals by 38.7% participants. Around 70.8% stated that their toothpaste contained fluoride which prevented tooth decay (57.7%). This was consistent with that of Oredungba F et al where 62.5% knew regular use fluoride toothpaste decreased tooth decay.[11] Mubeen N et al gave a contrasting result where only one fourth of mothers stated that fluoride can prevent tooth decay.[10] In our study it was found that 60.7% parents agreed that it is necessary to clean the child's mouth after every meal and 55.4% did rinse their mouth after eating. Many parents were in agreement (77.4%) that cleaning of the child's mouth should be done or supervised by the parents. While in study by Mubeen N et al, majority of mothers did not know this need of parental assistance.[10] Time of intake of cariogenic food plays an important role in dental caries it was sad to note that only few parents (4.8%) gave sugary food at the proper time i.e. with meals. Suma G et al found that higher frequency of snacking was significantly associated with increased caries status in children.[4]

The major source of information about dental health for parents was the dentists (22%), followed by Pediatrician (28%) and Newspaper or Television (11.9%). This was inconsistent with findings of Jain R et al and Oredungba F et al, where most information was from newspapers and TV (45%) as compared to others medium.[5,11] This difference could be because the subjects in the present study filled the questionnaire in the dental setting.

When asked about their child's decayed teeth, 29.8% reported < 3 decayed teeth, 33.9 % stated 3-6 and 20.8% responded >6 while 15.5% had not checked decay in their child's mouth. Jain R et al reported a different finding where around 51% mothers reported <3 decayed teeth, 24.2% reported 3-6 decayed teeth, 4.5% reported >6 decayed teeth and 20.1% were not aware about it.[11]

Overall the parents in the present study had adequate knowledge about oral health of their child but their practice was inadequate.

The mean DMFT of the children were 6.33 while that of the parents was 2.89 and this difference was statistically significant. In some studies, parental beliefs and attitudes towards oral health have been associated with caries development in children. Wigen and Wang on comparing KAP with the dental caries status found that adequate or inadequate knowledge did not influence the DMFT of parents or child.[12] The mean DMFT of children with parents who had adequate attitude i.e. more positive towards oral health were less than that of children whose parents had inadequate attitude. This comparison was statistically significant. This was in line with study conducted by Z Saied et al.[13] The parents who practiced adequate oral health had children with less mean DMFT which statistically significant.

CONCLUSIONS

Parent's knowledge of oral hygiene has an influence on their child's oral health. Children begin their learning from home and inculcate the habits and practices of their parents. It is therefore necessary for parents to adopt good oral health knowledge and practices.

RECOMMENDATIONS

The study recommends Oral health counseling to be conducted to all parents attending the dental clinic with their child.

LIMITATION OF THE STUDY

The study was carried out in a hospital where only a representation of the population were seen. The sample size is small and therefore cannot be generalized to the entire population.

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CONFLICTS OF INTEREST

None

FINANCIAL DISCLOSURE

None

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