

# Parental Knowledge and Practices Regarding Oral Hygiene of School Children of a School in Nepal

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## ABSTRACT

**Introduction:** The influence of the parents that will determine the future of their children's oral health. Parents are responsible for better oral hygiene practice of their children. There are very few studies accessing the knowledge regarding oral hygiene among the parents of schoolchildren.

**Objective:** The objective of this study was to assess the level of knowledge and practice on oral hygiene among the parents of under five children.

**Methods:** This was a descriptive cross-sectional study conducted for three months from 2017 June to 2017 August. A questionnaire was given to 102 parents of children below five years studying in Vidya Sadan High School. Questions related to demographic information and knowledge were asked. Knowledge score was calculated by allocating one point for each correct answer and zero point for each wrong answer. Then, calculated total knowledge scores were divided in four categories based on percentage.

**Results:** Among 102 parents 42 (41.18%) were fathers, 64 (62.7%) of parents were literate. The median score about knowledge and practice on oral hygiene of the parents of under five children was identified, where the father's score was six. Likewise, the comparison of ethnicity was also done and the median score of Newar was six.

**Conclusions:** Most of the parents in the study had good knowledge and attitudes towards oral health of their children. However, some of them did not follow the recommendations for preventive paediatric dental care.

**Keywords:** Children; knowledge; parents; practice; oral health.

## INTRODUCTION

Oral health is being free from chronic orofacial pain, oral and throat cancer, sores, birth defects, periodontal disease, tooth decay and loss, and other diseases of oral cavity.<sup>1</sup> Oral diseases such as dental caries, periodontal disease, tooth loss, oral mucosal lesions, oropharyngeal cancers, human immunodeficiency virus/acquired immunodeficiency

syndrome (HIV/AIDS)- related oral disease and oro-dental trauma are major public health problems worldwide.<sup>2</sup>

The prevalence of oral diseases may be due to discrepancy between dental knowledge and dental attitude.<sup>3</sup> Dental caries affects 60-90% of schoolchildren worldwide.<sup>3</sup> National Pathfinder Survey shows that 58% of five to six-year-old Nepali schoolchildren suffer from dental caries.<sup>4</sup> It is more prevalent than malnutrition.<sup>5</sup>

Public health problems related to tooth loss and impaired oral function are expected to increase in developing countries. Nepal ranks in top 15% of countries where periodontal disease of 35-44 year-old is most prevalent.<sup>6</sup> Furthermore, most children and adolescents have signs of gingivitis. Aggressive periodontitis affects during puberty

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leading to premature tooth loss. Tooth brushing improves oral health quality of child. It is meaningful to analyse factors that influence tooth brushing in schoolchildren. Thus, this study was conducted to assess the knowledge and practice regarding oral hygiene among the parents of under five children.

## METHODS

The descriptive cross-sectional study was conducted on 102 parents of under five year's children of Vidya Sadan Secondary School, Saraswatinagar, Kathmandu for three months from 2017 June to 2017 August. The sampling technique used was non-probability, purposive sampling technique. Only those parents who were willing to participate and available during data collection period were included in this study.

Demographic details on gender, the level of education and ethnicity were obtained. A semi structured questionnaire was developed after thorough literature search and seeking the opinion of subject experts. The questionnaire consisted of two parts. The first part one was related to socio-demographic variables. The second part was related to knowledge and practice regarding oral hygiene. The content validity of the instrument was established on the basis of reviewing literature and seeking opinion of research guide and subject teachers. The instrument was translated into simple understandable Nepali language.

Before data collection, administrative approval was obtained from the concerned authority. Verbal and written consent was obtained from all subjects. The subjects were assured of privacy and confidentiality of the data given by them. Subjects were allowed to withdraw from participation at any time if they wanted.

Knowledge score was calculated by allocating one point for each correct answer and zero point for each wrong answer.

Then, calculated total knowledge scores were divided in two categories: parents having poor knowledge (0- 40%) and parents having moderate or good knowledge (40- 100%). All collected data were analysed and presented in terms of frequency and percentage using IBM SPSS Statistics for Windows, version 20 (IBM Corp., Armonk, N.Y., USA) software. The findings were presented in the forms of different tables and bar diagrams.

## RESULTS

The total respondents were 102 parents of children under five years. Among the 102 parents, 42 (41.2%) were fathers and rest were mothers (Table 1). According to their education level, 64 (62.7%) of parents were literate. Most of the parents were from Brahmin community (37, 36.2%) followed by Newar, Chhetri, and others. When asked whether the parents thought oral hygiene was as important as other body hygiene, majority (74, 72.5%) responded as "Yes" (Table 2).

The median score of the knowledge of oral hygiene among the fathers was six (Figure 1). Thus, the fathers' knowledge and practice was better than that of mothers. The median score of literate parents was six (Figure 2). Thus, literate parents had good knowledge and practice of oral hygiene than that of illiterate. Comparison of knowledge was done among the participants with the ethnicity (Figure 3). The median score of Newar was six. Therefore, the Newar parents had better knowledge and practice about oral hygiene than others.

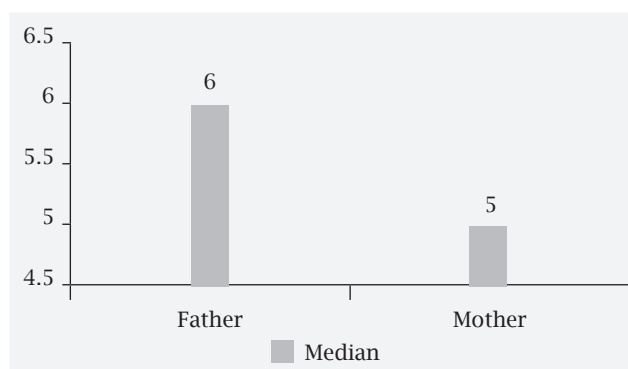
Oral hygiene knowledge and practice scores of parents were found as poor knowledge (39, 38.2%) and good knowledge (63, 61.8%).

**Table 1: Demographic characteristics of the participants.**

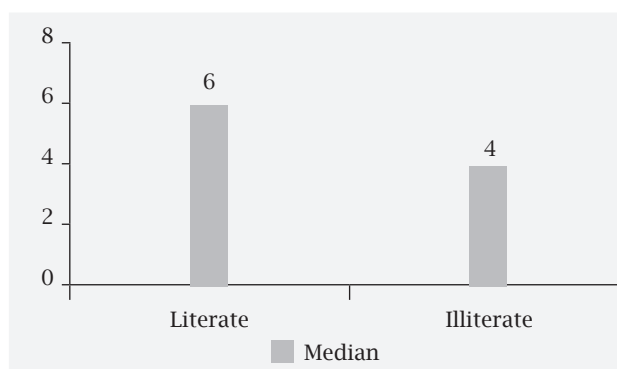
Demographic characteristics		n (%)
Gender	Male	42 (41.2)
	Female	60 (58.8)
Education level	Literate	64 (62.7)
	Illiterate	38 (37.3)
Ethnicity	Brahmin	37 (36.2)
	Newar	28 (27.5)
	Chhetri	28 (27.5)
	Others	9 (8.8)

**Table 2: Response of the participants.**

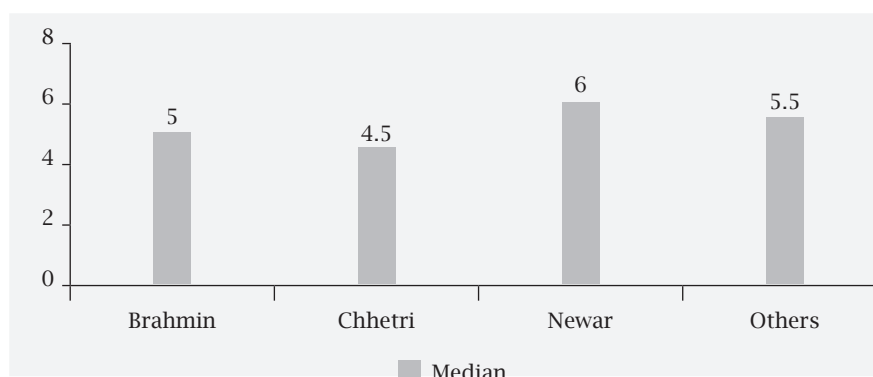
Questions	Options	n (%)
1. Is oral hygiene as important as other body hygiene?	Yes	74 (72.5)
	No	28 (27.5)
2. Can teeth caries in children be prevented to a large extent by brushing teeth?	Yes	87 (85.3)
	No	15 (14.7)
3. Is rinsing mouth a part of oral hygiene?	Yes	72 (70.6)
	No	30 (29.4)
4. Is exercising the gum a part of oral hygiene?	Yes	37 (36.3)
	No	65 (63.7)
5. Is tongue cleaning a part of oral hygiene?	Yes	49 (48)
	No	53 (52)
6. What kind of cleaning device is best to use for child?	Toothpaste with fluoride	68 (66.7)
	Toothpaste without fluoride	34 (33.3)
7. For how many minutes you give your child to brush their teeth?	Less than 1 minute	43 (42.2)
	1-3 minutes	53 (52)
	More than 3 minutes	6 (5.8)
8. How often you give your child to brush their teeth?	Once a day	55 (53.9)
	Twice a day	42 (41.2)
	Thrice a day	5 (4.9)
9. Does your child brush their teeth at bed time?	Yes	34 (33.3)
	No	68 (66.7)
10. When did you start tooth brushing your child?	As soon as first tooth erupted	1 (0.9)
	Above 1 year of age	43 (42.2)
	Don't know	58 (56.9)



**Figure 1: Knowledge of oral hygiene based on gender.**



**Figure 2: Knowledge of oral hygiene based on education.**



**Figure 3: Knowledge of oral hygiene based on ethnicity.**

## DISCUSSION

A total of 102 parents responded to the questionnaire. Out of them, majority were females. Females actively participated in current study. In some societies, fathers are more active on taking their child to school, while on other societies mothers are more active. Similar observation was seen in studies done by Chhabra et al.<sup>7</sup> and Khanal et al.<sup>8</sup> In other studies done by Thakare et al.,<sup>9</sup> majority of the participants were males.

In the present study, 74 (72.5%) respondents thought that oral hygiene was important as other body hygiene whereas 28 (27.5%) respondents thought that oral hygiene was not important. This is in agreement with other studies done by Al-Bader et al.<sup>10</sup> and Ashkanani et al.<sup>11</sup> where the respondents had good knowledge about oral hygiene. In an Indian study done by Chhabra and Chhabra,<sup>7</sup> the participants showed less knowledge.

In this study, 87 (85.3%) of respondents thought that caries in children should be prevented to a large extent by brushing whereas rest of the respondents thought that it was not so important. Similar results were seen in study done by Al-Bader et al.<sup>11</sup> where high percentage of parents believed dental caries can be prevented largely by brushing the teeth.

Among the participants, majority of the respondents (72, 70.6%) thought that rinsing mouth was important part of oral hygiene. This is in agreement with another study done by Khanal et al.<sup>8</sup> Mouth rinsing as a formal practice has its reference credited to Chinese medicine about 2700 BC, for the treatment of diseases of the gums.<sup>12</sup>

In the study, 37 (36.3%) respondents thought that exercising gum was important part of oral hygiene whereas rest of the respondents said that exercising gum was a new word for them in oral hygiene. Massaging gums should be an important component of oral hygiene.<sup>13</sup>

In this study, majority 53 (52%) respondents thought that children should brush their teeth for 1-3 minutes. Professional recommendations for individual oral hygiene mostly include tooth brushing at least twice daily for 2-3 min.<sup>14</sup>

In this study, 53.9% respondents thought that their children should brush their teeth once a day, 41.2% thought that they should brush their teeth for twice a day and 4.9% thought that their children should brush their teeth thrice a day.

Brushing of teeth twice daily is recommended in order to improve plaque control.<sup>10</sup>

In the present study, 68 (66.7%) respondents thought that toothpaste with fluoride is best for their child whereas rest thought otherwise. In the study conducted by Al-Zahrani et al.<sup>15</sup>, 90.1% of the mothers agreed that using fluoridated toothpaste helps to prevent tooth decay.

Brushing should be started as soon as the first tooth erupts.<sup>16</sup> In present study, only 1 (0.9%) respondents said that they started brushing their child's teeth as soon as the first tooth erupted. It is recommended to brush the teeth before going to bed. But in current study, 68 (66.7%) respondents said that their children do not brush their teeth at bedtime.<sup>17</sup>

When the oral hygiene knowledge and practice scores based on the gender of the parents were compared, the median score of the males was six. This is in contrast to a study conducted by Nagarajappa et al.<sup>18</sup> where female parents had significantly higher knowledge and attitude score. When comparing the oral hygiene knowledge and practice scores and educational status, the median score was six for literate (Figure 2). Literate parents have better knowledge and practice.<sup>19</sup> Oral hygiene knowledge and practice scores of different ethnicity were also compared, where the median score for Newar was six. This is in contrast to a study conducted by Khanal et al.,<sup>8</sup> where Brahmins had more median score than Chhetris and Newars. Oral hygiene knowledge and practice scores of parents was found to be poor in 39 (38.2%) of the participants and good among 63 (61.8%) participants. This is in contrast to a study done by Ghajari et al.<sup>20</sup> In another study, done by Khanal et al.<sup>8</sup> in Nepal, knowledge regarding oral hygiene was satisfactory. They found that 81% had moderate knowledge, 15% had poor knowledge and 4% had good knowledge about oral hygiene.

The key elements that showed significant impact on children's oral health behaviour and oral health status were: parents' oral health-related attitudes, general knowledge, and health status.<sup>21-23</sup> Among these, parents' behaviour is more strongly related to children's behaviour than parents' knowledge and attitudes, which shows that children learn behaviours from their parents.<sup>24</sup> The oral health-related knowledge of the mother is associated with the prevalence of dental caries in three-year-old children.<sup>25</sup> The more positive the mother's attitude regarding her child, the fewer caries the child had. Also, such children had better oral hygiene received more dental treatment.<sup>26</sup>

Mattila et al.<sup>21</sup> analysed the prevalence of dental caries as well as association of dental health and family competence among seven-year-old children and their families. In the study, the child's daily dental health behaviour and influence of family competence emerged to be important factors in the prevalence of caries.

According to the research conducted by Poutanen et al.,<sup>27</sup> the parents' self-assessed poor dental health, the parents' and the child's poor oral health-related behaviour, and the child's response to the question concerning his/her parents' possible dental caries were associated with the presence of active initial caries lesions. The results of logistic regression analyses were different between girls and boys. Among the girls, many parent-related factors were associated with the presence of initial caries. Among the boys, most factors were related to the child; and among the parent-related factors, only parents' poor self-assessed dental health was associated with initial caries and the effect was modified by the father's occupational level. Parental factors have different effect on the dental health of boys and girls. Among the boys, the effect of the father's occupational level was more important whereas among the girls, parental knowledge and behaviour were more important.

According to Petersen et al., significant proportion of the mothers knew about the causal factors in dental caries; however, relatively few were aware of the harmful effect

of hidden sugar. The school teachers knew about the poor dental conditions in children and wanted to become involved in oral health education. Training of teachers should aim at improving their level of knowledge on oral health.<sup>3</sup>

In a study done by Kumar and Singh<sup>28</sup> in eastern Nepal, it was found that the majority of the children brushed twice daily for good oral hygiene. Despite good oral hygiene practices in the children, their overall oral hygiene status was found to be poor.

This small scale descriptive study was conducted among 102 parents of under five children in Vidhya Sadan English School to explore the knowledge and extent of practice on oral hygiene. The limitations of the study are small sample size and uncentric study. For comprehensive assessment of this prevailing issue both qualitative and quantitative studies, on a large scale and in multiple centres are essential.

## CONCLUSIONS

Oral health is critically important to the overall health and wellbeing of children. If left untreated, pain and infection caused by tooth decay can lead to problems in eating, speaking and learning. Most of the parents in the study had good knowledge and attitudes towards oral health of their children. However, some of them did not follow the recommendations for preventive paediatric dental care.

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