

To Assess the Prevalence of Dental Caries Among Preschool Children in Bhairahawa Nepal.

Vanita Gautam¹, Hemant Kumar Halwai²

¹Professor, Department of conservative dentistry & Endodontics, UCMS College of Dental Surgery, Bhairahawa, Nepal.

²Professor, Department of orthodontics & Dentofacial orthopaedics, UCMS College of Dental Surgery, Bhairahawa, Nepal.

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ABSTRACT

Background: Dental caries is very common disease in the world. It is seen in all the age groups. The prevalence of dental caries worldwide around 35% for all ages. Dental caries is more common in children due to poor oral hygiene, food habits etc. The aim of the present study was to assess the prevalence of dental caries among preschool children in Bhairahawa Nepal. **Methods:** A cross-sectional study was conducted during June 2019 among preschool children. A structured questionnaire was used according to WHO criteria. Study was conducted in four preschools in Bhairahawa, Nepal. All the children of preschool were selected on the basis of complete enumeration system. The preschool children of age group of 3-6 years were included in the study. Children above 6 years, who were not interested to participate in the survey, edentulous arch and children absent during survey were excluded from the study. Data was analysed using SPSS 20 & descriptive statistics. **Results:** In our study, total children were 190 in which boys were 103 and 87 were girls. In the age group 3-4 years and 4-5 years boys were more than girls. In the age group 5-6 years girls were more than boys. In age group 3-4 years boys were 22.22% affected by dental caries and girls were 21.73% affected by dental caries. In age group 4-5 years boys were 22.72% affected by dental caries and girls were 22.58% affected by dental caries. In age group 5-6 years boys were 13.04% affected by dental caries and girls were 15.15% affected by dental caries. The dental caries was more prevalent in age group 4-5 years. **Conclusion:** Our study concluded that the dental caries was more prevalent in age group 4-5 years.

Keywords: Dental caries, preschool children.

INTRODUCTION

Dental caries is one of the major widespread health issues that continues to negatively affect the oral health of children globally.^[1] The prevalence of dental caries varies across the different provinces in the USA 11 to 53%, in Sri Lanka 32.1%, and in India 44%.^[2] According to the WHO, dental caries is defined as “the localized, post-eruptive, pathological process of external origin involving softening of the hard tooth tissue and proceeding to the formation of a cavity.” It is a hastily succeeding disease among preschool children which involves the primary maxillary anterior teeth and posterior teeth, whereas the mandibular anterior teeth are less affected because of the rapid saliva formation which helps to wash out the ingredients required for bacterial growth.^[3] Dental caries commonly involves more than one aspect for causing the

dental caries, such as the host (teeth), the substrate (sugary content food), bacteria, and time.^[4] Ostrom (1980) defined dental caries as a process of enamel/dental dissolution that is caused by microbial action at tooth surface and is mediated by the physicochemical flow of water dissolved ions. Dental caries is the single most common chronic childhood disease. Dental problems in early childhood have been shown to be predictive of not only future dental problems but also on growth and cognitive development by interfering with comfort nutrition, concentration, and school participation. In preschoolers, early childhood caries (ECC) which is defined as “the presence of one or more decayed, missing (due to caries) or filled tooth surface in any primary tooth in a child 71 months of age or younger (American Academy of Pediatric Dentistry).”^[5] The present study was conducted to assess the prevalence of dental caries among preschool children in Bhairahawa Nepal.

MATERIALS AND METHODS

A cross-sectional study was conducted during June 2019 among preschool children. Before commencement of the study approval was taken from Ethical Committee. Four preschools in

Name & Address of Corresponding Author

Dr. Vanita Gautam
Professor,
Department of conservative dentistry & Endodontics
UCMS College of Dental Surgery,
Bhairahawa, Nepal.

Bhairahawa, Nepal were selected for the study. All the children of preschool were selected on the basis of complete enumeration system. The children of age group of 3-6 years were included in the study. The schools were officially informed and assured about confidentiality of the study. Permission was taken from the concerned school authorities and written informed consent was also taken from the parents. The children above 6 years, who were not interested to participate in the study, edentulous arch and children absent during study were excluded from the study. Oral examinations were carried out in classrooms using a mouth mirror and a probe under adequate daylight. A structured questionnaire will be used according to WHO criteria. Data was analysed using SPSS 20 & descriptive statistics.

RESULTS

In our study, total children were 190 in which boys were 103 and 87 were girls. In the age group 3-4 years and 4-5 years boys were more than girls. In the age group 5-6 years girls were more than boys. In age group 3-4 years boys were 22.22% affected by dental caries and girls were 21.73% affected by dental caries. In age group 4-5 years boys were 22.72% affected by dental caries and girls were 22.58% affected by dental caries. In age group 5-6 years boys were 13.04% affected by dental caries and girls were 15.15% affected by dental caries. The dental caries was more prevalent in age group 4-5 years.

Table 1: Distribution of preschool children according to gender

Gender	No.
Boys	103
Girls	87
Total	103

Table 2: Distribution of children according to age group and gender.

Age-group	Boys (%)	Girls (%)	Total (%)
3-4	36(34.95%)	23(26.43%)	59(31.05%)
4-5	44(42.71%)	31(35.63%)	75(39.47%)
5-6	23(22.33%)	33(37.93%)	56(29.47%)
Total	103(54.21%)	87(45.78%)	190(100%)

Table 3: Age- and gender-wise prevalence of dental caries among the children

Age group	Gender	Number of children affected	Total
3-4	Boys	8(22.22%)	(22.03%)
	Girls	5(21.73%)	
4-5	Boys	10(22.72%)	(22.66%)
	Girls	7(22.58%)	
5-6	Boys	3(13.04%)	(4.28%)
	Girls	5(15.15%)	
Total		38(35.63%)	

DISCUSSION

Dental caries is usually considered as the most widespread persistent dental predicament that occurs during the early juncture of existence.^[6] In our study, total children were 190 in which boys were 103 and 87 were girls. In the age group 3-4 years and 4-5 years boys were more than girls. In the age group 5-6 years girls were more than boys. In age group 3-4 years boys were 22.22% affected by dental caries and girls were 21.73% affected by dental caries. In age group 4-5 years boys were 22.72% affected by dental caries and girls were 22.58% affected by dental caries. In age group 5-6 years boys were 13.04% affected by dental caries and girls were 15.15% affected by dental caries. The dental caries was more prevalent in age group 4-5 years.

A study in Jammu & Kashmir showed that gender had no relationship with dental caries.^[7] However, in some other studies, it had been shown that male child was one of the predictors of dental caries, boys were more inclined to develop dental caries as compared with the girl child, as it may be due to males being given precedence in Indian perspective and in some studies,^[8] girl children were more on verge of producing dental caries as compared with the boys because girls have an early flare-up of teeth as compared with the boys, which results in longer time contact with the oral environmental factors which leads to dental caries.^[9]

Virjee and Aradhya reported 60% to 65% of caries prevalence among preschool children of Bengaluru.^[10]

Higher caries prevalence was observed in females than males similar to that reported by Gaidhane et al.^[11] and Agarwal et al.^[12] though the difference was not statistically significant. These findings were not in agreement with studies done at Lucknow where males were more affected.^[13]

In Sri Lanka, girl child was more prone to dental caries as compared with the male child and in some studies,^[14] it showed that gender had no significant difference with dental caries among preschool children.^[15]

CONCLUSION

Our study concluded that the dental caries was more prevalent in age group 4-5 years.

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