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Prevalence Of Dental Caries Among Pre-school Children Of Greater Noida City, UP (India)

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Abstract
This study was conducted to estimate the prevalence of dental caries among pre -school children of Greater Noida city [U.P.], India. Estimation of dental caries was done using the dft Index. The overall prevalence of dental caries in this study of 1031 children aged 3-5 years was 30.06% with a mean dft score of 1.68. Out of the total sample, 68.56 % of children in the age of 5 years were caries free. This was short of W.H.O. Global Goals for Oral Health 2010 [90 % at age of 5 years should be caries free].

Key Words
Key Words: Dental Caries, Pre-school, Dft Index, Caries Free, Oral Health Goals

Introduction

Dental caries is a disease which afflicts persons across all ages and in different parts of the world. Ramchandran K. et al[1] reported 60-65% prevalence of dental caries in India. R. Mahajabeen et al[2] reported a prevalence of 54.1% in pre-school children and similar findings were reported by Yevenes et al[3] in Chile. Unequal distribution of dental caries in pre-school children was also reported in both the genders, developed and developing nations, rural and urban areas and amongst various socio - economic strata around the world [4,5,6,7].

W.H.O. has set global goals for Oral health for 2000[8] and 2010[9] that is 50% and 90% should be caries free at the age of 5 years respectively.

Data was collected from the region of Greater- Noida city to draw attention to the prevalence of dental caries in pre-school children in this region.

Therefore the aim of this study was to evaluate the prevalence of dental caries in pre - school children in Greater - Noida City [U.P.], and to correlate the percentage of caries free children at the age of 5 years with the W.H.O Global Goals for Oral Health for 2010[9].

Materials and Methods

This study was conducted in Greater-Noida city of Uttar Pradesh, India. Five private schools were selected randomly after taking permission from the school authorities. The study sample consisted of 1031 pre- school children in the age group of 3 - 5 years. Out of these, 582 were males and 449 were females. From the total sample, 544 children of 5 years age were further segregated to estimate their caries free prevalence in order to compare it with the W.H.O. global goals for Oral Health 2010.

Clinical examination and assessment of dental caries was conducted by two trained examiners. The subjects were examined on an upright chair under adequate natural light using mouth mirror and explorer. The caries was recorded using dft index.[10] The data obtained was subjected to statistical analysis using Pearson's Chi-Square test at 95% confidence interval.

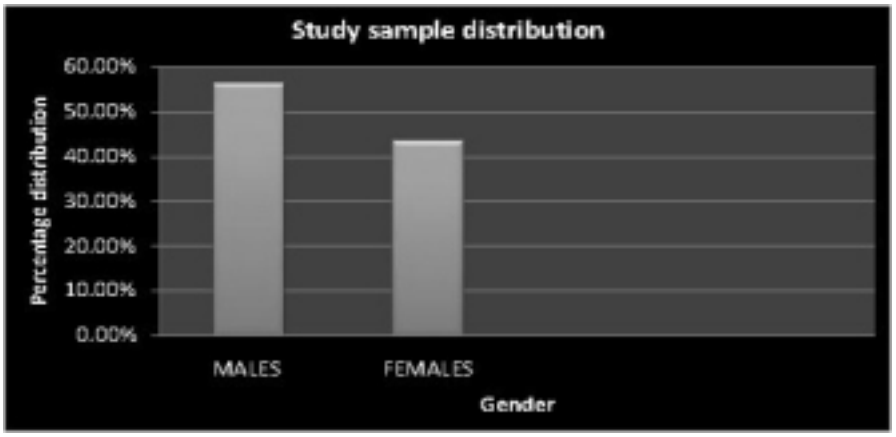
Results

The study group comprised of 1031 pre-school children, 582 males and 449 females in the age group of 3-5 years **[Table I, Graph I].**

Table I Study Sample Distribution

Age (In Years)	Males		Females		Total	
	No.	%	No.	%	No.	%
3-5	582	56.45	449	43.54	1031	100

Graph I

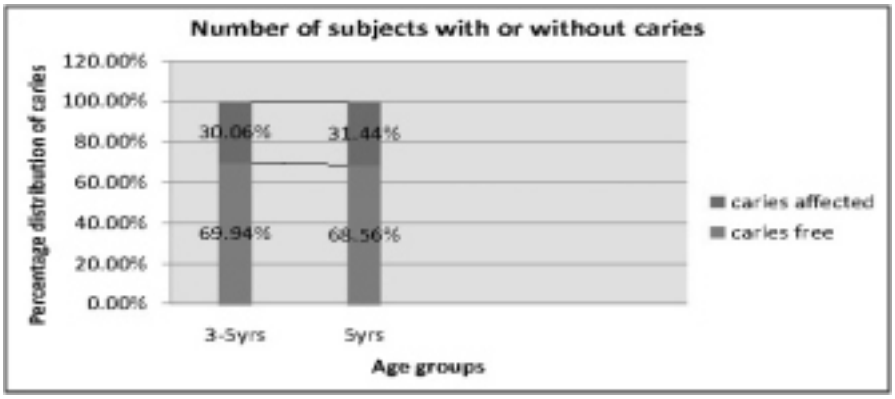


The overall prevalence of dental caries in this age group was 30.06% with the mean dft of 1.68. Children at the age of 5 years in the study group showed caries prevalence of 31.44 % with the mean dft score of 1.20 and caries free were 68.56% **[Table II, Graph II].**

Table II Number Of Children (In Percentage) With And Without Caries With Mean Dft Scores.

S.No	Age (Yrs)	Sample Size	Caries free		Caries affected		Mean dft
			No	%	No	%	
1	3-5	1031	721	69.94	310	30.06	1.68
2	5	544	373	68.56	171	31.44%	1.20

Graph II



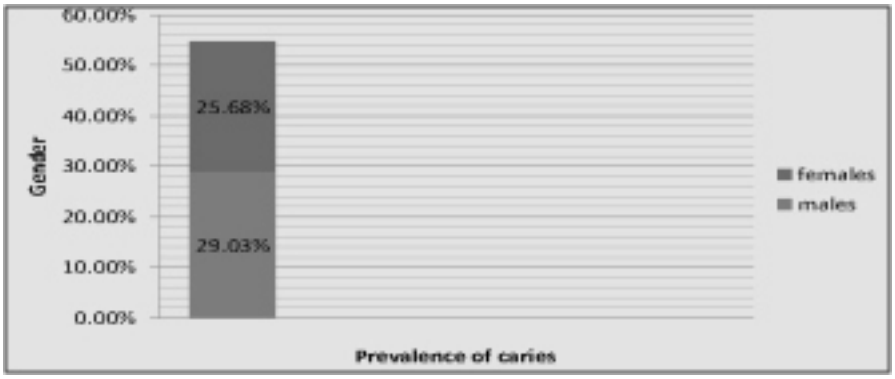
Statistically significant difference was not observed between both the genders in caries prevalence, although males showed higher caries prevalence than females **[Table III, Graph III].**

Table III Prevalence Of Caries Among Males And Females (3-5 years)

Age Group (Yrs)	Males		Females		p-value
3-5	No	%	No	%	
a	169	29.03	141	25.68	0.139

Significance taken at 95% confidence interval P value <0.05

Graph III



Discussion

The overall prevalence of dental caries in the age group of 3 to 5 year old children of Greater -Noida city was 30.06 % with a mean dft score of 1.68. Similar trends in caries prevalence were reported by Gangwar et al[11] in Lucknow and Tewari S12 in Haryana which was 36% and 33.8% respectively in pre-school children. Varied caries prevalence had also been reported in this age group in India by Mahajabeen et a[12], Gupta Ak[13], Sethi B and Tandon S[14], Rao A, Sequeira SP and Peter S[15], which ranges from 50 - 70 %. In the present study a lower percentage of caries prevalence could be attributed to the children in the study sample were from private schools where they usually belonged to affluent society and belonging to good socio-economic status.[20,21] Similarly, international trends also show varied pattern of caries prevalence in pre- school children[16,17,18,19]. No statistically significant difference was found in the caries prevalence between males and females in this age group, but in general males were slightly more affected [29.03 %] than females [25.68%]. This marginal difference could be attributed to the diet as more priority is given to a male child than a female child in the Indian society. Moreover females are found to have better personal hygiene than males. These findings are similar to the studies of Yevenes et al[3], Mahajabeen et al[2], Al Ghanim et al[22], Franscisco J et al[23] and Masiga MA, Holt RD[24]. The present study showed that percentage of caries free children at the age of five years was 68.56% which was in accordance with the goals set by W.H.O. Global Oral Health Goals for the year 2000. Similar finding has been reported in U.P. state, in Lucknow by Gangwar et al[11] in 1990, which was 64% caries free at age of 5. Caries prevalence at the age of 5 years was found to be 31.44% with a mean dft of 1.20, which was less than that reported by National Oral Health Survey and fluoride mapping done by D.C.I, New Delhi in 2004.[25]

Saravan S[26] reported a prevalence of 44.4 % in Pondicherry, at the age of 5 years .Investigators have reported different prevalence at 5 years in different regions around the world [27, 28,29]The results show that the prevalence of caries free children at the age of 5 was short of W.H.O goals for Oral Health for all 2010 [90% at age 5 years should be caries free].

This emphasizes that sincere efforts have to be put to improve preventive and curative dental services among pre-school children so that they have healthier dentition. This can be accomplished by regular School Dental Health Programme which should encompass Dietary advice, Health Education, Teacher and Parent awareness training programmes, Topical fluoride application and Rinses.

Conclusion

This study reported:

1. Lower prevalence of dental caries in preschool children [3 - 5years] of Greater - Noida city, U.P. India.
2. No statistical significant difference in prevalence of caries in both the genders.

3. Present status is short of achieving goals set by W.H.O. for 2010.

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