

Effect of Socioeconomic Status among Preschool Children's Oral Health and Oral Health Practices- An Original Research

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Abstract:

Oral health is an essential portion of general health. One of the most significant factors affecting an individual's oral health and oral health habits is socioeconomic status (SES). The current research was carried out on 2600 pre-school children at Anganwadis and Nursery School by grouping in (I-V) based on their SES. In various SES groups the mean value for dt (0.93-1.67); mt (0.03-0.22); ft (0.13 – 0.18) and dmft (1.15-2.02) were observed. It was found that dm and dmft were significantly influenced by the SES party. Practice of tooth brushing and toothpaste use decreased from the upper SES to one lower. Tooth brushing was located mostly in the uppermost SES twice a day, which was 15.81%. The results showed that oral health status and oral health practices among various socio-economic groups are significantly related. Preventive measures should be included in oral health promotion programmes, while public health policies should concentrate on community empowerment and the creation of affordable and sensitive dental services.

Key-words: Dental caries; socioeconomic status; Oral hygiene practices; Preschool children.

Introduction:

Oral health is an essential portion of general health. The state of oral health has a direct effect on general health. Children with poor dental hygiene are 12 times more possible to have defective routine life-style than those without poor oral health.¹ Dental caries is the most predominant oral disease. There is almost no specific region in the world where there is no confirmation of dental caries in residents. Both genders, all races, all socio-economic background and all dental age groups are affected.² Oral diseases are of multilateral etiology. The essential issue of socio-behavioral and environmental factors has been identified in oral health and oral diseases. Socio-economic status is likely to be correlated with one or more factors sometimes referred to as "barriers to care" which have a direct impact on dental health, including cultural, emotional and social obstacles (anxiety and fear of pain).³

Owing to rising socio-economic disparity, inequality in oral health has indeed been projected to widen. In special groups, such as preschool children, the influence of socio-economic status becomes even greater. Even when they attend kindergartens, they spend much time with parents or guardians, particularly mothers, and rely on the awareness, actions, activities and socio-economic status of the family. It may be difficult to improve bad oral habits at pre-school stage later on. Preschool children constitute an innocent and caring part of the community and due importance must be granted to their oral health treatment as it defines the oral health status of subsequent generations.

In view of this, the present study was designed to provide the basic information on the oral health status and practices of pre-school children between 3 and 5 years of age related to different socio-economic classes in

Vidisha district.

Methodology:

The current cross-sectional and comparative research was conducted in 113 Anganwadis and 5 Pre-schools among 2600 children (both female and male) of various socio-economic status aged 3-5 years in Vidisha district. WHO Oral Health Assessment Form and Oral Health Questionnaire for Children, 2013⁵; Modified Kuppaswami Socio-economic Scale- 2012⁶ and dmft index (decayed, missing, filled tooth) were used to measure both the oral health and socio economic status of children. According to WHO Oral Health Surveys basic techniques, intraoral examination was performed by mouth mirror, CPI probe and effective lighting. The examination position either on a chair or “Knee to Knee” for children was selected based on the age. Five standardized clinicians carried out the clinical examination. Using SPSS 23.0 program, the data was analysed.

Results:

Figure 1: Distribution of Socio-economic status

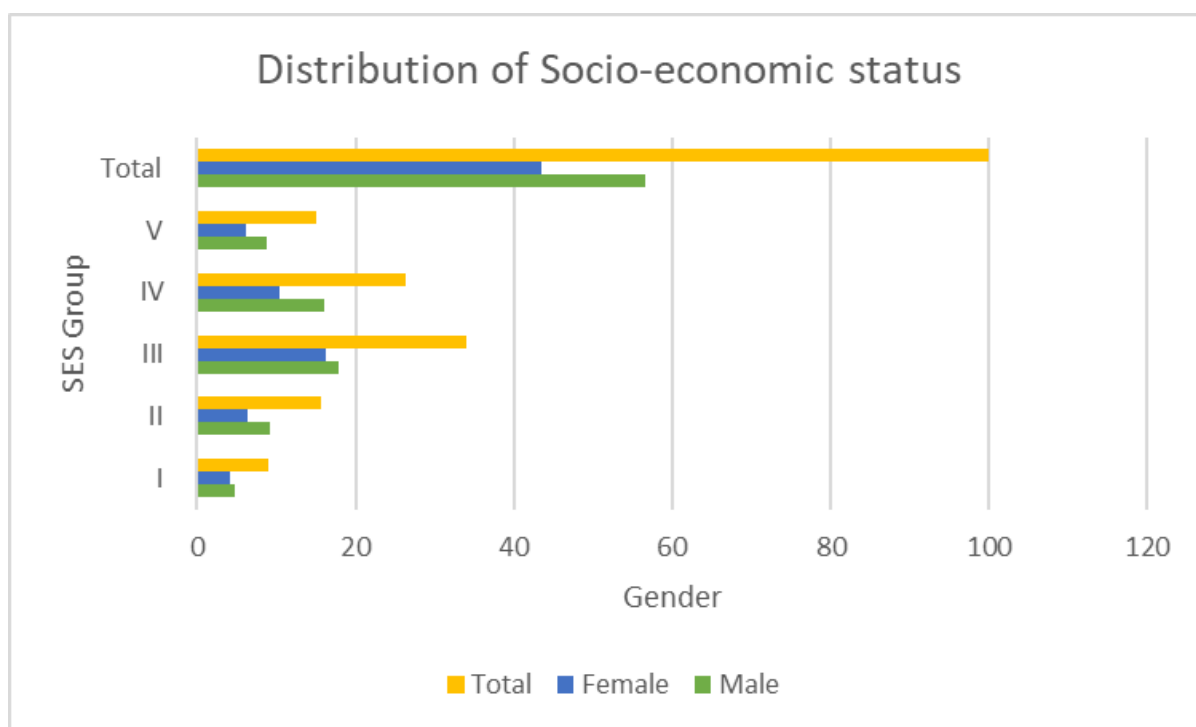


Table 1: Distribution of Socio-economic status-

SES group	Male		Female		Total	
	Number	%	Number	%	Number	%
I	124	4.76	110	4.23	234	9.07
II	239	9.19	166	6.38	405	15.57
III	462	17.76	423	16.27	885	34.03
IV	415	15.96	271	10.42	686	26.38
V	229	8.8	161	6.19	390	15
Total	1469	56.5	1131	43.5	2600	100

Based on their socio-economic status, 2600 children were grouped into I-V. Of these, 234 children (9.07%)

were in Group I, 405 children (15.57%) were in Group II, 885 children (34.03%) were in Group III, 686 children (26.38%) were in Group IV, and 390 children (15%) were in Group V.

Figure 2: Caries prevalence according to SES groups

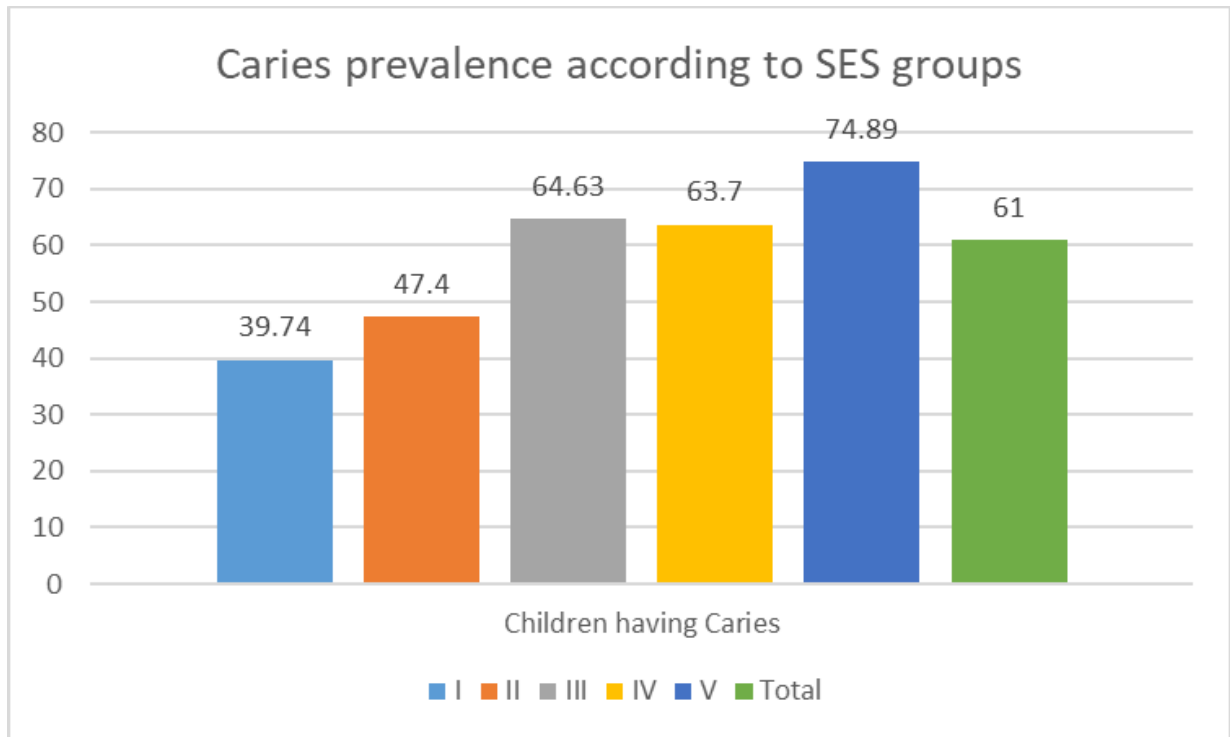


Table 2: Caries prevalence and mean dmft according to SES groups-

SES group	Children having Caries		dt	mt	ft	dmft	p value
	Number	%	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD	
I	93	39.74	0.93 \pm 1.85	0.03 \pm 0.18	0.18 \pm 0.51	1.15 \pm 1.83	0
II	192	47.4	1.17 \pm 1.91	0.07 \pm 0.25	0.15 \pm 0.40	1.39 \pm 1.87	
III	572	64.63	1.25 \pm 1.62	0.12 \pm 0.32	0.15 \pm 0.46	1.51 \pm 1.59	
IV	437	63.7	1.23 \pm 1.76	0.18 \pm 0.51	0.14 \pm .49	1.55 \pm 1.69	
V	292	74.89	1.67 \pm 2.25	0.22 \pm 0.48	0.13 \pm .44	2.02 \pm 2.13	
Total	1586	61	1.25 \pm 1.84	0.12 \pm 0.39	0.14 \pm 0.46	1.52 \pm 1.76	

Highest caries presence (74.89%) was observed in group V and lowest (39.74%) was in group I. Group II, III and IV showed 47.4%, 64.63% and 63.7% respectively. In various SES groups the mean value for dt (0.93-1.67); mt (0.03-0.22); ft (0.13 – 0.18) and dmft (1.15-2.02) were observed. For various SES group dm and dmft were significantly affected, while ft was not affected significantly.

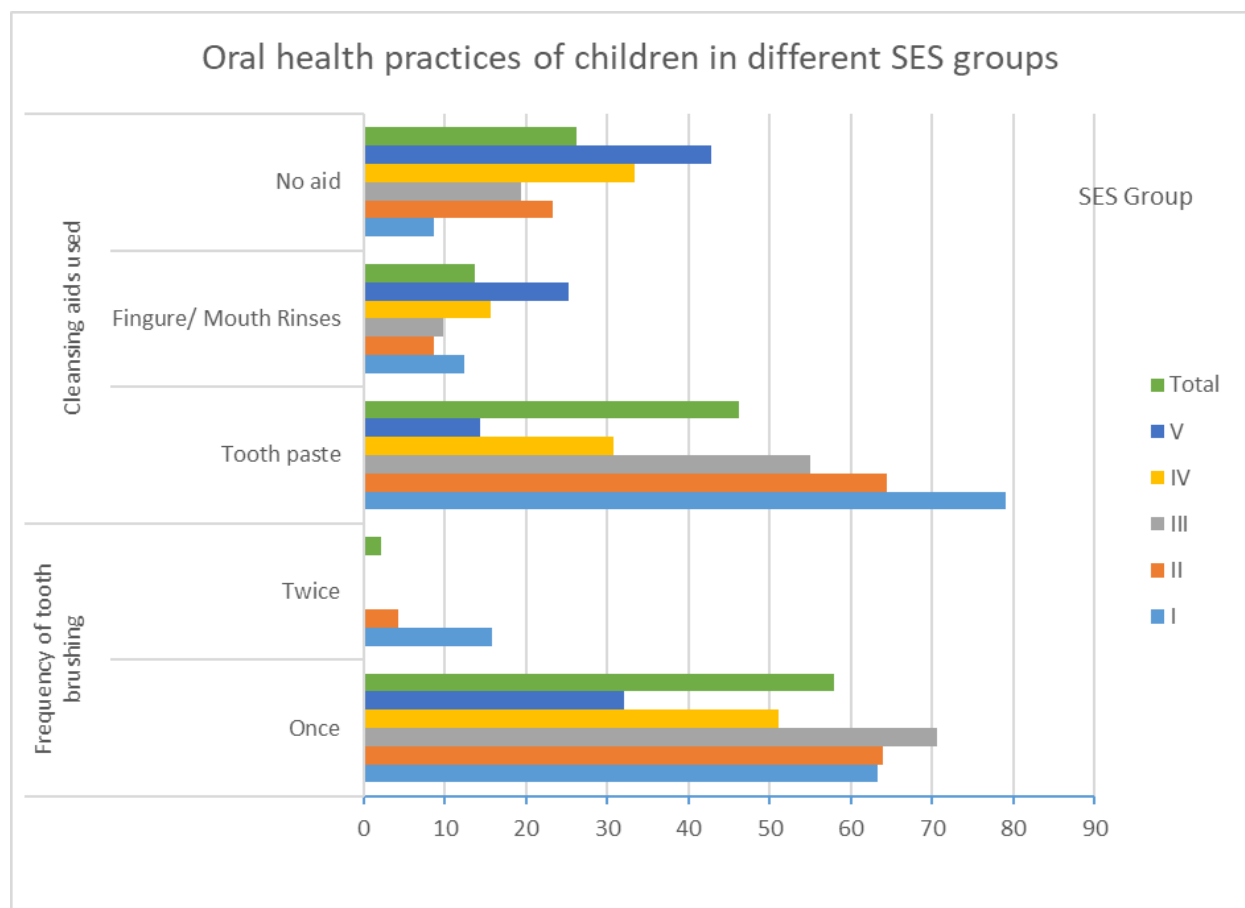
Largely, 57.96% of children clean their teeth once, and 2.15% clean their teeth twice daily. Most of the children (46.15 %) used toothpaste to clean their teeth, few of them (13.69%) used only finger and mouth

rinsing only 26.19% didn't practice any oral hygiene measure. The pattern of tooth brushing and toothpaste use declined from the upper SES to lower one. Tooth brushing twice per day was observed mostly in the uppermost SES, which was only 15.81%. The number of children from the SES group (I-V) who did not follow any measures of oral hygiene increased.

Table 3: Oral health practices of children in different SES groups

SES group	Frequency of tooth brushing				Tooth Paste		Finger/ Mouth		No aid	
	Once		Twice				Rinsing			
	Number	%	Number	%	Number	%	Number	%	Number	%
I	148	63.25	37	15.81	185	79.05	29	12.39	20	8.55
II	259	63.95	17	4.2	261	64.44	35	8.64	94	23.21
III	625	70.62	2	0.23	487	55.03	87	9.83	171	19.32
IV	350	51.02	0	0	211	30.76	107	15.6	229	33.38
V	125	32.05	0	0	56	14.36	98	25.13	167	42.82
Total	1507	57.96	56	2.15	1200	46.15	356	13.69	681	26.19

Figure 3: Oral health practices of children in different SES groups



Discussion:

SES and dental caries-

The present study demonstrated that one of the factors contributing for the occurrence of dental caries is the socioeconomic status. The frequency of caries in the lower most SES group was 74.89%, while the uppermost SES group was just 39.74%. As we descend from the upper socioeconomic status to the lower

one, increase in the mean dt, mt and dmft was observed. Although, the mean ft was 0.18 in group I and range from 0.12 to 0.15 in groups II-V. The variations between the five SES groups in decayed, missing and filled teeth may be due to the advantage of preventive strategies, early detection and specific care easily accessible to the children in the higher economic group than to the middle and low economic groups,¹² similarly a strong correlation was observed among SES and dental caries prevalence by Sogi et al., (2002).⁷ Various studies conducted at different region of India also observed a significant relation between SES and dental caries respectively.^{4,8-13} The explanation for this may be due to a lack of understanding of the value of oral health and also because toothpaste and tooth brushes are unaffordable.

Whereas, in developed countries like Abu Dhabi and Ghana higher rate of dental caries were observed in the children of high SES.^{14,15} In addition to inadequate access to fluoride and other dental caries, preventive steps may be due to an increase in sugar consumption in those nations.¹⁶

Oral health practices and SES-

As we observed that the tooth brush practice for oral hygiene maintenance decreased from 79.05% to 32.05% if compared from higher to lower SES group which is similar to other studies.¹⁷⁻²⁰ It was also found that the children who did not routinely use tooth-brush to maintain oral hygiene had a higher prevalence of dental caries (65.38%) compared to the children (58.02%) who used tooth-brush regularly. This finding was consistent with the outcomes of Retnakumari¹⁷ and Jose et al.²¹ The frequency of tooth brushing among groups was greater in higher SES group and decreases with lower SES which can be clarified due to oral health knowledge and the availability of services.

Conclusion:

In the preschool children, the incidence and severity of dental caries were very high. However, there were insufficient levels of the use of the dental services and habits associated with oral health. Vidhisha District (M.P.) is distinguished by variations in the presence of caries and oral hygiene practices with regard to SES and demographic level, as well as living standards. Preventive steps should be included in oral health promotion programmes, while public health policies should concentrate on engaging the population and improving affordable and sensitive dental services.

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