

A Study to Assess the Oral Health Status of under five Children and to Evaluate the Effectiveness of Structured Teaching Program on Prevention of Oral Health Problems in Terms of Knowledge Among Mothers of under five Children Attending Selected Anganwadi Centers at Delhi

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ABSTRACT

Context - Oral health is an important aspect of personal health of an individual. Children under the age of 05 years generally spend most of their time with their parents, grandparents and care takers, especially mothers. These early years are crucial cornerstones for overall health of children including oral health, because this is the time during which the earliest health routines and habits are acquired.

Aim- Assess the oral health status of under five children and to evaluate the effectiveness of structured teaching program on prevention of oral health problems.

Material and Methods – 100 Under five children and 100 mothers of under five children were selected using purposive sampling technique. Oral health assessment Performa was used to assess oral health status of under five children and structured knowledge Interview Schedule to assess information regarding knowledge on prevention of oral health problems among mothers of under five children.

Result- As per present study Maximum number (55%) of children were having foul smell, 41% of under five children had Teeth discoloration, 07% had Oral mucosal ulcer, 01% of children had Candidiasis, 21% of children's lips were dry and cracked, 02% of children had Tongue swelling, 06% of children had Red swollen Gums, 01% of children had Gingival bleeding, 52% of children had Teeth caries and 03% of children had Dental trauma (missing tooth due to trauma).

Findings related to mothers knowledge on oral health revealed that majority (43%) had poor knowledge whereas 42% had fair knowledge and only 15% had good knowledge on prevention of oral health problems.

Conclusion- The result of this study showed that majority of mothers of under five children had poor knowledge and there is need for intervention to improve the knowledge on prevention of oral health problems.

Keywords- Oral health problems, Under Five children, Structured Teaching.

INTRODUCTION

Children under the age of 05 years generally spend most of their time with their parents, grandparents and care takers, especially mothers. These early years are crucial cornerstones for overall health of children including oral health, because this is the time during which the earliest health routines and habits are acquired.

Mother's knowledge on oral health affects the oral health of their children, Mothers can be educated about home oral hygiene measures like optimum frequency of tooth brushing, type and amount of tooth paste to be used by children and timings of tooth brushing, eating habits and seeking help in occasions when professional dental care is needed. In general, children's oral health maintenance and outcomes are influenced by their parent's knowledge and beliefs as these affect oral hygiene and healthy eating habits.¹

Suresh BS, Ravishankar TL, Chaitra TR, Mohapatra AK, Gupta V found in their study that mother's knowledge about the oral health of their pre-school children showed that about 73% mothers were found to have a poor knowledge about the importance of children's oral hygiene practices.²

Seow W.K., et.al (2016) conducted a longitudinal observational study. The study findings were, Dental caries is still one of the most prevalent preventable diseases worldwide, with prevalence in some countries over 90% in 03–05 year olds. High caries experience during childhood is associated with increased caries risk during adulthood. Dental caries can be considered a 'legacy disease'.³

Objectives

1. To assess the oral health status of under five children attending selected Anganwadi centres at Delhi.
2. To assess and evaluate the knowledge on prevention of oral health problems among mothers of under five children before and after administration of structured teaching program.
3. To seek the association between oral health status of under five children and knowledge on prevention of oral health problems among mothers of under five children attending selected Anganwadi centres at Delhi.
4. To seek the association between knowledge of mothers of under five children after administration of STP on prevention of oral health problems with selected variables

Age of mother

Religion of mother

Educational level of mother

Occupation of mother

Monthly Family income

No. of children in family

MATERIAL AND METHODS

A **quantitative research** was found to be most appropriate for the study. **One group pre test post test pre experimental research design** was used to assess the knowledge on prevention of oral health problems among mothers of under Five children at Anganwadi centres of Nand Ngari, New Delhi.

Purposive sampling technique was used. After obtaining administrative approval from the Director, Dept. of Women and Child Development, Delhi study was conducted on 100 under five children and their 100 mothers of under five children at Anganwadi centre no. 63, 65, 66, Nand Nagri, Delhi. Self introduction and establishment of rapport with the subjects were done. The nature and purpose of the study informed to respondents. Written consent was taken from each sample and confidentiality of the respondents was assured and maintained. The tool developed and used for the data collection were structured knowledge interview schedule and structured oral health assessment Performa

Tool – 1 Part A: Structured Interview schedule to obtain data on sample characteristics. **Tool - 1 Part B:** Structured knowledge interview schedule to evaluate the knowledge of mothers of under five children on prevention of oral health problems.

Tool – 2: Oral health assessment Performa to assess the oral health status of under five children. Structured teaching program was developed on prevention of oral health problems. The content validity of the tools and structured teaching program was established by giving tool to 13 experts from the field related to pediatric, dental, public health and nursing experts in dental nursing. Reliability of the tools was also established and all the tools were found to be reliable.

RESULT

Demographic data of mothers of under Five children

Out of 100 mother 20 (20%) were in the age group of 20-25 years, 56 (56%) were in the age group of 26-30 years, Regarding religion 93 (93%) were Hindu, 04(4%) were Muslim and only 03 (3%) were of Sikh religion. According to education level 15 (15%) were illiterate, 21 (21%) studied till primary education and 14 (14%) of subject were up to

Graduate/ equivalent and above. Maximum 84 (84%) of the mothers were home maker, 09 (9%) were employed in Govt. Jobs. only 24 (24%) had one child, and 28 (28%) of mothers had 03 and more children. Notably, monthly family income majority 42 (42%) had family income of Rs.20,001/- and above.

Demographic data of under Five children

Most of the under five children were in the age group of 04 years 26% and 23% were 5 years old, 15%, 20% and 16% were in the age group of 01 year, 02 year and 03 years respectively. Out of 100, 56% of the participants were male child and 44% of total participants were female child.

Findings related to the oral health assessment of under five children

TABLE : 1 Frequency and Percentage Distribution of Under Five Children as per the Presence of Oral Health Problems

N = 100

Sr. No.	Oral Health Problem	Frequency	Percent
1	Foul smell	55	55%
2	Teeth discoloration (Fluorosis, plaque, tartar)	41	41%
3	Oral mucosal ulcer	07	07%
4	Candidiasis	01	01%
5	Dry and cracked Lips	21	21%
6	Tongue Swelling	02	02%
7	Gums Red with swelling	06	06%
8	Gingival bleeding	01	01%
9	Teeth caries	52	52%
10	Dental trauma	03	03%

Data represented in table no. 1 depicted that Maximum number 55% of children were having foul smell, 41% of under five children had Teeth discoloration, 52% of children had Teeth caries and 03% of children had Dental trauma.

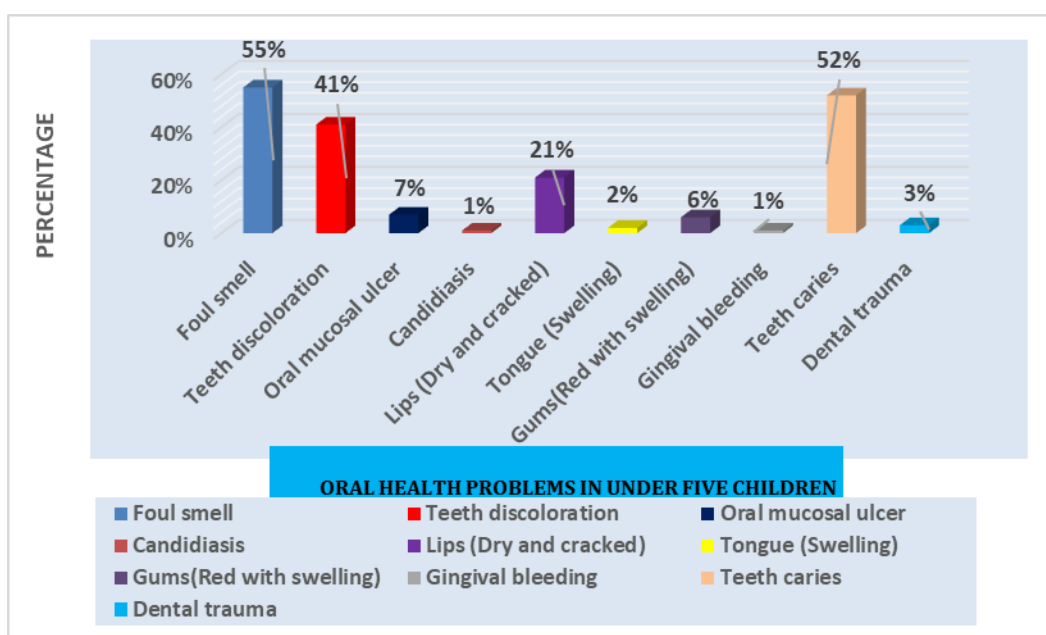


Figure 1: Bar Diagram Showing the Percentage Distribution of Under Five Children as per the Presence of Oral Health Problems.

Findings related to the evaluation of effectiveness of the structured teaching program on prevention of oral health problems in terms of knowledge among the mothers of under five children.

TABLE NO.2: Range, Mean, Median and Standard Deviation of Pre-test and Post-test Knowledge score of Mothers of Under Five Children

N = 100

Sr. No.	Test	Range	Mean	Median	Standard Deviation
1.	Pre-test	04 – 22	11.81	11	4.69
2.	Post-test	11 – 24	18.28	18	2.78

Maximum Score – 25

The data given in Table no. 2 shows that the mean Post-test knowledge scores of mothers of under five children on prevention of oral health problems (18.28) was higher than their mean Pre-test knowledge score (11.81). The table further shows that the median for the Pre-test is (11) and for Post-test it is (18) which is fairly closed to the mean of Pre-test mean (11.81) and Post-test mean (18.28) respectively, indicating a normal probability curve, which means all the measures of central tendency coincide at the center of the distribution to a greater extent.

The standard deviation of Post-test knowledge scores (2.78) is lower than the standard deviation of Pre-test knowledge scores (4.69) suggesting that the group become more homogeneous after the administration of structured teaching program on prevention of oral health problems. It indicates that the structured teaching program was effective to enhance the knowledge on prevention of oral health problems among mother under five children.

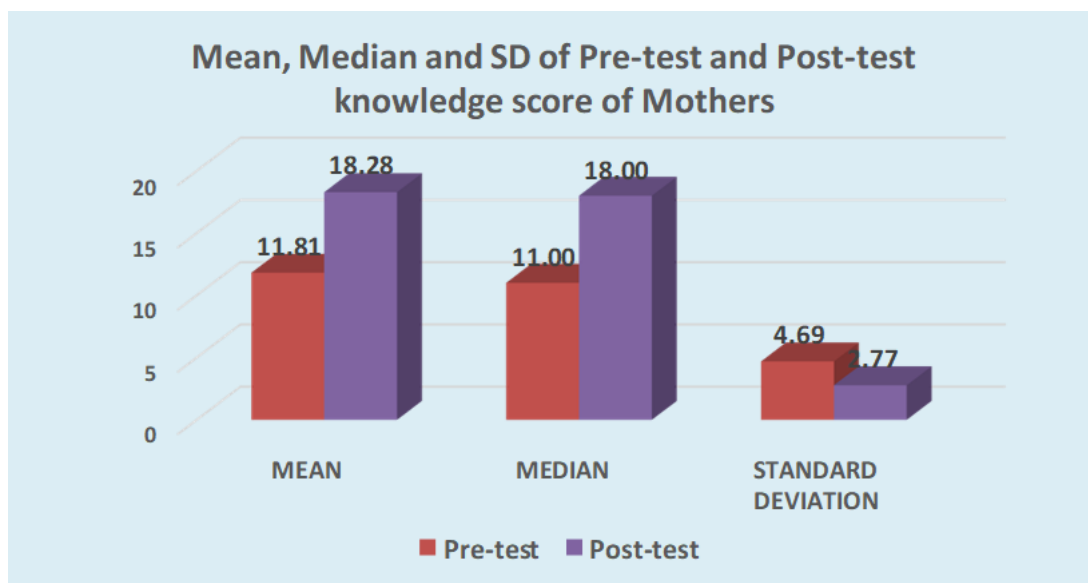


Figure2: Bar Diagram Showing the Mean, Median and Standard Deviation of Pre-test and Post-test Knowledge Scores of Mothers of Under Five Children

TABLE NO. 3: Frequency And Percentage Distribution of Pre-test and Post-test Knowledge Scores of Mothers of Under Five Children as per Their Scoring Categories

N = 100

Knowledge scores categories	Pre-test		Post-test	
	Frequency	Percentage %	Frequency	Percentage %
Poor (0-9)	43	43%	00	00%
Fair (10-17)	42	42%	36	36%
Good (18-25)	15	15%	64	64%

Maximum score : 25

The data given in the table no.3 reveals that the frequency of scores in Pre-test under Poor category was (43%) which was reduced to (0%) in the post test. The frequency of good criteria has increased from 15% in Pre-test to 64 % in Post-test. This suggests that most of the mothers scores are under the good category after intervention.

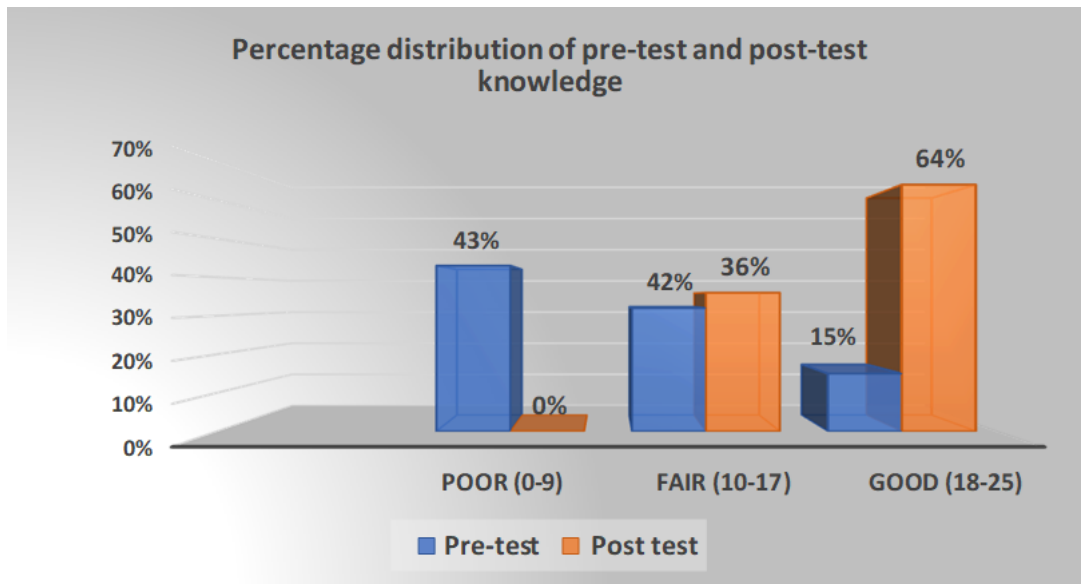


Figure 3: Bar Diagram Showing The Percentage Distribution of Pre-test and Post-test Knowledge Scores of Mothers of Under Five Children as per their scoring category

Table No. 4: Mean, Mean Difference, Standard Deviation Difference, Standard Error Mean Difference and “t” Value of knowledge score of mothers of under five children on prevention of oral health problems

N = 100

Sr.no.	Knowledge score	Mean	Mean difference	SDD	SEMD	“t” Value
1.	Pre-test	11.81	6.47	1.9	1.91	18.24
2.	Post-test	18.28				

- “t” value for df (99) is 1.99, $P < 0.05$, Significant at 0.05 level.
The data presented in the above table 4 shows that the mean Post-test knowledge score (18.28) was higher than the mean Pre-test knowledge score (11.81) with a mean difference of 6.47. the obtained mean difference between Pre-test and Post-test knowledge score of the group is found to be statistically significant as evident from the calculated the “t” value of 18.24 at 0.05 level of significance. Hence, the null hypotheses H_0 was rejected and the research hypothesis H_1 was accepted. This shows that the structured teaching program was effective in enhancing the knowledge on prevention of oral health problems among mothers of under five children.

Findings Related To Association Between Pre-Test Knowledge Score Of Mothers Of Under Five Children And Oral Health Status Of Under Five Children.

Table 5: Chi-square value showing association between Pre-test knowledge category of mothers with oral health status of under five children

Sr. No	Oral Health Status of Under Five Children	Pre-test Knowledge Category of Mothers			df	Obtained Chi-Square Value	Table Value of Chi-Square	Significance
		Poor (0-9)	Fair (10-17)	Good (18-25)				
1.	Poor (0-4)	09	03	00	04	18.20	9.48	S*
2.	Unhealthy (5-7)	28	22	05				
3.	Healthy(8-10)	06	17	10				

The data presented in the table no.5 shows the obtained Chi-square value between Pre-test knowledge scores of

mothers and oral health status of under five children. The obtained value is 18.20 at degree of freedom 4, which was found to be statistically significant at 0.05 level of significance. Thus, null hypothesis H02 was rejected and research hypothesis H2 was accepted. This indicated that oral health status of under five children is dependent on the knowledge of mothers on prevention of oral health problems.

Finding Related To Association Between Post-Test Knowledge Score Of Mothers Of Under Five Children And Selected Variables

Table No. 6 (A) Chi-Square Value Showing Association Between Post-Test Knowledge Score of Mothers of Under five Children with Selected Variables.

N=100

Sr. No.	Selected Variables	Post-test Knowledge Level		Df	Obtained Chi-Square Value	Table Value of Chi-Square	Significance
		Good (10-17)	Excellent (18-25)				
1 AGE (In Years)							
(a)	20-25 Year	04	16	03	3.80	7.81	NS
(b)	26-30 Year	24	32				
(c)	31-35 Year	02	06				
(d)	36 Year and above	06	10				
2 RELIGION							
(a)	Hindu	33	60	02	3.27	5.99	NS
(b)	Muslim	01	03				
(c)	Sikh	02	01				
(d)	Christian	00	00				
3 EDUCATIONAL LEVEL							
(a)	Illiterate	02	13	04	7.77	9.48	NS
(b)	Primary	08	13				
(c)	Secondary	12	09				
(d)	Sr.Secondary	09	20				
(e)	Graduate and Above	05	09				
4 OCCUPATION							
(a)	Home Maker	33	51	02	2.56	5.99	NS
(b)	Private Job	01	06				
(c)	Govt. Job	02	07				

Sr. No.	Selected Variables	Post-test Knowledge Level		Df	Obtained Chi-Square Value	Table Value of Chi-Square	Significance
		Good (10-17)	Excellent (18-25)				
5 NO. OF CHILDREN IN FAMILY							
(a)	01 Child	09	15	02	0.303	5.99	NS
(b)	02 Children	16	32				
(c)	03 or More Children	11	17				
6 MONTHLY FAMILY INCOME (IN RS.)							
(a)	BELOW 10,000/-	06	17	02	1.30	5.99	NS
(b)	10,001-20,000/-	14	21				
(c)	20,001 And above	16	26				

0.05 level of significance

The data depicted in table no. 6 shows that the computed chi-square values between the selected variables and Post-test knowledge scores of mothers of under five children. The computed chi-square value of selected variables like age (3.80), religion (3.27), educational level (7.77), occupation (2.56), monthly family income (1.30) and No. of children in family (0.303) were found to be statistically non-significant at 0.05 level of significance. Thus, null hypothesis H₀ was failed to reject and research hypothesis H₃ was rejected. This indicated that knowledge on oral health is independent and not influenced by selected variables like age, religion, education, occupation, monthly family income and no. of children in family.

DISCUSSION

Oral health assessment of under five children - similar to Vaibhav Kumar, et al. (2021) assessed oral health among 1200 preschoolers attending Anganwadi centers of Belagavi, South India and prevalence of dental caries was found to be 76.1% and most common oral mucosal lesions were ulcers (5.1%), 6% children had traumatic dental injuries.⁴

Assessment of knowledge on prevention of oral health problems among mothers of under five children –

These findings are consistent with the study conducted by Suresh BS, Ravishankar and Gupta V et al., (2010) India to assess the mother's knowledge about pre-school child's oral health, which revealed that mothers had (53.8%) fair knowledge regarding oral hygiene.²

Effectiveness of structured teaching program on prevention of oral health problems in terms of knowledge

The findings related to effectiveness of structured teaching program also supported by a pre-experimental study conducted by Ramandeep Kaur and Manisha Rani (2018) to assess the effectiveness of STP regarding oral hygiene among mothers of pre-school children. The study articulated that the overall Post-test mean with SD (22.76+/-3.503) was higher than Pre-test mean with SD (11.82+/-4.308) with mean difference of 10.94. "t" value was computed to find the level of significance between the means and it was found highly significant (df 199, t = 22.68) at p < 0.05 level of significance.⁵

RECOMMENDATIONS

- The study can be replicated on larger samples for different areas so that findings can be generalized for a larger population.
- A comparative study can be conducted by comparing the knowledge and practice among
 - Working and non-working mothers
 - Rural and urban
 - Different parts of states or between the two states.
- An experimental research approach can be carried out on the same samples to evaluate the effectiveness of structured teaching program in enhancing the knowledge of mothers of under five children regarding oral health.

CONCLUSION

As per present study majority of under five children had oral health problems and the structured teaching program was effective to enhance the knowledge on prevention of oral health problems among mother of under five children. The oral health status of under five children was dependent on the knowledge of mothers on prevention of oral health problems. The mother's knowledge on prevention of oral health problems was independent and was not influenced by selected variables of mother's age, religion, education and occupation of mother, monthly family income and no. of children in family.

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