

## A Study to assess the Knowledge, Attitude and Practices Regarding Oral Hygiene of Children (3-5 Years) among Mothers Visiting Paediatric OPD of a Selected Hospital of Ludhiana, Punjab

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### Abstract

To maintain a good oral hygiene, both the parent and the child must work together. It is seen that poor attitude of parents generally reflect as a poor oral health in children and vice versa. Mother's oral hygiene knowledge and attitude influence oral hygiene of their children at an early age. The parents with proper oral hygiene knowledge and attitude are likely to positively influence their children's oral hygiene.

**Aims:** To assess the knowledge, attitude and practices regarding oral hygiene of children (3-5 years) among mothers.

**Settings and Design:** The study was conducted in Paediatric OPD of Dayanand Medical College and Hospital. Descriptive design was used in the study.

**Methods and Material:** A descriptive research design was used for present study. Convenience sampling technique was used to select a sample of 100 mothers. Structured questionnaire to assess knowledge, Likert scale to find out attitude and checklist to assess the practices were used as tools.

**Statistical analysis used:** The data was analysed using descriptive and inferential statistics. Pearson's correlation coefficient was used to assess the correlation between the variables and ANOVA test was used to find out the association between variables.

**Results:** The findings of present study revealed that 64% mothers had average knowledge regarding oral hygiene of children. 87% mothers have favourable attitude and 97% had satisfactory level of practices regarding oral hygiene of their children. The study reveals that there is positive correlation of knowledge with attitude and practices regarding oral hygiene among mother of children (3-5) years.

**Conclusions:** It is concluded that majority of mothers exhibited favourable attitude and satisfactory level of practices and have less knowledge regarding oral hygiene of children.

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### INTRODUCTION

Oral health is a key indicator of overall health, well-being and quality of life. It encompasses



a range of diseases and conditions that include dental caries, periodontal (gum) disease, tooth loss, oral cancer, orodental trauma and birth defects such as cleft lip and palate.<sup>1</sup> Among different oral health problems, dental caries is one of the major problems in the world. In 2005, WHO reported 60-70% of school children worldwide have experienced dental caries. In India, the prevalence of caries among preschool children was found to be in the range of 40-70% in 2003.<sup>2</sup>

Dental caries has high prevalence, which varies from 49-83% across different countries.<sup>3</sup> Dental knowledge and practices depend on mother's education and demographic inhabitation as research studies consider that mothers with higher education have a better knowledge about oral hygiene and how to modify their children's bad habits of oral health, like poor brushing habits, diet with high sugar intake, tooth decay, drink milk or sweet liquids at bedtime.<sup>4</sup>

Mother's oral hygiene knowledge and attitude influence oral hygiene of their children at an early age.<sup>5,6</sup> The parents with proper oral hygiene knowledge and attitude are likely to positively influence their children's oral hygiene. For example: if the parent brushes his\her teeth twice a day, their children will also be positively influenced to brush their teeth twice a day. Children with poor oral habits are more prone to early childhood caries and may further more develop associated problems such as local infections, oral pain that also manifests as difficulty in sleeping and eating, reduced growth, increased risk of caries and psycho-social problems in permanent dentition.<sup>7</sup>

Globally, in children aged 3-6 years dental caries is categorized as major public health issue.<sup>8</sup> It has been observed across various countries that the basic health care workers and parents have limited knowledge about causes and prevention of diseases.<sup>9,10</sup> Out of 7.5 billion people residing on this planet, a whopping 2.3 billion reportedly suffer from dental caries of permanent dentition. In contrast, more than 530 million children suffer from caries affecting their primary dentition as proclaimed by global burden of disease study in 2017.<sup>11,12</sup>

Parents need to increase the time children spend with them. Adoption of consistent behavioural habits takes place at home, with parents, especially mothers, being the primary model for the behaviour. Educating mothers on infant dental caries will provide lifelong good oral hygiene habits and will bring down the prevalence of oral diseases considerably.<sup>13</sup>

It is mostly in children that quality of life is compromised. Severe dental caries which causes pain, discomfort, acute and chronic infections, disfigurement, disruption of sleep and eating habits, greater risk of hospitalization, increased treatment costs which ultimately lead to loss of school days diminishing their ability to learn. The presence of dental caries leads to insufficient nutrition intake, causing weight loss and thus deteriorating growth rate.<sup>14,15</sup>

Although many studies have been carried out from time to time to assess the knowledge and behaviour of people about oral health, there is still a dearth of education regarding the same especially for rural people, who make up for more than 70% of population in India. Furthermore, even the people living in cities, in spite of having access to dental care, fall prey to dental caries and unhealthy lifestyle.<sup>16</sup> Therefore, the present study was conducted to assess the knowledge, attitude and practices regarding oral hygiene of children (3-5 years) among mothers visiting paediatric OPD of a selected hospital of Ludhiana, Punjab.

## MATERIALS AND METHODS

Descriptive research design was used for the study.

Convenience sampling technique was used to select a sample of 100 mothers.

The tool was divided into three parts as follows:

### Section A:

Socio demographic profile.

- (i) Mother
- (ii) Child

It was a self-structured questionnaire. It consisted of socio-demographic characteristics of subjects of mother such as age, gender, occupation, habitat, marital status, type of family, religion, dietary pattern and socio-economic status plan.

Socio-demographic characteristics of subjects of child such as age, gender, schooling and sibling.

### Section B:

A self-structured questionnaire to assess knowledge of mother regarding oral hygiene. It consisted of 24 questions.

### Section C:

A self-structured three-point Likert scale related to assessment of attitude of mothers towards oral

hygiene. It consisted of 12 statements; out of which three statements were negative.

**Section D:**

A self-structured checklist to assess the practices of mother regarding oral hygiene. The self-structured questionnaire was developed. It consisted of 12 statements; out of which three statements were negative.

**RESULTS**

The findings of present study revealed that 64% mothers had average knowledge regarding oral hygiene of children. 87% mothers have favourable attitude and 97% had satisfactory level of practices regarding oral hygiene of their children. The study reveals that there is positive correlation of knowledge with attitude and practices regarding oral hygiene among mother of children (3-5) years.

**Table 1(a):** Frequency Distribution of Socio-demographic variable of mothers of 3-5 years children

| N=100                               |           |
|-------------------------------------|-----------|
| Sociodemographic Variable of Mother | Frequency |
| <b>Age*(in years)</b>               |           |
| 21-25                               | 9         |
| 26-30                               | 48        |
| 31-35                               | 27        |
| 36-40                               | 11        |
| 41-45                               | 5         |
| <b>Education</b>                    |           |
| Illiterate/uneducated               | 3         |
| Elementary                          | 20        |
| Secondary                           | 30        |
| Graduation and above                | 47        |
| <b>Occupation</b>                   |           |
| Non-working                         | 69        |
| Working                             | 31        |
| <b>Habitat</b>                      |           |
| Urban                               | 70        |
| Rural                               | 30        |
| <b>Type of family</b>               |           |
| Nuclear                             | 51        |
| Joint                               | 49        |
| <b>Religion</b>                     |           |

|   |    |
|---|----|
| Hindu   | 50 |
| Sikh  | 45 |
| Muslim  | 4  |
| Christian   | 1  |
| <b>Dietary pattern</b>  |    |
| Vegetarian  | 73 |
| Non-vegetarian  | 23 |
| Lacto-ova veg   | 4  |
| <b>Socio-economic status of the family (kuppuswamy scale)</b> |    |
| Upper class   | 10 |
| Upper middle class  | 45 |
| Lower middle class  | 37 |
| Upper lower class   | 4  |
| Lower class   | 4  |

\* Mean age of mother (in years) 30.94, 4.661

**Table 1(b):** Frequency Distribution of Socio-demographic variable of children of 3-5 years

| N = 100                             |           |
|-------------------------------------|-----------|
| Socio-demographic Variable of Child | Frequency |
| <b>Age* (in years)</b>              |           |
| 3                                   | 28        |
| 4                                   | 35        |
| 5                                   | 37        |
| <b>Gender</b>                       |           |
| Male                                | 59        |
| Female                              | 41        |
| <b>Schooling</b>                    |           |
| Private                             | 78        |
| Government                          | 22        |
| <b>Siblings</b>                     |           |
| Yes                                 | 49        |
| No                                  | 51        |

\*Mean age of child ( in years ) SD = 4. 09 0. 805

**Table 2:** Mean and mean percentage distribution of mothers as per their level of knowledge regarding the oral hygiene of children

| N=100                           |    |       |        |
|---------------------------------|----|-------|--------|
| Level of knowledge              | N  | Mean  | Mean % |
| Below average                   | 5  | 5     | 83.30% |
| Average                         | 64 | 10.49 | 87.40% |
| Good                            | 30 | 14.6  | 81.10% |
| Excellent                       | 1  | 19    | 79.10% |
| Maximum score of knowledge = 24 |    |       |        |
| Minimum score of knowledge = 00 |    |       |        |

**Table 3:** Mean and mean percentage distribution of mothers as per their level of attitude regarding the oral hygiene of children

| N =100                         |    |                   |        |
|--------------------------------|----|-------------------|--------|
| Level of attitude              | N  | Mean $\pm$ S.D    | Mean % |
| Unfavourable                   | 13 | 23.38 $\pm$ 3.357 | 97.41% |
| Favourable                     | 87 | 30.20 $\pm$ 2.602 | 83.8%  |
| Maximum score of attitude = 36 |    |                   |        |
| Minimum score of attitude = 12 |    |                   |        |

**Table 4:** Mean and mean percentage distribution of mothers as per their level of practices regarding the oral hygiene of children

| N=100                          |    |                 |       |
|--------------------------------|----|-----------------|-------|
| Level of practices             | N  | Mean $\pm$ S.D  | Mean% |
| Unsatisfactory                 | 3  | 5.00 $\pm$ 0.00 | 83.3% |
| Satisfactory                   | 97 | 9.73 $\pm$ 1.82 | 81.0% |
| Maximum score of practice =12  |    |                 |       |
| Minimum score of practice = 00 |    |                 |       |

**Table 5:** Rank wise distribution of components of self-structured knowledge questionnaire for assessment of knowledge regarding oral hygiene.

| N=100                        |               |                  |       |      |
|------------------------------|---------------|------------------|-------|------|
| Components                   | Maximum score | Mean $\pm$ S. D  | Mean% | Rank |
| Teething                     | 5             | 2.71 $\pm$ 1.139 | 54.2% | 1    |
| Brushing technique           | 10            | 4.97 $\pm$ 1.731 | 49.7% | 2    |
| Hygiene                      | 9             | 3.79 $\pm$ 1.387 | 42.7% | 3    |
| Maximum knowledge score =24  |               |                  |       |      |
| Minimum knowledge score = 00 |               |                  |       |      |

**Table 8:** Depicting association of knowledge, attitude and practice of mothers regarding oral hygiene with selected socio demographic variable

| N= 100               |    |                   |          |                   |         |                   |          |
|----------------------|----|-------------------|----------|-------------------|---------|-------------------|----------|
| Variables            | N  | Knowledge score   |          | Attitude score    |         | Practice score    |          |
|                      |    | Mean S.D          | F/p      | Mean S.D          | F/p     | Mean S.D          | F/p      |
| <b>Age of Mother</b> |    |                   |          |                   |         |                   |          |
| 21-25                | 9  | 9.77 $\pm$ 3.456  | F= 1.621 | 29.11 $\pm$ 2.420 | F=0.655 | 9.55 $\pm$ 1.509  | F=0.710  |
| 26-30                | 48 | 11.27 $\pm$ 3.337 |          | 30.04 $\pm$ 2.953 |         | 9.54 $\pm$ 2.123  |          |
| 31-35                | 27 | 11.66 $\pm$ 2.236 |          | 29.00 $\pm$ 3.100 |         | 9.66 $\pm$ 2.130  |          |
| 36-40                | 11 | 12.54 $\pm$ 1.634 | p=0.175  | 29.72 $\pm$ 3.133 | p=0.625 | 10.18 $\pm$ 1.470 | p= 0.587 |
| 41-45                | 5  | 13.20 $\pm$ 3.563 |          | 29.00 $\pm$ 3.000 |         | 8.40 $\pm$ 1.140  |          |
| <b>Education</b>     |    |                   |          |                   |         |                   |          |
| Illiterate           | 3  | 9.00 $\pm$ 3.606  | F=3.863  | 27.66 $\pm$ 2.516 | F=0.626 | 8.00 $\pm$ 2.000  | F= 1.692 |
| Elementary           | 20 | 9.95 $\pm$ 2.724  |          | 29.20 $\pm$ 2.546 |         | 9.00 $\pm$ 2.406  |          |
| Secondary            | 30 | 11.50 $\pm$ 2.825 | P=0.01*  | 29.73 $\pm$ 3.268 | p=0.600 | 9.96 $\pm$ 1.809  | p= 0.174 |
| Graduation and above | 47 | 12.78 $\pm$ 2.910 |          | 29.78 $\pm$ 2.955 |         | 9.70 $\pm$ 1.828  |          |

Table Cont. . .

**Table 6:** Correlation between knowledge and attitude regarding oral hygiene of children among mothers of 3-5 year old children

| N=100  |                   |       |         |         |
|--|-------------------|-------|---------|---------|
| Variable                                     | Mean $\pm$ S.D    | Mean% | r-value | p-value |
| Knowledge score                              | 11.48 $\pm$ 2.986 | 47.83 | 0.257   | 0.010*  |
| Attitude score                               | 29.59 $\pm$ 2.954 | 82.19 |         |         |
| Maximum knowledge score= 24                  |                   |       |         |         |
| Minimum knowledge score = 00                 |                   |       |         |         |
| Maximum attitude score = 36                  |                   |       |         |         |
| Minimum attitude score = 12                  |                   |       |         |         |
| *significant at the level of p $\leq$ 0. 005 |                   |       |         |         |

**Table 7:** Correlation between knowledge and practices regarding oral hygiene of children among mothers of (3-5 year) old children

| N=100  |                   |        |         |         |
|--|-------------------|--------|---------|---------|
| Variable                                     | Mean $\pm$ S. D   | Mean % | r-value | p-value |
| Knowledge score                              | 11.48 $\pm$ 2.986 | 47.83  | 0.227   | 0.023*  |
| Practice score                               | 09.59 $\pm$ 1.975 | 79.91  |         |         |
| Maximum knowledge score = 24                 |                   |        |         |         |
| Minimum knowledge score = 00                 |                   |        |         |         |
| Maximum attitude score = 12                  |                   |        |         |         |
| Minimum attitude score = 00                  |                   |        |         |         |
| *significant at the level of p $\leq$ 0. 005 |                   |        |         |         |

|                              |    |                          |          |               |          |               |          |
|------------------------------|----|--------------------------|----------|---------------|----------|---------------|----------|
| <b>Occupation</b>            |    |                          |          |               |          |               |          |
| Non-working                  | 69 | 11.17 ± 2.869            | F= 0.123 | 2.93 3.028    | F=0.478  | 9.39 ± 2.094  | F= 3.798 |
| Working                      | 31 | 12.16 ± 3.174            | t= 0.726 | 30.12 2.709   | t= 0.491 | 10.03 ± 1.622 | t=0.050* |
| <b>Habitat</b>               |    |                          |          |               |          |               |          |
| Urban                        | 70 | 11.81 ± 3.033            | F= 0.666 | 29.82 3.04    | F=0.977  | 9.74 1.831    | F= 4.454 |
| Rural                        | 30 | 10.70 ± 2.76             | t= 0.416 | 29.03 2.709   | t= 0.325 | 9.23 2.269    | t=0.037* |
| <b>Type of family</b>        |    |                          |          |               |          |               |          |
| Nuclear                      | 51 | 11.82 ± 3.186            | F=1.056  | 29.49 ± 2.887 | F= 0.009 | 9.56 ± 2.042  | F= 0.197 |
| Joint                        | 49 | 11.12 ± 2.75<br>t= 0.307 | t= 0.307 | 29.69 ± 3.049 | t= 0.923 | 9.61 ± 1.923  | t= 0.658 |
| <b>Religion</b>              |    |                          |          |               |          |               |          |
| Hindu                        | 50 | 11.52 ± 3.209            | F= 0.343 | 29.62 ± 3.142 | F= 0.320 | 9.30 ± 2.224  | F= 1.058 |
| Sikh                         | 45 | 11.56 ± 2.519            |          | 29.55 ± 2.607 |          | 9.82 ± 1.682  |          |
| Muslim                       | 4  | 10.00 ± 5.477            | p= 0.799 | 30.25 ± 4.923 | p= 0.811 | 10.75 ± 1.500 | p= 0.371 |
| Christian                    | 1  | 12.00 ± 0.000            |          | 27.00 ± 0.000 |          | 9.00 ± 0.000  |          |
| <b>Dietary Pattern</b>       |    |                          |          |               |          |               |          |
| Vegetarian                   | 68 | 11.38 ± 3.172            | F= 0.131 | 29.72 3.109   | F=0.524  | 9.47 2.112    | F= 0.412 |
| Non-vegetarian               | 15 | 11.80 ± 2.908            |          | 28.86 2.972   |          | 9.93 1.869    |          |
| Lacto-ova                    | 17 | 11.59 ± 2.347            | p=0.877  | 29.70 2.284   | p=0.954  | 9.76 1.480    | p= 0.663 |
| <b>Socio-economic status</b> |    |                          |          |               |          |               |          |
| Upper class                  | 62 | 11.44 ± 0.407            | F= 0.123 | 29.70 ± 3.335 | F= 0.581 | 9.00 + 2.000  | F= 0.374 |
| Upper middle class           | 15 | 2.908 ± 0.751            |          | 29.71 ± 2.881 |          | 9.66 ± 1.770  |          |
| Lower middle class           | 17 | 2.347 ± 0.569            |          | 29.37 ± 2.88  |          | 9.62 ± 2.138  |          |
| Upper lower class            | 3  | 4.041 ± 2.333            | p= 0.974 | 28.25 ± 3.862 | p= 0.677 | 9.25 ± 3.095  | p= 0.827 |
| Lower class                  | 3  | 2.646 ± 1.528            |          | 31.25 ± 3.403 |          | 10.25 ± 2.061 |          |
| <b>Age of child</b>          |    |                          |          |               |          |               |          |
| 3                            | 28 | 10.85 ± 3.352            | F= 1.637 | 29.21 3.644   | F=0.382  | 9.67 ± 2.294  | F= 0.247 |
| 4                            | 35 | 12.17 ± 3.231            |          | 29.60 ± 2.83  |          | 9.40 ± 1.752  |          |
| 5                            | 37 | 11.29 ± 2.331            | p= 0.200 | 29.86 ± 2.507 | p= 0.684 | 9.70 ± 1.955  | p=0.782  |
| <b>Gender of child</b>       |    |                          |          |               |          |               |          |
| Male                         | 59 | 11.66 ± 2.557            | F= 1.839 | 29.69 ± 3.047 | F= 0.460 | 9.72 ± 1.779  | F=2.916  |
| Female                       | 41 | 11.21 ± 3.52             | t= 0.178 | 29.43 ± 2.846 | t= 0.499 | 9.39 ± 2.234  | t=0.091  |
| <b>Schooling</b>             |    |                          |          |               |          |               |          |
| Playway                      | 30 | 11.70 ± 2.680            | F= 1.425 | 30.16 ± 3.444 | F=1.167  | 9.83 ± 1.464  | F= 1.007 |
| Anganwadi                    | 15 | 10.06 ± 3.769            |          | 28.73 ± 2.814 |          | 8.80 ± 2.624  |          |
| Private school               | 48 | 11.66 ± 2.890            | p= 0.240 | 29.35 ± 2.669 | p= 0.327 | 9.64 ± 1.983  | p=0.039* |
| Government school            | 7  | 12.28 ± 2.751            |          | 30.57 ± 2.699 |          | 9.85 ± 2.267  |          |
| <b>Sibling</b>               |    |                          |          |               |          |               |          |
| Yes                          | 49 | 11.30 ± 2.631            | F= 1.455 | 29.14 ± 2.993 | F=0.104  | 09.67 ± 1.818 | F= 1.683 |
| No                           | 51 | 11.64 ± 3.309            | t= 0.231 | 30.01 ± 2.880 | t= 0.748 | 09.50 ± 2.129 | t= 0.198 |

## DISCUSSION

Discussion of the findings of this study has been done in accordance with the analysis and interpretation and the major findings of the present study with other studies conducted in different settings under following sections:

The first major finding shows that majority (64) of mothers had average level of knowledge with mean percentage of 87.4%, followed by less than one third of mothers (30) had good level of knowledge with mean percentage of 81.1%. Findings of the study are supported by a study conducted by Suresh BS. *et al.* (2010) to assess mother's knowledge about preschool child's oral health, which revealed that majority of mothers had (73.8%) good knowledge regarding oral hygiene of children. The major findings of present study reveals that the correlation between knowledge and attitude score was found to be weakly positive correlation ( $r = 0.257$ ). Statistically the value was found to be significant ( $p = 0.010$ ). On the contrary, in a study conducted by Shalini, *et al.* (2019) the finding of the study revealed that there is negative correlation between the knowledge and attitude of mothers regarding oral hygiene of under five children ( $r=0.06$ ). The findings of the present study reveal that the correlation between knowledge and practice score was found to be weakly positive ( $r = 0.227$ ). The value was found to be statistically significant ( $p = 0.023$ ) and in support of this finding, in a study conducted by Blessy Mohandass *et al.* to assess knowledge and practice among rural mothers regarding oral hygiene of children, it was found that there was a weak positive correlation ( $r = 0.119$ ) between knowledge and practice which was not significant.

The study reveals that the association of practices with selected socio demographic variables found to be statistically significant ( $p= 0.037$ ) mothers who are living in urban habitat. Another finding was ( $p= 0.050$ ) in which mother who were working has statistically significant and supporting this is a study to analyze data from a large random sample of 392 mothers living in Menoua Governorate, Shebeen Elkom district by Eslam M Konsowa *et al.* (2020), for the purpose of evaluating the knowledge, attitude, and practice regarding their children's oral health. It was found that association of knowledge with selected socio demographic variables was found to be statistically significant with educational status of mothers having graduate level education and above. The study reveals that the association of

practices with selected socio demographic variables found to be statistically significant mothers who are living in urban habitat and mothers who were working has statistically significant.

## CONCLUSION

From the findings of study, it is concluded that majority of mothers have favorable attitude and satisfactory level of practices and having less knowledge regarding oral hygiene of children.

*Conflict of Interest: Nil*

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