



## STUDY OF ORAL HEALTH PROBLEMS IN CHILDREN WITH THE WORKING STATUS OF THEIR MOTHERS

### Paediatrics

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### ABSTRACT

**Objective:** To study the relationship between various oral health diseases in children with the working status of their mothers **Design and Setting:** Prospective cross-sectional study conducted at private medical college. **Method:** 100 children between the age 0-15 years in the outpatient Department of Paediatrics, ASCOMS and Hospital, for a period of 6 months (Jul 2021 to Dec 2021) formed a study group. Oral clinical evaluation was done by looking at the soft tissue for cysts, clefts, traumatic lesion, bad breath and gingivitis. Examination of the dentition included the jaw positioning, presence of hypo-plastic / hypo-calcified enamel and dental decay. Along with the examination, the mothers were enquired about their work status. Treatment was given to kids with oral health problems and follow up was done. **Results:** A total of 100 children were enrolled in the study. The mean age of children was  $7.31 \pm 4.14$ . Out of these 70 children with oral health disease, 54.29% (38 children) had working mothers (WM) and 45.71% (32 children) had Non-Working mothers (NWM) and the ratio of disease in children of WM to that of NWM is 16:19 In non-working mothers, 45.7% of the children suffered from oral health problems and 56.7% did not have oral health diseases. In working mothers, 54.3% of the children suffered from oral health problems and 43.4% did not have oral health diseases. The association between kids with disease and WM comes out to be 1.55 with 95% CI of [0.66, 3.63] **Conclusion:** The study suggests a larger number of oral health diseases in children of working mother as compared to non working mothers.

### KEYWORDS

Oral health, Children, Working Mothers, Non-Working mothers

### INTRODUCTION

Oral health signifies the health status of our mouth. Including- teeth, gums, oral tissue, the soft and hard palate, the surface lining of mouth and throat, the tongue, the lips, the salivary glands, the muscles, bones and nerves that help in movement and functioning of the of the oral cavity [1]. Oral diseases remain a major public health burden through the world [2] A variety of oral health problems affect children up to adolescent age. Some of these diseases are soft tissue lesions, cold sores, infections, leukoplakia, tooth decay (cavities), thumb sucking, tongue thrusting, lip sucking, premature tooth loss, dental emergencies/trauma, gingivitis and gum disease, bad breath (halitosis), dental hygiene problems, etc.[3] these diseases cause pain and discomfort to the child leading to mood and behavioral changes, sleep and eating disorder, activity restriction, failure to attend school, depreciating academic performance and thus causing a poor quality of life. According to WHO oral health problems prevail in a higher proportion in people of low socioeconomic status. This association between socio economic status of a family and the prevalence of oral disease is consistent and concrete [4]. According to old Indian family norms, the care of a child's overall health was done by an entire joint family and not just the parents. They took care of the health of their children when they are young and cannot take care of themselves. Their knowledge and personal practices of oral health hygiene acts an important factor for the good oral health of the children. Later they pass these habits into their children to maintaining it later in life. [4,5,6] But with these changing and modernising times, nuclear families are more common with both the parents working which may be compromising with their children's health and especially oral health. Therefore, it is crucial that the information and knowledge of parents regarding oral health and hygiene practices should be adequate. It is an understanding that women with higher education level have better chances of getting a job [12]. Working mothers have a greater role in decision making process of the house and the health and education of their children [13]. Due to the long work hours and the numerous stress factors at work, mothers are not able to find enough time to teach good hygiene habits or go for preventative child health services [14]. Very few resources are available comparing the difference between health status of children of working mother as compared to that of non working mothers. A study

by Prof. Mahmood Ahmed Khan states that there is no significant mean difference between children of working and non working mothers on factor Health dimension of adjustment in life [6]. Another study by Rita Abbi states that a mother's lack of time for child-care activities perhaps aggravated the already poor nutrition status of economically deprived children. Childcare activities are time intensive, particularly for younger children. Consequently, a decrease in child-care activities during this vulnerable age is bound to affect the children's nutrition and health status in a negative pattern [7]. The main purpose of this study is to find evidence on the relation between the occurrence of oral diseases in children of working mothers as compared to that of non working mothers.

### AIM

To study the relationship between oral health diseases of children with the working status of their mothers.

### METHOD

A prospective cross sectional study was conducted in the outpatient Department of Paediatrics, ASCOMS and Hospital, for a period of 6 months (Jul 2021 to Dec 2021).

All patients underwent an oral health examination and children with were enrolled for the study. The study was conducted after getting approval from the Institute of Independent Ethical Committee with reference no. ASCOMS/IEC/RP&T/2021/443 dated 26/06/2021. An informed consent was taken from the parents of all enrolled candidates.

A total of 100 children between the ages 0-15 years participated in the study. Proper history was taken with main focus on Biographic Data, Family and Social history along with the Dental history. Oral clinical evaluation was done by looking at the soft tissue for cysts, clefts, traumatic lesion, bad breath and gingivitis. Examination of the dentition included the jaw positioning, presence of hypo-plastic / hypo-calcified enamel and dental decay. Treatment was given to kids with oral health problems and follow up was done. Along with the examination, the mothers were enquired about their work status.

For the purpose of the study, children were placed into categories in accordance with their oral health status and their problems. Only 5 oral health problems were selected to make the study concise. These included Soft tissue lesions, Halitosis, Gingivitis, Thumb sucking and Dental caries. The mothers of these children were divided into two groups- working females and non-working females.

### Inclusion Criteria

Children in between the age of 0-15, children with oral health diseases (namely- Soft tissue lesion, Halitosis, Gingivitis, Dental caries and thumb sucking)

### Exclusion Criteria

Children above the age of 15, Children suffering from long term illness, Children with previously diagnosed oral diseases and on treatment.

## OBSERVATION AND RESULTS

A total of 100 children were enrolled in the study. The mean age of children was  $7.31 \pm 4.14$ . Out of 100, 70 children suffered from oral health problems and 30 were free from any disease.

**Table 1: Prevalence Of Disease In Different Pediatric Age Groups**

| Age (in years)    | Presence of oral health problems |                 | No oral health problems |       | Total |     |
|-------------------|----------------------------------|-----------------|-------------------------|-------|-------|-----|
|                   | N                                | %               | N                       | %     | N     | %   |
| 0-5               | 28                               | 40              | 7                       | 23.33 | 35    | 35  |
| 6-10              | 32                               | 45.71           | 13                      | 43.33 | 45    | 45  |
| 11-15             | 10                               | 14.29           | 10                      | 33.33 | 20    | 20  |
| Total             | 70                               | 100             | 30                      | 100   | 100   | 100 |
| Mean Age $\pm$ SD | 7.74 $\pm$ 4.07                  | 8.63 $\pm$ 4.08 | 7.31 $\pm$ 4.14         |       |       |     |
| P-value           | 0.319 (N.S)                      |                 |                         |       |       |     |

From the 100 participants, 30 children did not suffer from any oral health problems. Out of these 30 participants, 30% (9 children) have WM and 70% (21 children) have NWM. The ratio of healthy children of WM as compared to NWM comes out to be 3:7.

Out of these 70 children with oral health disease, 54.29% (38 children) had working mothers (WM) and 45.71% (32 children) had Non-Working mothers (NWM) and the ratio of disease in children of WM to that of NWM is 16:19

**Table 2: Work Status Of Mothers With Respect To Age Of Participants With Disease.**

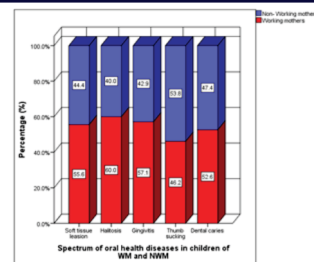
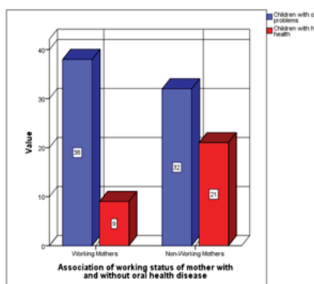
| Age (in years) | Non-Working mothers |       | Working mothers |       | No. Of children with disease |       |
|----------------|---------------------|-------|-----------------|-------|------------------------------|-------|
|                | N                   | %     | N               | %     | N                            | %     |
| 0-5            | 11                  | 34.38 | 17              | 44.74 | 28                           | 40    |
| 6-10           | 17                  | 53.13 | 15              | 39.47 | 32                           | 45.71 |
| 11-15          | 04                  | 12.5  | 06              | 15.79 | 10                           | 14.29 |
| Total          | 32                  | 100   | 38              | 100   | 70                           | 100   |

In non-working mothers, 45.7% of the children suffered from oral health problems and 54.3% did not have oral health diseases.

In working mothers, 54.3% of the children suffered from oral health problems and 45.7% did not have oral health diseases.

**Table 3: Association Of Working Status Of Mother With And Without Oral Health Disease**

|       | Children with oral health problems | Children with healthy oral health | Total |      | p-value                           |
|-------|------------------------------------|-----------------------------------|-------|------|-----------------------------------|
| WM    | 38                                 | 9                                 | 47    | 4.97 | 0.025*, Statistically significant |
| NWM   | 32                                 | 21                                | 53    |      |                                   |
| Total | 70                                 | 30                                | 100   |      |                                   |



Odds ratio of sample = 2.77

95 % Confidence interval = 1.11 to 6.89

Significance level P = 0.025

Relative risk = 1.33

The association of working mothers to the poor oral health of their children is 2.77 with 95% CI of [1.11 to 6.89] and  $p < 0.05$  signifies that there is statistical significant difference between them. Here we conclude that non-working mothers have a positive association with the oral health of their children in the study sample.

**Table 4: Spectrum Of Oral Health Diseases In Children Of Wm And Nwm**

| Oral health diseases | Number of children |       | Non- Working mothers |       | Working mothers |       |
|----------------------|--------------------|-------|----------------------|-------|-----------------|-------|
|                      | N                  | %     | N                    | %     | N               | %     |
| Soft tissue lesion   | 9                  | 12.86 | 4                    | 12.5  | 5               | 13.16 |
| Halitosis            | 16                 | 22.86 | 6                    | 18.75 | 9               | 23.68 |
| Gingivitis           | 13                 | 18.57 | 6                    | 18.75 | 8               | 21.05 |
| Thumb sucking        | 13                 | 18.57 | 7                    | 21.88 | 6               | 15.79 |
| Dental caries        | 19                 | 27.14 | 9                    | 28.13 | 10              | 26.32 |
| Total                | 70                 | 100   | 32                   | 100   | 38              | 100   |

- Soft tissue lesion - odds ratio 0.85 with 95% CI of [0.22, 3.34]
- Halitosis - odds ratio 1.54 with 95% CI of [0.5, 4.7]
- Gingivitis - odds ratio 1.34 with 95% CI of [0.43, 4.2]
- Thumb sucking - odds ratio 0.80 with 95% CI of [0.25, 2.6]
- Dental caries - odds ratio 1.08 with 95% CI of [0.4, 2.9]

The above spectrum of disease and its occurrence in children represent a positive association of the disease to working mothers in the study.

## DISCUSSION

The association between prevalence of oral and dental diseases in children with low socioeconomic status of the has been extensively researched.(8) Among various factors, parents especially mothers are one of the most important pillar to maintain their child's oral hygiene habits and thus mothers' knowledge on these issues act as a valuable tool to do so. (5, 7) The connection between the working status of the mothers to their children's oral health is not yet established and very little information exists on the topic. Through our research we were able to find that there was a positive connection between working mothers and poor oral health of their children. These results give us some insight as to how working mothers are responsible for the poor oral health of their children as they fail to provide the basic preventative health education and lack in keeping up with healthcare appointments. Often working mothers can be seen making up to their children for the lost time by bribing them with confectionary. Some studies also suggest that children of working mothers breastfeed longer leading to dental problems. Early assessment of the oral health status of children has the potential to reduce or even eliminate oral diseases but working mothers rarely take their children to dentist enough, however, mothers do contact pediatricians several times even before the child is born and during the child's early life. Therefore, pediatricians are considered a perfect and reliable source for oral health control and prevention.(15) there should be a collaboration between dental and pediatric departments to enhance oral health of children. With this new found connection, ideas can be now be discussed and further research on this topic can be carried out. Also it brings up an important discussion as to how projects and policies of the country can support it. We now have better understanding as how a mother's work status might affect the health of their children, but we also need to take into consideration that the knowledge of mothers on this topic is also an important factor. Thus there is a lot of scope for further research using both the factors compared together to find a solid connection. Also, India being a developing nation has a broad spectrum of working mothers from uneducated labour class to

extremely qualified working class and this can also be further compared with the spectrum of oral health diseases in their children.

## CONCLUSION

The current study suggests a larger number of oral health diseases in children of working mothers and thus signifies good oral health of children with non-working mothers.

## REFERENCES

- [1] Benjamin RM. Oral health: the silent epidemic. *Public Health Rep.* 2010;125:158–9
- [2] Jin LJ, Lamster IB, Greenspan JS, Pitts NB, Scully C, Warnakulasuriya S. Global burden of oral diseases: emerging concepts, management and interplay with systemic health. *Oral Dis.* 2016 Oct;22(7):609-19. doi: 10.1111/odi.12428. Epub 2016 Jan 20. PMID: 26704694.
- [3] Golikeri SS, Grenfell J, Kim D, Pae C. Pediatric Oral Diseases. *Dent Clin North Am.* 2020 Jan;64(1):229-240. doi: 10.1016/j.cden.2019.08.012. Epub 2019 Oct 14. PMID: 31735228.
- [4] Abanto J, Carvalho TS, Mendes FM, Wanderley MT, Bönecker M, Raggio DP. Impact of oral diseases and disorders on oral health-related quality of life of preschool children. *Community Dent Oral Epidemiol.* 2011 Apr;39(2):105-14. doi: 10.1111/j.1600-0528.2010.00580.x. Epub 2010 Oct 5. PMID: 21029148.
- [5] Chand S, Chand S, Dhanker K, Chaudhary A. Impact of mothers' oral hygiene knowledge and practice on oral hygiene status of their 12-year-old children. *J Indian Assoc Public Health Dent* 2019; 12:323–329.
- [6] A. Case and C. Paxson, Parental behaviour and child health, health affairs, vol. 21, no. 2, pp. 164-178, 2002
- [7] R. Abbi et al. The impact of maternal work on the nutritional and health status of children *Food and Nutrition Bulletin* (1991)
- [8] Aiuto R, Dioguardi M, Caruso S, Lipani E, Re D, Gatto R, Garcovich D. What Do Mothers (or Caregivers) Know about Their Children's Oral Hygiene? An Update of the Current Evidence. *Children (Basel).* 2022 Aug 12;9(8):1215. doi: 10.3390/children9081215. PMID: 36010105; PMCID: PMC9406871.
- [9] Rogers BL, Youssef N. The Importance of Women's Involvement in Economic Activities in the Improvement of Child Nutrition and Health. *Food and Nutrition Bulletin.* 1988;10(3):1-9.
- [10] Tenny S, Hoffman MR. Odds Ratio. [Updated 2022 May 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
- [11] MedCalc Software Ltd. Odds ratio calculator. [https://www.medcalc.org/calc/odds\\_ratio.php](https://www.medcalc.org/calc/odds_ratio.php) (Version 20.116; accessed November 4, 2022)
- [12] Alireza Yousefy, Maryam Baratali, Women, Employment and Higher education schoolings, *Procedia - Social and Behavioral Sciences*, Volume 15, 2011, Pages 3861-3869, ISSN 1877-0428,
- [13] Khare, S. (2021). Impact of women's education on decision making regarding their children affairs. *J Sci Res*, 65, 144-149.
- [14] Shepherd-Banigan M, Bell JF, Basu A, Booth-LaForce C, Harris JR. Mothers' Employment Attributes and Use of Preventive Child Health Services. *Med Care Res Rev.* 2017 Apr;74(2):208-226.
- [15] Sabbagh HJ, El-Kateb M, Al Nowaiser A, Hanno AG, Alamoudi NH. Assessment of pediatricians dental knowledge, attitude and behavior in Jeddah, Saudi Arabia. *J Clin Pediatr Dent.* 2011 Summer;35(4):371-6.