

# Parental Oral Health Literacy and Its Associated Impact On Child's Oral Health Profile Among 15-Years-Old School Children in the Population of Multan, South Punjab, Pakistan

Parental Oral Health Literacy and Impact on Child's Oral Health

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## ABSTRACT

**Objective:** The purpose of the study was to determine the parental oral health literacy and its associated impact on child's oral health profile among 15-years-old school children.

**Study Design:** A cross-sectional study.

**Place and Duration of Study:** This study was conducted at the Tertiary Care Dental Hospital of Multan, South Punjab, Pakistan from 05- July 05-2022 till December 2022.

**Materials and Methods:** The sample size was 346 calculated by using WHO sample size calculator. The data was collected through a well-structured questionnaire from the children and their parent's by using convenient sampling technique. All the data was analyzed by using IBM SPSS version 24.

**Results:** The results of the present study showed that the educational level of the parents was 54% education below intermediate and 46% above intermediate level. Moreover, only 21.6% of the respondent children agreed that they had pain in their teeth, 19 % of the children had bad breath and 44.5% of them had spaces between their teeth. Additionally, 75% of them were satisfied with their overall oral health. 64.4% of the parents said that were not able to pay attention to their oral health and 58.3% of them were not able to manage time for themselves in order to carry out activities necessary to maintain a good oral hygiene and oral health.

**Conclusion:** The current study has concluded that higher parental educational level has got a direct relationship with their children's good oral health. Moreover, children can face many problems while chewing food such as pain in their teeth, particularly when they have associated oral health concerns prevailing side by side.

**Key Words:** Parental oral health literacy, Child oral health, School children, Chewing, Dental spaces.

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## INTRODUCTION

The maintenance and preservation of oral health in children is rendered as a prominent health problem globally. There are numerous factors that have got a direct or indirect effect on the oral health peculiarly the presence of dental caries in the children.

These factors are parental education level, socioeconomic status of the family and health care service availability.

These factors need to be monitored with regular time intervals because they have got a tremendous effect on the overall bodily health as well as the standard of life of these children.<sup>1,2</sup> Children learn and adopt good behaviors from their parents, therefore the attitude of the child's parents toward oral health have got a direct relationship with their oral health and behavior adaptation for the maintenance and prevention of dental caries in these children. Parents with high educational level and stable economic life are more conscious about their children's oral health than those with low levels of education and poor socioeconomic stature.<sup>3,4</sup> Oral diseases can be prevented by proper dental checkups and having knowledge about them. 30% of the children of educated families have been seen to be in use of agents such as pit and fissure sealants which can prevent the pathophysiology for the spread of dental

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caries.<sup>5</sup> Children and adolescents are more afflicted by oral diseases such as dental caries which is a painful condition leading to psychological problems in these individuals as well. The results of the studies conducted previously have shown that these issues can be prevented successfully by the improvement in the oral hygiene of these subjects.<sup>7,8</sup> The level of understanding and literacy in order to understand the importance and risk factors for initiation of oral health concerns and its impact on the children's quality of life are pivotal factors which must be taken in consideration.<sup>9</sup> Various modern indexes are now developed to quantify understanding especially that applies to dental health. The HeLD (health literacy in dentistry), which has been newly constructed, offers an extensive method for assessing an individual's capacity to obtain, analyze and use information in order to make acceptable oral health related decisions.<sup>10,11</sup> The most recent scales in the field of dentistry and a review of the available research revealed that only a few studies aim to evaluate a child's self-reported oral health-related quality-of-life (OHRQoL) by applying the child's oral health impact profile (COHIP) and their parent's OHL (oral health literacy) using HeLD.<sup>12,13</sup> As no such study has been reported to be conducted in the past in our region therefore the current study was conducted to assess the parental oral health literacy and child oral health impact profile among 15-years-old school children in the population of Multan, South Punjab, Pakistan.

## MATERIALS AND METHODS

The present cross-sectional study was conducted at a Tertiary care dental hospital of Multan, South Punjab, Pakistan after the provision of approval from the institutional review board (IRB). The study duration was of six months starting from 05-July 2022 till 05-December 2022. The sample size was 346 calculated by using WHO sample size calculator. The data was collected from children who were 15 years old along with their parents who presented in the OPD (outpatient department) by using a convenient sampling technique, after taking informed consent before the data collection. They were informed that their privacy and confidentiality was to be maintained throughout the process. Children aged 15 years and their parents who were willing to participate were included in the study. Children with chronic and systematic diseases, children who were not reporting with their parents and children who had undergone any dental treatment during last 2 months were excluded from the study. The data was collected through a well-structured questionnaire from the children as well as their parents. The collected data was entered into a sheet of Microsoft Excel and data analysis was done by using Statistical Package for

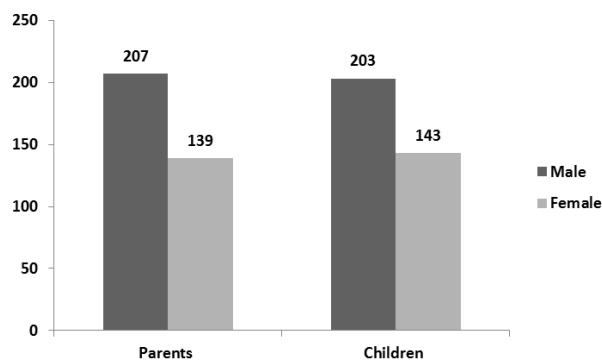
Social Sciences (SPSS) latest version 24. The variables such as age were determined in the form of means and standard deviations while variables such as gender and responses were determined in the form of frequencies and percentages.

## RESULTS

In the present study, a total of 346 participants were enrolled. The response of the participants was 100 % (n=346). Among parents, 207 (59.83%) were male and 139 (40.17%) were female respondents, similarly among children 203 (58.67%) were boys and 143 (41.33%) were girls. This is depicted in Figure 1.

The educational level of the parents was such that 186 (53.76%) were with an education below the intermediate level and 160 (46.24%) had some education above the intermediate level. The mean age of the parents was 48 years with standard deviation of 3.12 while the mean age of the children was 12 years with standard deviation of 2.31.

Table 1 of the results shows the response of the children regarding their oral health-related quality-of-life (OHRQoL) by applying the child's oral health impact profile (COHIP) among the school children aged 15 years. 21.6% of the respondent children agreed that they had pain in their teeth, 19% of the children had bad breath and 44.5% of them had spaces between their teeth as well. 45.5% of the children had discoloration in their teeth. 80.3% of the respondents disagreed about being called by any other names by their colleagues and family members because of their teeth. Additionally 75% of them were satisfied with their oral health as shown in the table below.



**Figure No. 1: Gender wise distribution of both the parents and children.**

Table 2 shows the responses of the parents. 64.4% of them said that they were not able to pay attention to their oral health. 58.3% of them were not able to manage time for themselves in order to carry out activities potent for maintaining a good oral health. Approximately 54.6% and 58.3% of the parents had not filled out any dental forms and also had not read any information regarding oral health respectively.

**Table No. 1: Answers of the 15-years-old school children about their OHRQoL using COHIP based on their gender.**

Questions	Options	Number	Percentage
Had there been any pain in your teeth?	1 = Disagree	235	67.9%
	2 = Do not agree	36	10.4%
	3 = Agree	75	21.6%
Had there been any discoloration on your teeth/spot?	1 = Disagree	160	46.2%
	2 = Do not agree	30	8.6%
	3 = Agree	156	45.08%
Had there been any space among your teeth/crooked?	1 = Disagree	164	47.3%
	2 = Do not agree	28	8.09%
	3 = Agree	154	44.5%
Had there any been any bad breath?	1 = Disagree	248	71.6%
	2 = Do not agree	32	9.2%
	3 = Agree	66	19.0%
Had you faced any problems while eating your favorite food because of face/ mouth/teeth?	1 = Disagree	260	75.1%
	2 = Do not agree	52	15.0%
	3 = Agree	34	9.8%
Had there been any stress regarding your teeth that what other people might think about them?	1 = Disagree	243	70.2%
	2 = Do not agree	39	11.2%
	3 = Agree	64	18.4%
Have you been called with another name by your colleague/teased because of your teeth or mouth?	1 = Disagree	278	80.3%
	2 = Do not agree	32	9.2%
	3 = Agree	36	10.4%
Are you satisfied with your mouth /teeth and your face?	1 = Disagree	78	22.5%
	2 = Do not agree	6	1.7%
	3 = Agree	262	75%
Do you think that your look is good and attractive due to your face/teeth and mouth?	1 = Disagree	91	26.3%
	2 = Do not agree	12	3.4%
	3 = Agree	243	70.2%

**Table No. 2: Response of parents on OHL questions of HeLD based on their age, gender, and educational qualification.**

Questions	Options	Number	Percentage
Have you paid attention to your child's oral health requirements?	1 = Never	223	64.4%
	2 = Occasionally	46	13.2%
	3 = Often	77	22.2 %
Have you managed time for good things related to your oral health?	1 = Never	202	58.3%
	2 = Occasionally	40	11.5%
	3 = Often	104	30.05%
Have you filled out the forms for dental oral health?	1 = Never	189	54.6%
	2 = Occasionally	64	18.4%
	3 = Often	93	26.8%
Have you read any related information on dental diseases?	1 = Never	202	58.3%
	2 = Occasionally	29	8.3%
	3 = Often	115	33.2%

Have you been able for getting any assistance with an appointment in the dental department?	1 = Never	197	56.9%
	2 = Occasionally	54	15.6%
	3 = Often	95	27.4%
Have you paid for a dental check-up?	1 = Never	117	33.8%
	2 = Occasionally	26	7.5%
	3 = Often	203	58.6%
Have you paid to take oral medicines?	1 = Never	116	33.5%
	2 = Occasionally	26	7.5%
	3 = Often	204	58.9%
Did you have any information regarding the dentist appointment?	1 = Never	156	45.0%
	2 = Occasionally	31	8.9%
	3 = Often	159	45.9%
Have you taken a second appointment for a second opinion?	1 = Never	141	40.7%
	2 = Occasionally	39	11.2 %
	3 = Often	166	47.9%
Have you followed the advice of a dental practitioner?	1 = Never	168	48.55%
	2 = Occasionally	24	6.9%
	3 = Often	154	44.5%

## DISCUSSION

The ability of an individual to understand the information regarding oral health maintenance, their related diseases, causes, preventive measures and their best possible treatment and outcome is crucial for the overall bodily health pursuance. Oral diseases are a major growing concern around the globe and have got a very bad effect on the life of the children and their parents.<sup>14</sup> In this discussion section, we have compared the major results of the current study with other studies carried out previously via the literature search, and the variations observed are because of the duration of the study and the sample size. The results of the current study showed that 21.6% of the respondent children agreed that they had pain in their teeth which is comparable (17.1%) to the study conducted by author. The study conducted by El Osta et al showed that 26% of the children had difficulties chewing their favorite food but the current study showed this percentage to be 9.8%.<sup>15</sup> The variations in the results may be due to the various socio-demographic factors involved. 80.3% of the respondents disagreed that they are called by any other name by their colleagues and family members because of their tooth appearance. Additionally, 75% of them were satisfied with their overall oral health. In the parent section, 22.2% of them often pay attention to the oral health of their children and this observation is augmented by another study which also showed approximately the same percentage in this regard i.e. 28%.<sup>16</sup> 58.3% of them were not able to manage time for themselves in order to carry out oral health maintenance based activities such as tooth brushing and

flossing. Approximately 54.6% and 58.3% of the parents had not filled out any dental forms and also had not read any information regarding oral health respectively. Another similar study revealed these results to be 62% and 64% respectively. Our study was a cross-sectional based research and therefore measured the cause and effect at only one point in time. Further longitudinal researches can be carried out to understand these parameters over a large population so that the obtained results can be more generalized.

## CONCLUSION

The current study has concluded that higher the parental educational background better was the oral health of their children and vice versa..

### Author's Contribution:

Concept & Design of Study: Muhammad Shoaib  
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 Revisiting Critically: Muhammad Shoaib, Rizwan Zafar Langrial  
 Final Approval of version: Muhammad Shoaib

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

1. Petersen PE. Sociobehavioural risk factors in dental caries—international perspectives.

- Community Dentistry Oral Epidemiol 2005; 33(4):274-9.
2. Okada M, Kawamura M, Kaihara Y, Matsuzaki Y, Kuwahara S, Ishidori H, et al. Influence of parents' oral health behaviour on oral health status of their school children: an exploratory study employing a causal modelling technique. *Int J Paediatr Dentistry* 2002;12(2):101-8.
  3. Vanagas G, Milašauskienė Ž, Grabauskas V, Mickevičienė A. Associations between parental skills and their attitudes toward importance to develop good oral hygiene skills in their children. *Medicina* 2009;45(9):718.
  4. Pizzo G, Piscopo MR, Matranga D, Luparello M, Pizzo I, Giuliana G. Prevalence and socio-behavioral determinants of dental caries in Sicilian schoolchildren. *Med Science Monitor* 2010;16(10):PH83-9.
  5. Saldūnaitė K, Bendoraitienė EA, Slabšinskienė E, Vasiliauskienė I, Andruškevičienė V, Zūbienė J. The role of parental education and socioeconomic status in dental caries prevention among Lithuanian children. *Medicina* 2014;50(3):156-61.
  6. Meurman P, Pienihäkkinen K, Eriksson AL, Alanen P. Oral health programme for preschool children: a prospective, controlled study. *Int J Paediatr Dentistry* 2009;19(4):263-73.
  7. Longbottom C, Ekstrand K, Zero D. Traditional preventive treatment options. Detection, assessment, diagnosis and monitoring of caries 2009;21:149-55.
  8. Petersen PE. Global policy for improvement of oral health in the 21st century—implications to oral health research of World Health Assembly 2007, World Health Organization. *Community Dentistry Oral Epidemiol* 2009;37(1):1-8.
  9. Lee JY, Rozier RG, Lee SY, Bender D, Ruiz RE. Development of a word recognition instrument to test health literacy in dentistry: the REALD-30—a brief communication. *J Public Health Dentistry* 2007;67(2):94-8.
  10. Do LG, Spencer A. Oral health-related quality of life of children by dental caries and fluorosis experience. *J Public Health Dentistry* 2007;67(3):132-9.
  11. Okada M, Kawamura M, Kaihara Y, Matsuzaki Y, Kuwahara S, Ishidori H, et al. Influence of parents' oral health behaviour on oral health status of their school children: an exploratory study employing a causal modelling technique. *Int J Paediatr Dentistry* 2002;12(2):101-8.
  12. Jokovic A, Locker D, Tompson B, Guyatt GJ. Questionnaire for measuring oral health-related quality of life in eight-to ten-year-old children. *Pediatr Dentistry* 2004;26(6):512-8.
  13. Jones K, Brennan D, Parker E, Jamieson L. Development of a short-form Health Literacy Dental scale (He LD-14). *Community Dentistry Oral Epidemiol* 2015;43(2):143-51.
  14. Li C, Xia B, Wang Y, Guan X, Yuan J, Ge L. Translation and psychometric properties of the Chinese (Mandarin) version of the Child Oral Health Impact Profile-Short Form 19 (COHIP-SF 19) for school-age children. *Health and quality of life outcomes* 2014;12:1-8.
  15. El Osta N, Pichot H, Soulier-Peigue D, Hennequin M, Tubert-Jeannin S. Validation of the child oral health impact profile (COHIP) french questionnaire among 12 years-old children in New Caledonia. *Health Quality Life Outcomes* 2015;13:1-2.
  16. Mafuvadze BT, Mahachi L, Mafuvadze B. Dental caries and oral health practice among 12 year old school children from low socio-economic status background in Zimbabwe. *Pan Afri Med J* 2013;14.