

## **ORAL HEALTH LITERACY OF PATIENTS VISITING PRIVATE DENTAL HOSPITAL IN RURAL PUNJAB**

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**ABSTRACT:** This study aimed to explore the incidence of oral health literacy of people living in rural areas of Punjab, Pakistan. This quantitative study was cross-sectional in nature. Data was collected from 66 dental patients coming to the dental hospital of rural areas in districts of Punjab. Descriptive statistics were used to analyze data in frequencies and percentages to assess the incidence of oral health literacy among dental patients visiting the dental hospital of rural areas in Punjab, Pakistan for their dental treatment. Results revealed Oral health literacy was found at a marginal level among the majority of the participants (49.90%) followed by 38.84% participants who had an inadequate level of Oral health literacy whereas only 21.20% of participants showed adequate level. In conclusion, marginal oral health literacy was found among the dental patients visited rural area hospital for treatment.

**Key words:** Hospital, Literacy, Oral health, Patients and Rural areas

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### **INTRODUCTION**

Oral health literacy is the key factor in reducing the discrepancies related to oral health maintenance while improving the dental care quality by enhancing the oral health literacy in common people (Horowitz and Kleinman, 2012). It is defined as the capacity of a person to attain, process, and comprehend the simplest information about oral health and facilities required for making suitable decisions regarding health (Kanj and Mitic, 2009). The concept of Oral health literacy contains knowledge and reading skills, understanding/comprehension, and decision-making skills (Naghbi Sistani, Montazeri, Yazdani, and Murtomaa, 2014).

Promotion and maintenance of better oral health among common people could be empowered by enhancing the ability of a person to explore and understand the information related to oral health attaining from various as well as dense sources (Kanj and Mitic, 2009). According to Hesse and his coworkers (2005) and Lee *et al.* (2011), due to the rapidly increasing sources of information technology containing a huge database of health evidence at a very complex level, the number of challenges for people with low literacy has been increased in finding suitable information regarding health from day-to-day activities. Dewalt *et al.* (2004) reported the association between poor health literacy and numerous negative outcomes related to health which may

include poor knowledge of health care resulting in poor health which affects mental health status as well (Dewalt *et al.*, 2004; Furnham, and Swami, 2018). Linking with educational programs to enhance Oral health literacy was found to be associated with improved knowledge of health and behavior towards the maintenance of health was evident in pregnant patients (Noronha *et al.*, 2012). According to Hassan, *et al.* (2020), low literacy rate was potential cause of COVID-19 exposure among dentists working in rural health centers of Punjab, Pakistan. The importance of oral health literacy has been increased due to the shift of health care services from remedial aspect to prevention. Worldwide evidence has been found that low oral health literacy resulting in poor oral health status, the behavior of making fewer dental appointments, poor understating of medicine leaflets leading to higher hospital visits (Holtzman, Atchison, Gironde, Radbod, and Gornbein, 2014; Kanupuru, Fareed, and Sudhir, 2015; Lapidus, Shaefer, and Gwozdek, 2016). Patient-dentist's communication gap is bridged because of the oral health literacy level (Naghbi Sistani, Montazeri, Yazdani, and Murtomaa, 2014). The study concluded that in Pakistan, oral health literacy has been found at a marginal level among the patients visiting private dental hospitals (Ahmed, Shah, Khayyam, Sheikh, and Anwer, 2018). Limited literature has been cited related to the level of oral health literacy in Pakistan with regards to the people living in rural areas.

On the other hand, health perception, problems in communication, level of education, compromised health status and language barriers are the most important hurdles in getting into other medical services (Irfan, Irfan, and Spiegel, 2012). Oral diseases are highly prevalent which can control by using preventive methods. The reduction in diseases of the oral cavity is positively associated with oral health literacy (Kanupuru, Fareed, and Sudhir, 2015; Richards, 2013; Bridges, Parthasarathy, Wong, Yiu, Au, and McGrath, 2014). Thus, it is important for developing interventions for the enhancement of oral health literacy that the incidence of oral health literacy should be assessed. Therefore, this study aimed to explore the incidence of oral health literacy of people living in the rural area of Pakistan.

**Research design:** The research design used in the current study was cross-sectional in nature.

**Sampling technique:** Data was collected using convenient sampling from the patients coming to the private dental hospital in the rural area of Punjab. For the collection of data, one hospital was approached.

**Sample size:** The sample size was comprised of 66 dental patients coming to the private dental hospital. Patients' age taken for this study was ranging from 18 to 47 years.

**Procedure:** Data was collected using an oral health literacy questionnaire containing 14 items proposed by Naghibi Sistani, Montazeri, Yazdani, and Murtomaa (2014). Each item was scored on Yes = 1, No = 0, and Don't know = 2. The total score of the questionnaire was 17 which was further divided into three levels, i.e., Inadequate oral health literacy with a cut-off value of 0-9,

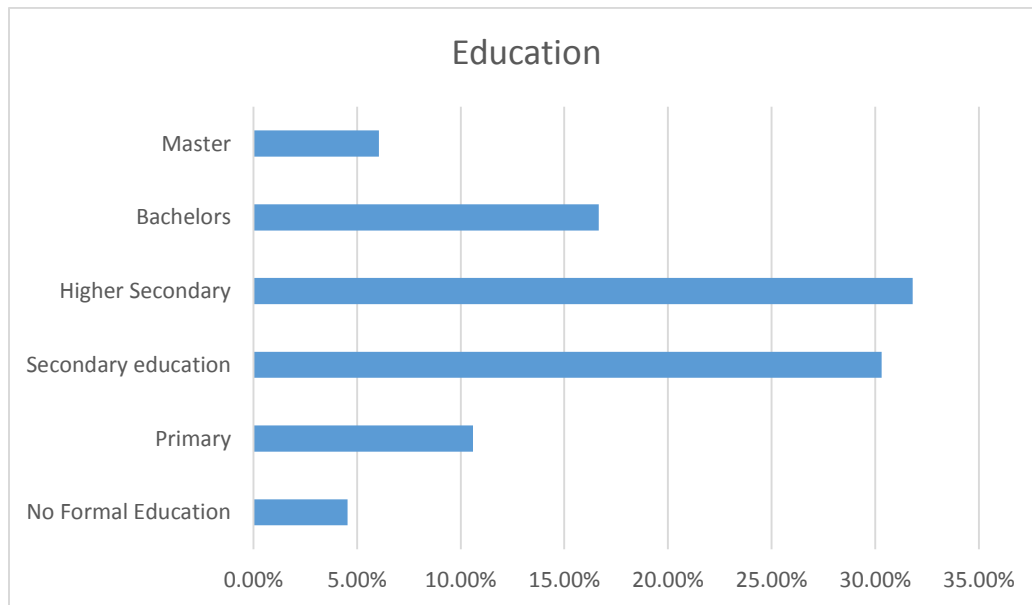
Marginal oral health literacy with a cut-off value of 10-11, and Adequate oral health literacy with a cut-off value of 12-17. After taking permission from the head of the private dental hospital, the patients coming for dental treatment were approached, and subsequently, consent was taken from the patients before data collection. Afterward, questions were asked to assess their oral health literacy.

**Data analysis:** Data was analyzed using SPSS version 25. Descriptive statistics were used to analyze data in frequencies and percentages to assess the prevalence of oral health literacy among dental patients visiting a private dental hospital in the rural area of Punjab, Pakistan for their dental treatment.

## RESULTS

The total sample comprised of 62.12% females and 37.88% males. Age was recorded in three categories and according to age wise sample distribution, 18 to 27 years old participants were 33.33%, 28-37 years old participants were 40.90%, and 38-47 years old participants were 25.75% of the entire sample of the study.

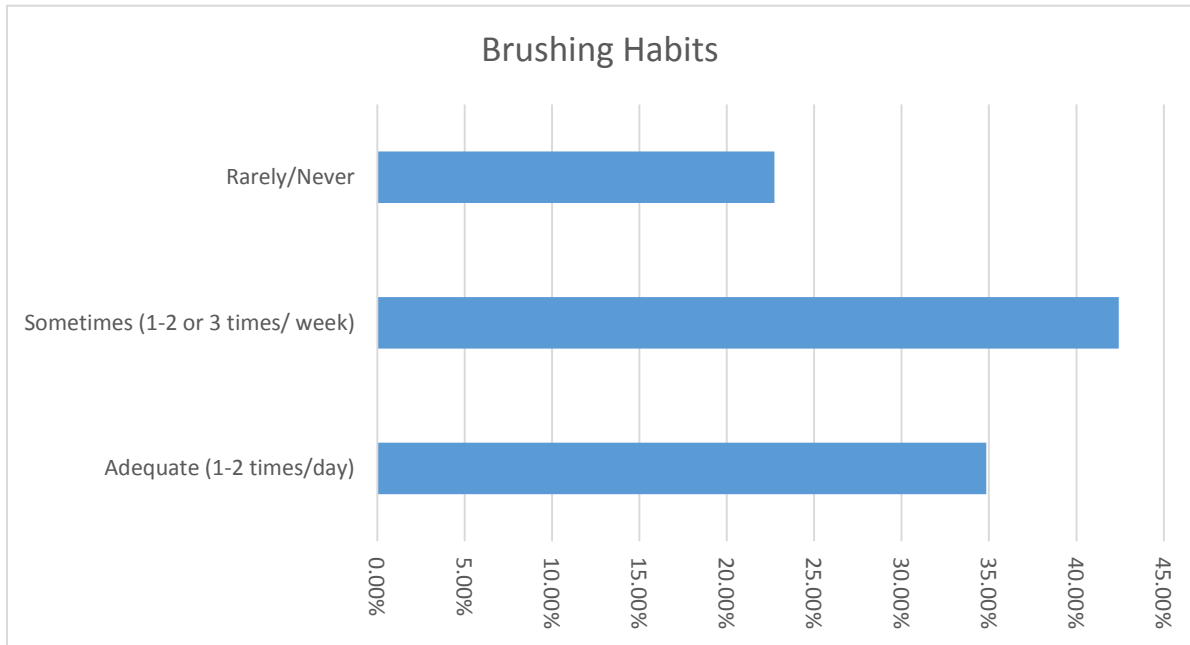
Education was also taken as a demographic variable. According to the findings, participants who do not have any formal education were 4.54%. Participants who had primary education were 10.60%. Participants with secondary and higher secondary education were 30.30% and 31.81% respectively. Bachelor and master level education was found among 16.66% and 6.06% respectively.



**Graph 1| Sample Segregation according to Education level.**

The results uncover the brushing habits of the participants which showed that the majority of the participants (42.42%) brush their teeth sometimes (1-2 or 3 times per week). Moreover, 34.85% of participants

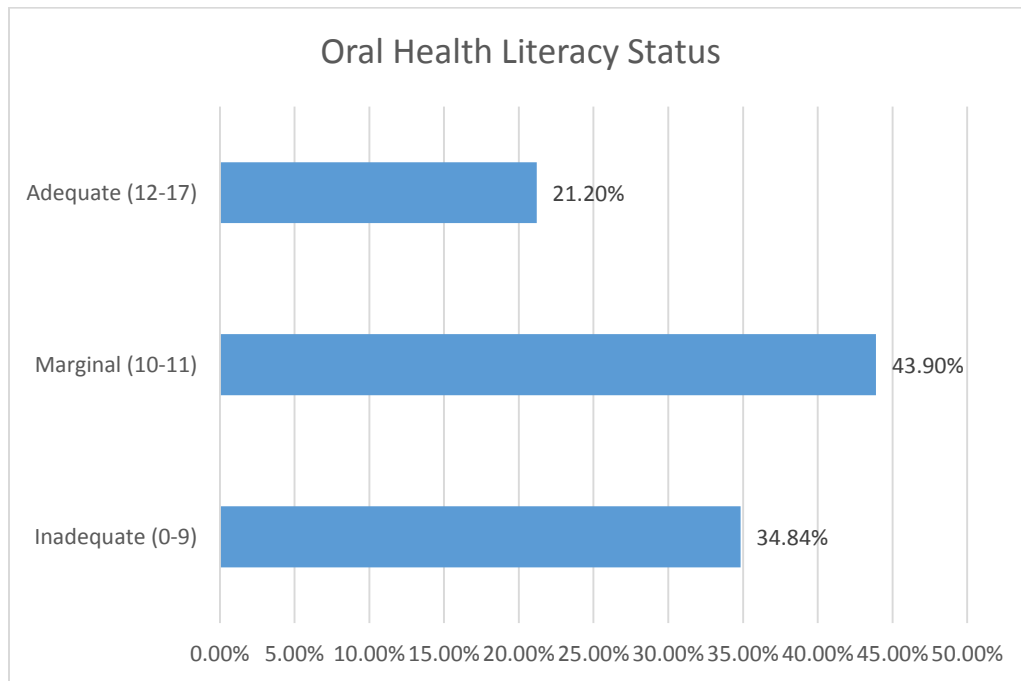
regularly brush their teeth (1-2 times per day), contrary to which, 22.72% of participants rarely or never brush their teeth.



**Graph 2| Sample Segregation according to Brushing Habits.**

Oral health literacy was found at a marginal level among majority of the participants (49.90%) followed by 38.84% participants who had an inadequate

level of Oral health literacy whereas only 21.20% of participants showed adequate level.



**Graph 3| Incidence of Oral health literacy in a rural area hospital**

The results of the chi-square test revealed that there was a significant difference found between education and oral health literacy score ( $X^2 = 22.997$ ,  $P = .011$ ). Under the inadequate oral health literacy category, the majority of the participants were from primary education level, followed by secondary education level (26.10%). Then participants with bachelor level of education had inadequate oral health literacy (13.0%). Participants with higher secondary and master level education were 8.7% and 4.3%.

The marginal level of oral health literacy was found higher among master level participants (34.5%), followed by participants with higher secondary level

education (31%). 17.2% of participants having bachelor level education were reported a marginal level of oral health literacy. Participants with primary and secondary education were 6.9% each whereas participants with no formal education were 3.4% who had marginal oral health literacy level.

Adequate oral health literacy was found highest among participants with master level education (50%) followed by participants holding bachelor level education (28.6%). Participants with secondary and higher secondary education were 7.1% and 14.3% respectively who had an adequate level of oral health literacy.

**Table 1| Comparison of Education and Oral health literacy categories**

| Oral Health Literacy | Education           |         |                     |                  |           |        |  |
|----------------------|---------------------|---------|---------------------|------------------|-----------|--------|--|
|                      | No Formal Education | Primary | Secondary education | Higher Secondary | Bachelors | Master |  |
| Inadequate (0-9)     | 0.0%                | 47.8%   | 26.10%              | 8.7%             | 13.0%     | 4.3%   |  |
| Marginal (10-11)     | 3.4%                | 6.9%    | 6.9%                | 31.0%            | 17.2%     | 34.5%  |  |
| Adequate (12-17)     | 0.0%                | 0.0%    | 7.1%                | 14.3%            | 28.6%     | 50.0%  |  |

$X^2 = 22.997$ ,  $P = .011$

## DISCUSSION

Oral health literacy was found at a marginal level among a majority of the participants (49.90%) which was in accordance with the results concluded that in Pakistan, oral health literacy has been found at a marginal level among the patients visiting private dental hospitals (Ahmed, Shah, Khayyam, Sheikh, and Anwer, 2018). Reduction in the diseases of the oral cavity is positively associated with oral health literacy (Kanupuru, Fareed, and Sudhir, 2015; Richards, 2013; Bridges, Parthasarathy, Wong, Yiu, Au, and McGrath, 2014).

The findings of the study revealed a significant difference between education and oral health literacy score which showed higher the literacy rate higher will be the oral health literacy which was in accordance with the findings of existing literature, Rai, Shodan, and Shetty (2015), Baskaradoss, (2016), Tam, Atchison, Richards, and Holtzman (2015) and Hassan, *et al.* (2020), who concluded the relationship between education in terms of knowledge, understating and its interpretation concerning oral health information. Similar findings were concluded by Ahmed, Shah, Khayyam, Sheikh, and Anwer (2018). It was found that factors such as health perception, problems in communication, level of education, compromised health status and language barriers are the most important hurdles in getting into other medical services (Irfan, Irfan, and Spiegel, 2012), which were found in support of the study results that education level has a strong and significant effect on the oral health literacy.

In conclusion, marginal oral health literacy was found among the dental patients visited rural area hospital for treatment. It was also observed that the oral health literacy rate is directly proportional to the education level of the patients.

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