

ASSOCIATION OF HEALTH LITERACY VS ORAL HYGIENE STATUS AMONG SCHOOL TEACHERS

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Abstract

Introduction: Oral health literacy (OHL) is usually seen as an intangible resource that one can invest in individual empowerment. OHL is essential for comprehending health-related data and processing it to use in order to maintain control over a healthy lifestyle. As a result, oral health literacy can contribute to the elimination of societal oral health inequities. **Aim:** To analyze the association of health literacy and oral hygiene status among school teachers. **Materials and Method:** A cross-sectional research was conducted on 108 Chennai-based school teachers. To collect demographic information, dental history, oral hygiene practices, and habits, face-to-face interviews and questionnaire sessions were employed. The REALD-30 was used to measure school instructors' OHL. **Results:** The study showed a statistically significant difference in oral health literacy across various teacher groups. The greatest OHL was discovered among middle school teachers, whereas REALD-30 suggested that teachers with intermediate literacy had a high percentage of OHIS excellent outcomes. **Conclusion:** Teachers with a higher REALD-30 score and better OHIS score had overall good oral hygiene status among the study group.

Keywords: Oral Health, Oral Health Education, Oral Hygiene, Health Promotion, Education For Sustainability, Inclusive, Literacy Skills, Lifelong Learning, Vocational Training, Universal Education.

INTRODUCTION

Health is defined as a complete state of physical, social, and mental well-being, not only the absence of illness or disability. (1) Within the context of health promotion, health has been considered less as an abstract state but rather as a means to an end. In functional terms, this may be described as a resource that enables people to lead independent, socially active, and economically successful lives. (2) Health literacy is the term used to describe a person's "capacity to secure, understand, judge, and employ health information in healthcare, preventing illness, and health promotion." (3) Making the most of health care resources, choosing healthy lifestyles, and dealing with socioeconomic determinants of health are all made easier by being health literate. (4) Health literacy was once defined as the reading and numerical skills required to function well in the healthcare industry, but the idea has since been expanded to include proficiency in fact-finding, analytical thought, problem-solving, decision-making, and communication. To participate in the healthcare system, one has to possess certain cognitive, social, and interpersonal skills.

Despite major efforts by health professionals to raise awareness of oral health among the general people, the gap between oral health knowledge and practice surely persists. The school plays a significant role in the growth of a country's economy and health. (5) Oral health literacy (OHL) is regarded as a critical and primary factor of oral health status. The capacity of people to obtain, process, and grasp basic oral health

information and services necessary to make wise health decisions is referred to as oral health literacy. (5,6) ; (7)

Increased oral health care use by underprivileged individuals may be mostly attributed to their oral health literacy. (8) Key risk factors include leading an unhealthy lifestyle and not having access to dental healthcare. It is believed that among the possible causes of this failure was poor communication. It is well acknowledged that communication between a dentist and a patient is significantly influenced by the individual's literacy level. Those with low reading abilities therefore have a worse understanding of the requirement of prevention and maintenance, resulting in poor health. (8,9) Low health literacy has been termed "the silent health crisis," referring to the inability to navigate complicated healthcare systems and comprehend health information.

A health literate individual should be able to understand the guidelines on prescription drug bottles, appointment cards, health pamphlets, physician prescriptions, and consent forms. (10,11) People with poor health literacy usually underuse healthcare services, which raises the incidence of hospitalization, boosts the number of visits to the ER, and ultimately worsens health. (12–14) Health literacy serves as a bridge between socioeconomic factors including race and education, lifestyle choices, and health outcomes, helping to explain health inequalities. (15) A growing body of research shows how low OHL is associated with detrimental oral health outcomes such as dental neglect, irregular dental visits, and poor oral health status. (16) ; (17) In 2007, Richman et al. designed and assessed the Rapid Estimate of Adult Literacy in Dentistry-99 (REALD-99) questionnaire, which the authors concede is quick and simple to administer and score and requires minimal training because longer evaluation procedures are not practicable in clinical practice. (18) Any OHL plan would seek to decrease inequities in oral health and to remove barriers to dental treatment. Despite a growing corpus of evidence linking literacy to overall health, few studies have examined the influence of literacy on dental outcomes, and none have assessed dental health literacy, particularly among school instructors. Students may be influenced by their professors' attitudes about health and their level of proficiency in health-related courses. (19) It is difficult to argue that school teachers are among the most important persons in the lives of school-aged children, and that their oral health decisions might be influenced by them. (18,20) Thus, the purpose of this study was to determine the relationship between health literacy and oral hygiene status among Chennai school teachers.

MATERIALS AND METHOD

This was a short-term prospective study involving 108 school teachers from around Chennai divided into four subgroups:

1. Primary school teachers
2. Middle school teachers
3. High school teachers
4. Higher secondary school teachers

Organizing the survey:

The principal investigator made the initial visit to meet with the Principal/School Administrator to explain the study and obtain approval. One day before the scheduled day of interview and examination, a phone reminder was sent to the selected school. On the specified day, certified school teachers were asked to participate in the survey in a designated area solely on school premises after being presented to the main investigator. All patients were given a patient information booklet that outlined the survey methodology prior to the examination, and a written informed consent was obtained.

Information collected and methods used:

The data was obtained from the respondents by the lead investigator via a questionnaire, the REALD-99 instrument, and an oral examination.

The questionnaire:

Face-to-face interviews were used to collect demographic data, medical history, dental history, oral hygiene practices, habits, dietary history, and suspected decay causes.

Rapid estimate of adult literacy in dentistry:

Respondents read aloud the REALD-30 assessment, and the principal investigator graded them based on pronunciation. Participants were instructed to only read words that they thought they knew how to pronounce correctly. A single investigator conducted the REALD-30 assessment. Proper pronunciation was worth one point and was added together to calculate overall REALD-30 scores. REALD-30 scores can vary from 0 (low literacy) to 30 (high literacy) where

0-10 score : lowest literacy

11-20 score : moderate literacy

21-30 : highest literacy

1. Sugar	11. Abscess	21. Periodontal
2. Smoking	12. Extraction	22. Sealant
3. Floss	13. Denture	23. Hypoplasia
4. Brush	14. Enamel	24. Halitosis
5. Pulp	15. Dentition	25. Analgesia
6. Fluoride	16. Plaque	26. Cellulitis
7. Braces	17. Gingiva	27. Fistula
8. Genetics	18. Malocclusion	28. Temporomandibular
9. Restoration	19. Incipient	29. Hyperemia
10. Bruxism	20. Caries	30. Apicoectomy

Oral Health Index Simplified (OHIS) :

It expresses the presence of plaque on the surface of the teeth and offers quantitative information on a patient's oral hygiene. It has scoring system as follows:

0.0 to 0.6 : OHIS Poor

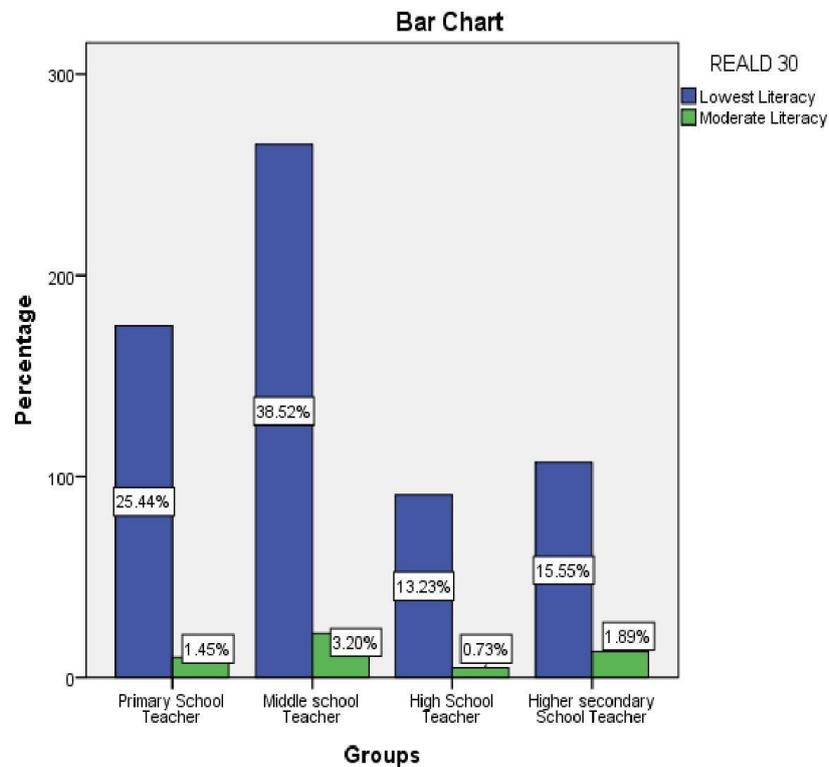
0.7 to 1.8 : OHIS Fair

1.9 to 3.0 : OHIS Good

Statistical analysis

The Statistical Package for the Social Sciences (SPSS, version 23.0) was used to code and analyze the data. The statistical significance threshold was kept at $P < 0.05$

RESULTS



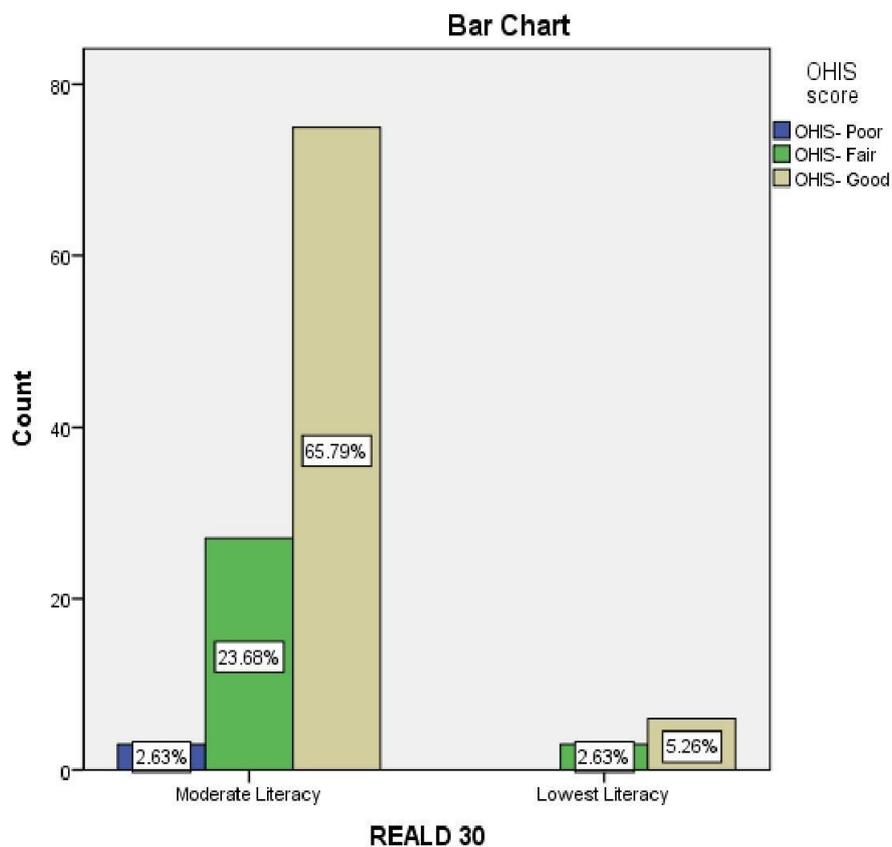
REALD-30 scores revealed that:

Primary school teachers: 25.44% teachers had the lowest level of literacy while only 1.45% teachers had moderate level of literacy.

Middle school teachers: 38.52% teachers exhibited lowest literacy while only 3.20% of teachers had moderate literacy.

High school teachers: 13.23% teachers had lowest literacy while only 0.73% of teachers had moderate literacy.

Higher secondary school teachers: 15.55% of teachers exhibited the lowest level of literacy while only 1.89% of teachers had moderate literacy.



OHIS index was evaluated with help of REALD-30 score:

- Overall, 65.79% of instructors with moderate literacy received an OHIS Good score, 23.68% received an OHIS Fair score, and just 2.63% received an OHIS Poor score.
- Surprisingly, there were no teachers with an OHIS Good score, just 5.26% with an OHIS Fair score, and 2.63% with an OHIS Poor score among the total teachers with the lowest literacy score.

DISCUSSION

People's lack of oral health knowledge and education has made them prime targets for lay practitioners. As a result, assessing an individual's oral health literacy is crucial for providing a level of primary care and having a better image in order to remove this problem at the grassroots level. Additionally, teachers are an influential and vital part of society, and they play a major role in the growth and modification of young children's behavior. As a result, oral health education is critical not just for their own dental health but also for the children with whom they interact and teach. (21,22) The purpose of this study was to investigate the levels of conceptual knowledge and its relationship to oral health conditions among school teachers in Chennai.

A self-administered questionnaire was used to survey 320 private and 320 public school teachers in Benin-City, Nigeria. The findings indicated that the instructors in this survey had a generally good attitude towards oral health. (23,24) Just 42.4% of respondents had ever gone to the dentist for a standard dental checkup. Almost 87.6%

of instructors continue to utilize potentially stressful interdental cleaning agents. Despite having little awareness of the causes of the two most prevalent oral illnesses, over 90% of the two categories of instructors are now engaged in teaching their students basic oral health education. This finding implies that elementary school teachers can function as oral health educators after receiving systematic training to improve their oral health knowledge and practices.

Denuwara HM et al. conducted a study in Colombo, Sri Lanka, to assess the level of health literacy and associated variables among school teachers in an education zone. (25,26) A cross-sectional research with 520 teachers and a response rate of 96.5% assessed health literacy using the self-administered, culturally adjusted Sinhalese translation of the Health Literacy Survey-European Union (HLS-EU). When multivariate analysis was performed, service as a teacher being ≤ 10 years ($p = 0.042$), monthly income \leq Rs.50,000.00 ($p = 0.024$), not being a member of health club/welfare group ($p = 0.034$) and visit to a medical practitioner/preventive health staff for six months ($p = 0.002$), were found to be associated with limited health literacy among school teachers when adjusted to the effect of confounding of the other factors in the model.

Harender Singh et al investigated the oral health knowledge, attitude, and practices of school teachers in Nepal's Chitwan province. (25,27) A cross-sectional study was conducted on 550 teachers from private and public schools in the Chitwan District to assess their knowledge, attitudes, habits, and oral health condition. Following descriptive analysis, data were evaluated using chi-square. In comparison to dental caries, most school teachers were knowledgeable about periodontal problems. Teachers at private schools (20.7%: 57) were more aware of oral health issues than instructors in public schools (9.8%: 27). An almost equal number of private and public school teachers (73.5%: 202 and 74.2%: 204, respectively) had a good awareness of oral health. Males had a higher percentage of good oral health knowledge than females (28).

Oral diseases are a significant problem for public health. Caries has affected around 90% of schoolchildren globally and the most of adults, with the disease being particularly widespread in Asian and South American nations. (29) Much research done in Qatar revealed numerous methods for raising public awareness about oral health and disorders related to it. To combat the high frequency of dental caries in Qatar, community-based preventive interventions are essential. Oral health education is an important component of these initiatives. Oral health education is seen to be a cost-effective means of promoting oral health when delivered via schools, where all students, regardless of socioeconomic position or ethnicity, may be reached. (30) Knowledge means that the individual is equipped with the information needed to comprehend what oral illness is and how it develops, as well as the preventative actions that must be implemented. In principle, this information will lead to a change in mindset, which will lead to changes in the individual's everyday life. (31) In addition to assessing the present state of oral health knowledge, various researchers have identified a variety of informational sources, including parents, teachers, dentists, the media, and relatives, that directly affect schoolchildren's oral health knowledge, which in turn affects the prevalence of caries.(32)

CONCLUSION

Surprising results were discovered from this survey, as middle school instructors had the largest number of teachers with moderate literacy as well as the lowest literacy. Furthermore, the overall instructors with moderate literacy levels as measured by REALD-30 had the largest percentage of OHIS Good results. According to the study, instructors with moderate literacy and an OHIS Good score had generally good oral hygiene.

Despite the fact that a National Health Policy for India has been prepared, no consideration is being given to a national oral health policy at this time. This suggests that policymakers are ignoring oral health, and that its promotion is not receiving the attention it deserves in our society. In India and other poor nations, there is an urgent need to promote oral health across the educational system.

Policymakers must be made aware that oral health is fundamental to overall health and well-being, and it is critical for public health authorities and health professionals to provide long-term support, such as funding, technical assistance, and/or learning aids, to promote the effective utilization of school teachers.(33)

Schools provide a platform for the promotion of health and dental health not only for students, but also for staff, families, and community members in general. Coordination of health and education departments, as well as active participation of non-governmental groups and local civil societies is currently essential in most developing countries to improve health and oral health among school students.

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