

Cross Sectional Study Influences of Socio-Economic Status and Oral Health Literacy among Teaching Community of Ongkharak Thailand

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Abstract

For individuals to prevent and manage disease Basic health knowledge is essential. Non-health professionals, such as teachers, may influence children's oral health decisions. In addition to Oral Health Literacy (OHL), teachers can spread more oral health knowledge than dental health professionals to try to shift the focus to preventive dentistry. If similar morality is promoted among students the perception of oral health is starting to change. Oral health is part of general health. Therefore, it has a direct effect on the overall well-being of a person. Knowledge of the oral health conditions and treatment needs of a diverse population is essential to develop appropriate preventive approaches. The purpose of this study was to study the relationship between oral hygiene and socio-economic status in the Ongkharak teacher community and conducted a descriptive cross-sectional study. The subjects were selected by simple random sampling method Simplified Oral Hygiene Index with Kuppuswamy's socioeconomic status scale. As socioeconomic status decreased, mean OHI-S increased. Comparing mean OHI-S between different SES groups, ANOVA revealed significant OHI-S differences across groups. Mean OHI-S scores revealed significant associations with socioeconomic status. It has been reported that as socioeconomic status declines, the oral hygiene status of the teaching community worsens. Given the inadequate levels of OHL, promotion of teachers' oral health should be undertaken by including regular dental workshops by the government and dental professionals in educational institutions.

Keywords: Oral health Literacy, Oral hygiene, Socio-economic status, and teaching community.

Introduction

In the past few years Knowledge of Oral Health Literacy (OHL) to promote oral health is increasing. OHL is a key element in planning oral health promotion strategies (Horowitz, 2008; Greenhalgh 2015). Ongoing oral health practice and research Healthy People 2010 defines OHL as “the degree to which a person has the ability to obtain, process and understand basic oral health information and services necessary to make appropriate health decisions.” Socioeconomic and Behavioral and Health Outcomes patients with poor OHL have tooth decay and more frequent tooth extraction and higher prevalence of periodontal disease. Evidence also shows a very high prevalence of OHL deficiency in adults. (Vilella 2016; Parker 2010; Blizniuk 2015; Naghibi 2013; Batista 2017).

Health literacy is a non-pharmacological method of disease management (American Dental Association 2007). The World Health Organization (1998) has defined health literacy as a cognitive and social skill that determines the motivation and competence of individuals and communities. To access, understand and use information in a manner that promotes and maintains good health.

Poor health literacy increases the use of substandard health services. Improving health literacy increases the use of preventive services. Low hospital costs, etc. Therefore, for individuals to prevent and manage disease Basic health knowledge is essential. (Horowitz 2008, D'Cruz 2013).

The mouth is an important organ of the body. Proper care is required for overall health. Dentists often assume that the advice given to their patients is correct. Oral Health Literacy (OHL) refers to an individual's ability to perceive and analyze oral health information to make appropriate decisions about health issues of oral cavity. OHL involves factors such as reading, communicating, speaking, writing, in addition to one's own knowledge. This is affected by culture (Wehmeyer 2014). Health professionals such as school teachers Influencing children's oral health decisions. Therefore, oral health knowledge is important not only for them. but also the children they are studying. Studies show that there is a dependency between society, the education system, and health care. which will influence oral health outcomes Therefore, oral health knowledge must be instilled directly from school to children through teachers (Simon 2018).

Research has shown that teachers in Thailand tend to be highly knowledgeable about oral health. In addition to OHL, teachers are able to disseminate oral health knowledge more than dentists. to try to shift the focus to preventive dentistry If such messages are promoted among students The perception of oral health is starting to change. On the other hand, if students are able to develop interest during the developmental age, the more likely these skills will lead to further professional training after graduation.

This study emphasizes the importance of decision-making skills as a key component of health literacy, to determine the level of oral health knowledge and behavior of teaching communities concerning socio-economic status in Ongkharak, Thailand.

Materials and Methodology:

The study was a cross-sectional survey. The investigators sent electronic questionnaires to school teachers currently working in schools in Chennai. Teachers who responded to the questionnaire were deemed informed. The study period was conducted from August to November 2021. The study was approved by the Institutional Human Ethics Committee (IHEC).

The questionnaire contains demographic details. Socioeconomic status, Oral Health Literacy-Adult Questionnaire (OHL-AQ), and oral health practice, along with self-reported oral health status (Flynn 2016).

The Oral Health Literacy Adult Questionnaire has 17 items in four sections.

Section-1 assesses the perception of oral health.

Section-2 assesses the ability to calculate values related to antibiotic and mouth rinse prescriptions.

Section-3 assesses the efficacy of listening skills, and

Section-4 is about decision-making.

The total score for the index was a simple sum of responses, ranging from 0 to 17. Oral health literacy was categorized into three levels: Inadequate (0-9), Borderline (10-11), and adequate (12-17).

Inclusion Criteria

1. Lecturers willing to participate in the study.
2. Lecturers able to read and interpret English language.

Exclusion Criteria

Those who does not having android / IOS mobile phones to receive the Google forms. Sample size: The sample size was 56 calculated with a Power ($1-\beta$) of 80%, Level of significance being 5% and 7% margin of error.

Statistical analysis: The data were analysed for differences in Oral health literacy scores with respect to socioeconomic class, oral health behaviours and oral health status by using the IBM SPSS version

20.0. Descriptive and Inferential statistics were analyzed by IBM SPSS version 20.0 (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp). Frequency and Percentage was used for summarizing categorical data (demographic variables and OHL categories). Mean and SD were used for summarizing quantitative data. Chi-square tests were used for testing the association of OHL scores with oral health behaviour, Oral health status and social class. P value of <0.05 was considered as a statistically significant difference.

Results:

Table 1 demographic character of respondents

Parameter	Frequency n=56 (%)
Age	
25-35	24 (42.86)
36-45	21(37.5)
46- and above	11 (19.64)
Gender	
Male	21 (37.5)
Female	35 (62.5)
Socioeconomic status	
Upper class	22 (39.29)
Upper middle class	15 (26.79)
Lower middle class	10 (17.85)
Lower class	9 (16.07)
Oral health literacy (OHL-AQ)	
Inadequate 0-9	22 (39.29)
Borderline 10-11	16 (28.57)
Adequate 12-17	18 (32.14)

A total of 56 participants from various levels of teaching in different majors were evaluated in the study with mean age of 35 years. About 62.5% females and 37.5% males participated in the study. Nearly 50% of the lecturers / teachers had more than 6 years of experience. 60% of the participants belonged to upper middle class, 66.08% belonged to upper class and 33.094% belonged to lower classes. The overall mean OHL-AQ literacy score was 9.88 ± 4.35 . Majority (39.29%) of the participants had inadequate literacy followed by adequate 32.14 and borderline literacy level which was seen as 28.57 [Table 1]. In evaluating the OHL response of the participants, highest percentage of correct answers 67.5% were related to the questions regarding listening component (Consumption of hot food after tooth extraction). Whereas, lowest number of correct answer (9.3%) was observed in the question “What is the best action after gingival bleeding when using dental floss”?.

Table 2 socioeconomic status on self-reported oral health frequency

Parameter	Socioeconomic status				Total	Chi-square	<i>P</i>
		Lower middle	Upper middle	Upper			
For oral health							
Self reported	Very good	0	12	11	23		
	good	3	11	3	17		

oral status health	Moderate	4	4	2	10	12.68	0.0001
	Poor	0	0	2	2		
	Very poor	0	0	0	0		
	I don't know	4	0	0	4		
56							

In analysing the results, all the adequately scored participants have answered correctly as 'visiting dentist as their best decision when encountering an oral swelling and pain'. Of all the participants with inadequate OHL scores, 3.28 were from lower middle class, 12.68 were from upper class in borderline OHL scores, 8.91. There statistically significant association between oral health literacy scores and socioeconomic status. Lower classes MEAN SD 6.74+ 3.28 and upper classes scores 12.68+3.36 ($P=0.001$).

Discussion

Oral health care has become a necessity, however, differences in some factors such as socioeconomic status. Behavioral and cultural differences influence their ability to understand the oral health care advice provided to them to ultimately make effective decisions about oral and general health care.

In this study, the Oral Health Literacy–Adult Questionnaire (OHL-AQ) chose to calculate oral health literacy. As it assesses decision-making skills, it is important to assess oral health knowledge along with reading, listening and numeracy skills.

This study was conducted in teaching community because teachers can influence students in different age groups during their development process and any changes in behavior during these times are likely to be long-lasting. The number of female participants was greater than that of males and had a high mean score and was associated with OHL ($P=0.010$), similar to the previous study.

The results of our study were different from previous studies which indicate that females are more aesthetically conscious to preserve their oral health. The mean OHL scores in this study are inadequate, and similar results were observed in studies done in college students¹⁹. D'Cruz and Shankar Aradhya also reported similar trends. On the other hand, studies done using REALD-99 OHL instrument in similar population as that of the present study showed a higher mean value. This might be due to the cultural differences across regions which might have had impact on understanding of basic oral health instructions.

About 25% of individuals from this study scored adequately, which were higher compared to the males which are in accordance with study done on adult population and in contrast to study done by Simon AK using REALD-99 in similar population as that of the present study⁸. The reason for high adequate scores among females could be, apart from being a teacher they also practice looking after their own children. On the other hand, on considering the characteristics of two genders it could be acceptable. In fact, evidences state that there is no need to provide separate oral health instruction programs for males and females from educational background. Hence, the findings in this study were justified.

in this study Persons who visited a dentist during 6 months - 1 year had a significantly higher relationship with OHL scores than other groups. A previous study showed a statistically significant difference in REALD-30 scores among individuals less than 6 months of visits to the dentist, but did not find an association between OHL and visits to the dentist. Study done in Mangalore, Pondicherry No significant differences were found in OHL scores. On the other hand, a Brazilian study showed that people with low OHL should visit the dentist only for pain and emergencies, whereas Yazdani et

al. Correlation between OHL score and last dental visit, Although subjective (person's interest), but steps towards oral health needs also need to be taken care of.

This practice should be started early in childhood and such interventions should be done at an appropriate age in the child's developmental process. An appropriate way to promote this practice is through dental care in schools. The dental professionals can periodically visit the school for check-ups for the benefit of teachers and students although not statistically significant. But the frequency of replacing toothbrushes every 3 months was observed in 60% of the study population, and nearly 15% of the population changed their toothbrushes monthly, emphasizing that these groups are highly conscious of their oral health care. This may mean that proper oral health care precautions are in place. On the other hand, the findings of this study contrast with previous studies that observed a significant association between oral health knowledge scores and self-reported oral health status our study findings subjective (self-report) the results can be proven.

Socioeconomic status being one among the factors for oral health literacy and poor oral health outcomes had insignificant ($P=0.220$) association between oral health literacy and socioeconomic status. Majority of the study subjects in the present study who had inadequate oral health literacy levels were from the upper middle socioeconomic class followed by upper class which is contrary to studies done previously. This might be due to individuals coming from educated, diverging high income background. This also shows how the work culture and occupation of people determines the knowledge level. In this study, none of the subjects has been associated with smoking. This can be attributed to role of teachers in teaching students appropriate oral health behaviour in their early years of developmental and socialization.

In this study, on evaluating the OHL responds the lowest amount of correct answer was given to the question "what teeth erupts in the mouth at six years of age?" Similar trend was seen in previous studies. The deficiency in this question shows inadequate knowledge towards development of children's tooth system. The need for proper awareness in this area for school teachers is necessary because teachers are the first to attend untoward incidents like traumas, and children do not know how painful dental problems can be. If not taken care in the growing age, it may lead to decreased self-esteem and poor general health as well.

Macek's conceptual model of health literacy was adapted to the oral health context in order to compare this study. According to the model, one's health literacy and knowledge of health is modulated by socioeconomic and demographic variables can generate appropriate oral health decisions that will impact on health outcomes. Our results were different to his conceptual model. This study is a peculiar one as it presents both OHL and oral health behaviour status in Chennai, India where studies on OHL are scarce. The high ratio of women in this study can be explained by the fact that teaching profession has predominant females. Future studies should try to incorporate equal participants to eliminate this limitation. Another possible limitation could be; information bias could have influenced responses. However, in this study significant associations were still found between OHL scores and last dental visit. Combined clinical examinations could have yielded accurate results regarding the oral health status of the individual.

Conclusion:

The results of the present study conclude that, OHL and oral health behaviour is dependent of socioeconomic status of teachers and OHL, related to oral health behaviour such as dental visits, which could interfere with quality of life. Despite all the resources existing in this modern era,

especially with the advent of overall oral health literacy found to be inadequate among teaching community in the study area. Future studies in the same context can use various oral health literacy tools upon a larger population to assess similar circumstances.

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