

AN UNDERSTANDING OF ORAL HEALTH AWARENESS & ORAL HYGIENE PRACTICES AMONG THE PATIENTS IN A TERTIARY CARE GOVERNMENT HOSPITAL

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ABSTRACT

Background: To evaluate oral hygiene practices and oral health awareness among the patients reported to Out Patient Department in a tertiary care hospital and their association with socio-economic status if any as it correlates directly with oral health status.

Materials & Method: A sum total of four hundred and twenty eight systemically healthy adult patients free from systemic diseases who were agreed to participate were selected enquired about their oral hygiene practices. The oral health awareness were assessed based on pre-designed, pretested semi-structured scheduled questionnaires on oral hygiene practices and oral health awareness.

Results & Observations: The data were subjected to statistical analysis and Chi-square test were performed to find the association between the variables. The females were having good oral hygiene practices compared to males with odds ratio of 3.61 and p value <0.05 and also the oral hygiene awareness was 1.18 times better in females compared to males.

Discussion: Majority of oral health problems can be prevented by simply providing oral hygiene awareness and oral health education which in turn would reduce financial burden to the society at a mass level, and increasing the physical, mental & social well-being of the patients.

Key words: Oral hygiene Practices, Oral health Awareness, Oral Health problems

Introduction:

Oral Diseases are a major public health concern owing to their higher prevalence and their effects on the individual's quality of life. The oral problems are emerging as one of the main public health concerns in India.[1-3] It not only causing pain, agony, functional, and aesthetic problems but also lead to loss of working man-hours. Hence, in the long run, they are bound to have a significant impact on our economy. Periodontal diseases are prevalent both in developed and developing countries and affect about 20-50% of global population.[2-4] A recent systematic review and meta-analysis stated that half of the Indian population suffer from periodontal diseases.[3] Over the past few centuries, there has been an increasing correlation between socioeconomic status (SES) and poor oral health. This is a significant concern, as over 2.5 billion people worldwide do not have access to dental care, many due to their SES.[4] As SES and the correlation between poor oral health continue to prevail, reducing the barriers to dental care becomes vital. Therefore, promoting and integrating oral health into overall health care and increasing accessibility of oral health to mass level and increasing research to reduce barriers to oral health care ultimately can strive for a situation where oral health becomes accessible to people worldwide.

Oral diseases are controllable only if services are oriented towards primary health care and prevention. A large ratio of

these diseases can be prevented at individual and community levels simply by providing oral health-related education; thus, improving the oral health attitude and practices among the general population.[2-5] Therefore, promotion of oral health is a cost-effective strategy to reduce the burden of oral diseases and maintain oral health and quality of life. The prime strategy to combat oral diseases specially periodontal diseases should focus on oral health education and promotion of good oral hygiene practices with reduction of financial burden to the society.

Materials & Method:

A cross-sectional observational study was performed among the five hundred patients attending the out-patients department in the tertiary care hospital. Among these a sum total of four hundred and twenty eight patients were selected and they were also agreed to participate in the survey after giving proper informed consent. As per sample size calculation formula to have a confidence level of 95% that the real value is within $\pm 5\%$ of the measured/surveyed value a minimum 385 samples needed. Therefore, a sum total four hundred & twenty eight systemically healthy adult patients free from any systemic diseases who were agreed to participate were selected. The study tool was a pre-designed and pre-tested semi-structured schedule on oral health awareness and oral hygiene practices. The questionnaire and study protocol were approved by the Institutional Ethics &

Research Committee. All eligible participants were thoroughly informed of the nature, potential risks, and benefits of their participation in the study. The study was conducted to assess the oral hygiene habits and oral hygiene awareness and its association with the sociodemographic factors among patients.

The inclusion criteria are:

Systemically healthy adult patients of eighteen to fifty five years of age willing to participate who gave verbal consent, and were able to understand and answer the questions, were included in the study. Since adults patients are free to give consent and readily understand the questions pertaining to the study a range of patients aged eighteen to fifty five years were initially selected.

Exclusion criteria:

Patients suffering from debilitating diseases were excluded from the study.

The study has been done in accordance with the permission of Institution Ethics Committee. The right to privacy and confidentiality of the participants were maintained throughout the study as per the guidelines laid down by Institution Ethics Committee. The participants were selected from the out-patient departments for the purpose and were initially enquired to gather information regarding their demographic characteristics, attitude for oral hygiene, oral hygiene practices as WHO oral health survey form, 2013 which basically aims to encourage national oral health survey planners to standardize measurements of oral diseases and conditions that are important for planning and evaluation of oral health program [6]. The principal investigators personally enquired about the and got them completed by cross-checking by the principal investigator through exit interview to avoid any bias. To assess the validity of the questionnaire the other expert panels were also consulted and pre testing was done in the form of pilot study. The overall practices concerning oral hygiene were assessed based on their responses to questions pertaining to oral hygiene practice. The correct answers were given a value of one and incorrect answers were given a value of zero. It was categorized as 'good' or 'not good' based on the cumulative result and the related mean value of responses as per previous studies. Scores above the mean value were categorized as

'good practice,' whereas the score values below the mean value were considered as 'not so good practice' as per some previously published scientific literatures.[4-6]. The scores were then cross-tabulated with the independent variables to watch out for possible associations between the variables.

The data were then subjected to statistical analysis and the possible associations between the variables were done by Chi-square test and the p values and odds ratios were calculated using statistical analysis software. [SPSS 23 analysis software]

Results & Observation:

The study participants include 236 female and 192 males, 55.1% female and 44.9% male with majority of them belong to rural 60.7% and semiurban areas 24.3% and urban areas 15% [Table 1]. A large proportion of populations 73.8% belong to lower socioeconomic category, and 26.2% belong to middle socioeconomic category considering the modified Kuppuswamy socioeconomic scale 2023[8] and majority of them are home makers & self-employed as described in Table 1. Regarding oral habits most of them have some form of deleterious oral habits in the form of both smokeless and smoke forms of tobacco, while 51.3% of populations do not report any kind of deleterious oral habits [Figure 1].

Regarding oral hygiene practices majority of them uses tooth brush and tooth pastes (43.9%), followed by fingers (16.8%), also neem twigs (1.9%) as a tools for tooth cleanings [Figure 2]. Majority of them preferred twice a day horizontal method of tooth brushing followed by combination methods of tooth brushing mostly after breakfast and after lunch same as after breakfast and after dinner [Figure 3]. The majority of populations 220 participants reported to use some form of interdental cleansing aids while 150 participants had not used in past even did not have idea of interdental aids. The 45% populations had tongue cleaning habits while 10.4% populations preferred not to give any answers [Table 2].

Regarding oral health and hygiene awareness which was mainly assessed on three parameters namely frequency of visits to dentists every year, assessment of knowledge whether oral health is related to systemic health, and need of visiting dentists every time after six months. The results are tabulated in Table 3. The socioeconomic status abbreviated as APL i.e. middle socioeconomic status, BPL i.e. poor socioeconomic

status in the above mentioned tables. The overall practices concerning oral hygiene were assessed based on their responses to questions pertaining to oral hygiene practice. The correct answers were given a value of one (1) and incorrect answers were given a value of zero (0). It was categorized as 'good' or 'not good' based on the cumulative result and the related mean value of responses as per the method used in previous literatures.[2]

The statistical association between the good and not so good practices & gender variations were analyzed with the help of Chi-square test and the data were found to be statistically significant with odds ratio of 3.61 & p value <0.05 denoting gender variations such as females practices good oral hygiene 3.61 times better compared to males.[Table 4] It might be due to greater oral hygiene practices among females.

The data of oral hygiene awareness present and not present among the participants were tabulated in Table 5. The statistical association were analyzed with the help of Chi-square test depicted in Table 5. But, the p value was found to be greater than ($p > 0.05$) 0.05. This suggests there was no significant association between gender and oral hygiene awareness. However, the odds ratio was approximately 1.18, meaning females have slightly higher odds of having oral hygiene awareness compared to males.

Discussion:

The concept of good oral health and its association with systemic health is very sparse among common people due to its multidimensional aspect and sparsity of knowledge among the general population. In addition, it evolves within and across the population groups, as culture and societal expectations change in varied situations. [1,4] Several studies have proven that increasing oral hygiene knowledge correlates with good oral health status compared to those who lack this knowledge.[6-9] The consensus was also reached on specific recommendations for the public, individual dental patients and oral health care professionals with regard to best action to improve efficacy of primary and secondary preventive measures.[7] The global burden of oral diseases including periodontal diseases can be prevented at individual and community levels by providing oral health-related education; thus, improving the oral health attitude and practices among the general population. Since a very few studies were conducted in the past regarding dental health

awareness, oral -health related habits, oral health behavior among adult populations specially in eastern part of India urged to evaluate oral hygiene practices and oral health awareness among the patients. Socioeconomic status, encompassing factors like income, education, and employment, plays a pivotal role in determining access to healthcare, dietary habits, and health-related knowledge, all of which are crucial for maintaining oral health.[10] The early-life socioeconomic disadvantages can have long-lasting effects on oral health. This underscores the need for early and continuous interventions targeting both individual and community-level factors.

The study population mainly comprised of females > males (55.1% females, 44.9% males) from rural (60.7%) areas with lower and middle socioeconomic status (73.8%) as per modified Kuppuswamy socioeconomic scale 2023.[8] They also had some forms of oral habits (49.7%) in forms of tobacco. The study populations preferred tooth brush and tooth paste as preferred method of tooth cleaning 43.9% followed by fingers 16.8%, and twice a day tooth brushings preferably after having food and horizontal method of tooth brushing are the most preferred way. The majority had some idea of interdental cleaning aids (59.5%). But, majority of the populations (284) never visited any dental care facility and 55.1% did not have any awareness regarding oro-systemic health and 86.9% of populations did not have urge to visit a dentist or any dental care facility once a year. The oral health awareness among the study populations were very poor. The results of this study suggest that oral health awareness and good oral hygiene practices among the study population are poor which were in accordance with the studies reported by Paul et al. 2014 [2], Gambhir et al. 2016 [5], Al-Jasser et al. 2023 [7]. However, females were having good oral hygiene practices compared to males with odds ratio of 3.61 and also the oral hygiene awareness was 1.18 times better in females compared to males.

Oral hygiene problems can be prevented by simply providing awareness, which is a more cost effective alternative than expensive dental procedures thereby reducing socio-economic and financial burden to the society. Since, proper oral health education & oral health awareness are necessary at mass level. Periodic oral health awareness programs at schools, colleges, universities, and community levels should

be undertaken to improve knowledge, attitudes, and behavior related to oral hygiene. New strategies must be implemented to formulate basic oral health educations for the mass populations at state, national, district level.

Conclusion:

Oral health is also an essential and leading component of children's overall health, functional capacity, and social welfare. Oral health awareness and good oral hygiene practices need to improved both at individual and mass level to reduce the global burden of oral and periodontal diseases. The dental professionals play a pivotal role in spreading the awareness.

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Table 1. Distribution of various parameters among study populations

Gender	Locality				
Male	Female	Rural	Semiurban	Urban	
192	236	260	104	64	
Occupation					
Home maker	Self-employed	Service	Business	Professionals	Unemployed
172	76	56	84	20	20

Table 2. Distribution of interdental aids usage and tongue cleaning habits among study populations

Interdental aids concepts and usage	Tongue cleaning habits				
Yes	No	Prefer not to say	Yes	No	Prefer not to say
220	150	58	190	188	50

Table 3. Distribution of oral health awareness among study populations

Frequency of visits to dentists per year	
Never	284,66.4%
Once a year	36,8.4%
Twice a year	16,3.7%
Only when needed	92,21.5%
Oral health is related to systemic health	
Yes	192,44.9%
No	236,55.1%
Need of visiting dentists every after six months	
Yes	56,13.1%
No	372,86.9%

Variables	Good practices	Not good practices	Chi-square test	OR	P value
Male	78(110.36)	114(81.64)	39.22	3.61	<0.05
Female	168(135.64)	68(100.36)			

Table 4. Association of good&not so good practices along with gender variations among the participants(n=428)

Table 5. Association of oral hygiene awareness present and not present along with gender variations among the participants(n=428)

Variables	Oral hygiene awareness present	Oral hygiene awareness not present	Chi-square test	OR	P value
Male	130(133.68)	62(58.32)	39.22	1.18	>0.05
Female	168(164.32)	68(71.68)			