

ORAL HEALTH RELATED QUALITY OF LIFE AMONG STUDENTS AND HEALTH CARE WORKERS OF A TERTIARY HEALTH CARE CENTRE

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ABSTRACT:

Background- 'Oral health-related quality of life' notion over few years has emphasized research to evaluate the links between oral health status and quality of life outcomes like in medicine. **Aims** - This study aims to evaluate self assessed oral health status of students and staff at AIIMS Jodhpur and its effect on their quality of life on daily basis if any.

Methods and Material A structured questionnaire based survey was done to evaluate their own perception of their oral health status and its effect on quality of life on daily basis using 8 parameters of Oral Impact on Daily Performance (OIDP). Statistical analysis was done by checking of frequency of affected parameters and Spearman Rho correlation between life style characteristics, addictive habits score with OIDP Scores was done using SPSS version 21.

Results and Conclusions. From 192 subjects 138 had atleast one problem affecting their oral health. While food lodgement was most affected with 43.2 % and problem in speaking was least affected with 3.7 % of subjects.

Key words: Oral health-related quality of life, OHRQL, OIDP

INTRODUCTION:

Health is no more merely the absence of disease and infirmity. "How" we live and not just "how long" we live is the core of the current health-care research. Research on Health related Quality of life (QOL) has gained interest and visibility since last five decades internationally. However the notion of Oral Health related Quality of life (OHRQOL) became the concern in early 1980's only. Oral health cannot be compartmentalized from general health as diseases and disorders that damage the mouth and face also interfere with vital functions such as breathing, swallowing, speaking

etc. This can also affect the activities of daily living such as work, school and social interactions. Above all oral diseases are progressive and cumulative and become more complex over time. Most studies that evaluate changes in oral health status have been based only on clinical indicators of disease and there are relatively few evaluation studies on subject's perception of oral health. To reduce the burden of oral diseases and uplift the general oral health of masses it is important to understand how people perceive the impact of oral diseases on their quality

of life. There are several instruments for measuring this oral health related quality of life and OIDP (Oral Impact on Daily Performance) is one among them. The Oral Impact on Daily Performance (OIDP) scale assesses the impact of oral health on an individual's daily life [1]. This scale was designed by Locker in 1988, based on an explicit conceptual framework of the World Health Organization's (WHO) International Classification of Impairments, Disabilities and Handicaps (ICIDH), by introducing certain amendments specific to dentistry [2].

The OIDP is calculated by multiplying frequency and severity scores of daily performances. This instrument is advantageous for use in population surveys, not only in terms of it being easier to use while measuring individual behaviours rather than feeling states, but also because it is brief. This study was done among students and health care workers of All India Institute of Medical Sciences (AIIMS) Jodhpur to analyze the level of awareness and gauge the perception of their oral health and disease status on self-examination with its discernment on the overall quality of life through a questionnaire based survey.

MATERIALS AND METHODS

A total of 192 subjects who were either students or staff of AIIMS, Jodhpur were recruited in the study and completed a self-administered questionnaire [1]. The assessment of the OHRQOL was done by a structured questionnaire divided in three parts. First part recorded the

demographic characteristics such as age, gender, place of origin, religion, occupation. Second part entailed dietary habits related to type of diet as vegetarian or non-vegetarian, fibrous or sticky. Frequency of eating was recorded as individuals who eat 3-4 times a day or > 4 times. Oral health related behavior including teeth cleaning methods and frequency of cleaning, addictive habits like pan masala, tobacco chewing, alcohol and smoking habits were also recorded. On self examination presence of dental caries, bleeding from gums, any previous dental treatment were recorded. Third part assessed 8 parameters of OIDP in form of questions related to problems perceived by subjects during the past 6 months (Table 1). Each of these eight questions were scored based on scale as 0 "never affected", 1 "one or two episodes", 2 "once or twice a month", 3 "once or twice a week" 4 "constantly affected". Simple count scores (SC) of OIDP was created by adding the score of each variables. The final OIDP scores was dichotomized, yielding the categories as "no daily performance affected (score as 0)" and "at least one daily performance affected (score as 1)". A relationship was established between their perceived oral health status with associated factors and experience of an oral impact that affected their daily life in the past six months by comparing the scores of part two and three of questionnaire for each individual.

STATISTICS

Results were expressed as percentage of individuals having variation in the quality of life parameters. Spearman Rho correlation between life style characteristics, addictive habits score with Oral Impact on Daily Performance (OIDP) Scores was done using SPSS version 21 (IBM Armonk, NY: IBM Corp.)

RESULTS

The 192 subjects that were recruited for assessment of ORHQL included 108 male and 84 female in age range 17-55years [mean (SD) age 22.38 (\pm 5.46)]. Of them 126 were medical and nursing students, 50 nursing staff and doctors and 16 were non-medical staff. From 192 subjects 138 had atleast one problem affecting their oral health. 31.3%, 21.2, 3.7 and 22.4 percentage of patients had discomfort while eating, foul breath, problem in speaking and indecent teeth respectively (Figure1). While food lodgement, hot-cold sensitivity, bleeding gums and absence from their work place was observed in 43.2, 32.8, 19.2 and 7.8 percent of subjects respectively (Figure 2). Life style characteristics are shown in Figure 3 and 4. The mean Oral Impact on Daily Performance (OIDP) Score as a whole was 2.484 while for those with atleast one positive impact was 3.431. Table 2 shows the percentage of subjects affected by a particular impact and the Oral Impact on Daily Performance (OIDP) Scores of each impact. The most frequent oral impact perceived by subjects was food lodgement between teeth followed by discomfort while biting or chewing. A total of 43.2% and

31.25% of the subjects confirmed difficulties with food lodgement and difficulty while chewing/biting respectively. The least affected impact was problem encountered while speaking in 3.65% of individuals. 173 subjects had reported fibrous predominant diet and 175 subjects reported no addiction habits. However 106 subjects only testified use of toothbrush as cleaning method with 187 subjects who brushed less than two times in a day. With regard to the correlation coefficient, it was found that type of meal, fibrous or sticky food, use of tooth brush, frequency of brushing and addiction score had no correlation with OIDP Scores. (Table 3). However positive correlation was found between frequencies of meals, gender and subjects complaining of bleeding gums and dental caries with regard to OIDP score. This means the female gender, more frequent meals and subjects complaining more about dental caries and bleeding gums were found to have positive correlation with OIDP score. Positive correlation was also observed between dental caries and bleeding gums as assessed by subjects themselves ($p < 0.001$). Statistically significant positive correlation was also observed between frequency of meals with bleeding gums ($p = 0.003$) and negative correlation was observed with fibrous food with regard to bleeding gums ($p < 0.001$).

DISCUSSION

In Dentistry, as in other branches of Medicine, it has been recognized that objective measures of disease provide little insight into the impact of oral disorders on daily living and quality of life. Among oral health problems dental caries and diseases of periodontium are the most common disease presentations reported anywhere. So majority of researches focus on their clinical indicators like pain, bleeding gums, mobility of teeth. Very few studies measure the effect of these problems on the quality of life an individual leads. Quality of oral health can affect various aspects of life like oral function, esthetics and interpersonal relationship. Despite these contributions the adaptability of individual to diseased mouth is very high especially in developing countries where oral health awareness is lacking or inaccessible to all. A diseased tooth or teeth on one side of jaw does not preclude the total oral functioning as the other side is able to provide an acceptable functionality. Thus the deterrant effect on quality of life appears usually very late only when it pains or gets very bothersome. To overcome this situation at the outset an extensive awareness about a healthy and disease free mouth needs to be done. The contribution of oral health to overall health related quality of life needs to be emphasized.

On research aspect the concept of OHRQOL is particularly significant to three areas clinical practice of dentistry, newer developments in dentistry and dental education. Thus a significant body

of development work has been and needs to be undertaken to provide health status measures for use as outcome measures in dentistry. International health campaigns utilize advertising and marketing strategies to enhance well-being by portraying positive oral health images that represent global health values. Oral Impact on Daily Performance (OIDP) is one among the number of questionnaires that can be used to collect input from lay people. Though it may be more accurately described as measures of oral health status, as without patient involvement in their development it is difficult to ascertain whether the items accurately reflect what is important to patients ^[3]. But such evaluations will surely raise the standard of desired perception of oral health among masses.

The OIDP scale for our study showed that 72.4% (138) participants reported experiencing atleast one oral impact that affected their daily life in the past six months. The prevalence of these impacts ranged from 7.81% to 43.2%. This is comparable to a study done on BDS students and interns in which the eight impact prevalence rates ranged from 12.9 percent to 36.6 percent ^[1]. It was comparable only to the higher range in a cross-sectional study done on a population of 1146 adolescents in Uganda ^[4], where the eight impact prevalence rates ranged from 30 percent to 40 percent. However it was below the 70 percent prevalence observed in another population of western people

with high dental disease levels and in a Tanzanian study where it was found to be 51%^[5]. As per our study approximately 43.2% of subjects complained of food lodgment in or between teeth which was troublesome and 31.25% had decreased eating efficiency and could not enjoy all foods as they had difficulty in biting and chewing. These results were partly similar to previous OIDP surveys in which difficulty with eating and enjoying foods and difficulty with cleaning teeth were the primarily affected impacts ^[6,7]. Both these figures further substantiated the fact that 174 subjects had reported dental caries on self-examination. Correlation amongst various factors showed that type of meal, fibrous or sticky food, use of tooth brush, frequency of brushing and addiction score showed no correlation with the total problem score (SC). This could be attributed to the fact that most of the study subjects were educated with some influence of health awareness as they were a part of premiere medical institute. At least 90% of subjects were free of any addiction abuse and had fibrous foods predominating their diet. However brushing frequency of less than 2 times in a day by 97% subjects and use of toothbrush by only 55% was astounding for this class of subjects. The positive correlation between frequencies of meals, gender and subjects complaining of bleeding gums and dental caries with regard to total problem score concluded that female gender, more frequent meals and subjects who

reported presence of dental caries and bleeding gums on self-examination were found to have high problem score. Positive correlation of dental caries ($p = 0.002$) and bleeding gums ($p < 0.001$) as assessed by subjects themselves with OIDP score is thus as expected (Table 3).

Bleeding from gums is a sign of gingivitis or periodontitis. Although the problem of bleeding from gums based on self-examination was reported by 178(92.7%) subjects but effect of this impact on their daily life activities was reported by only 19.27 % of subjects. This could indicate that either the nature of impact was mild because of variable frequency and amount or may be bleeding affected mainly during brushing time so the effect was not substantial. However consequential symptoms of gingivitis and periodontitis like foul breath and sensitivity to hot and cold has been reported by 21.35% and 32.8 % subjects respectively. The numerical values also inferred that more frequent meals and sticky food were associated with subjective complaints of bleeding gums. This can be presumed to be a secondary influence especially when brushing and oral hygiene measures are found to be subdued in the study population.

Our overall study results substantiated that the OIDP frequency scores were applicable across age and gender, showed satisfactory reliability and were subject to low levels of non-response. However OIDP change scores on a treated subsample should be done to record changes in perception of oral

health and thus provide evidence for responsiveness to change to validate OIDP scale.

CONCLUSION

In studies of the association between objective measures of dental disease and patient-based ratings of oral health status, objective measures did not accurately indicate patients' perceptions. Such measures reflect the end-point of a specific disease process but give no indication of the impact of the disease and its course on functioning and psychosocial well-being. Hence there is a

need for the development of appropriate measures to assess quality of life with regard to oral health and oral diseases. Subjective measures provide an important adjunct to objective clinical measures for determining goals in health care and assessing how well the goals have been met. A study that gauges both the oral health and disease status with its discernment on the overall quality of life will give an insight on the preventive and treatment measures required to be taken for the public.

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FIGURE:

Figure 1: Percentage of subjects who never, once or twice and often have discomfort while eating, foul breath, problem in speaking and indecent teeth.(Original)

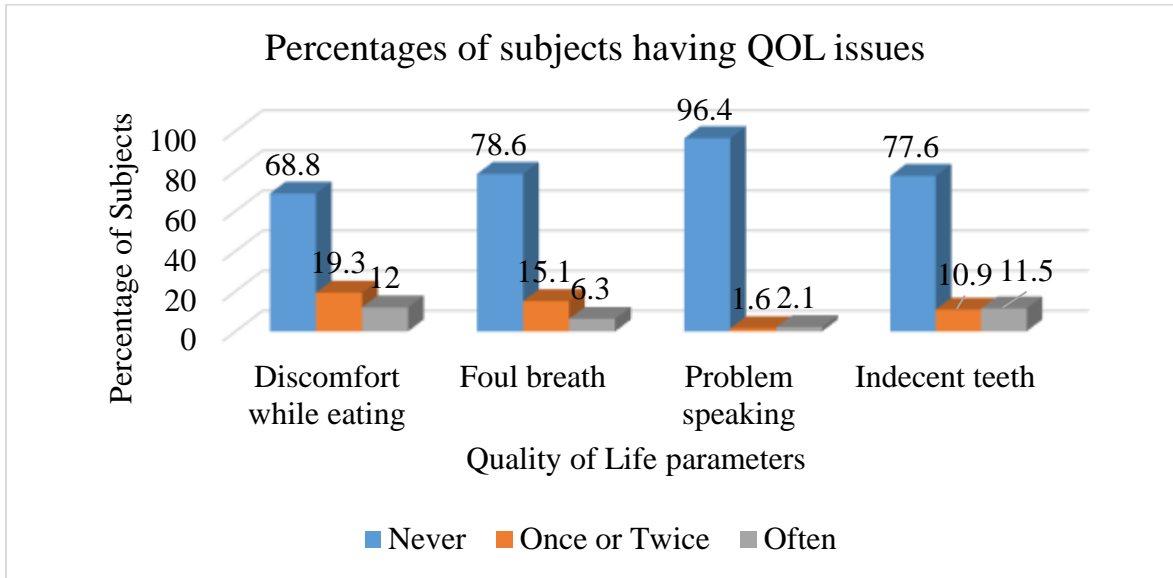


Figure 2: Percentages of subjects who never, once or twice and often have food lodging, hot cold insensitivity, bleeding gums and miss their school. (Original)

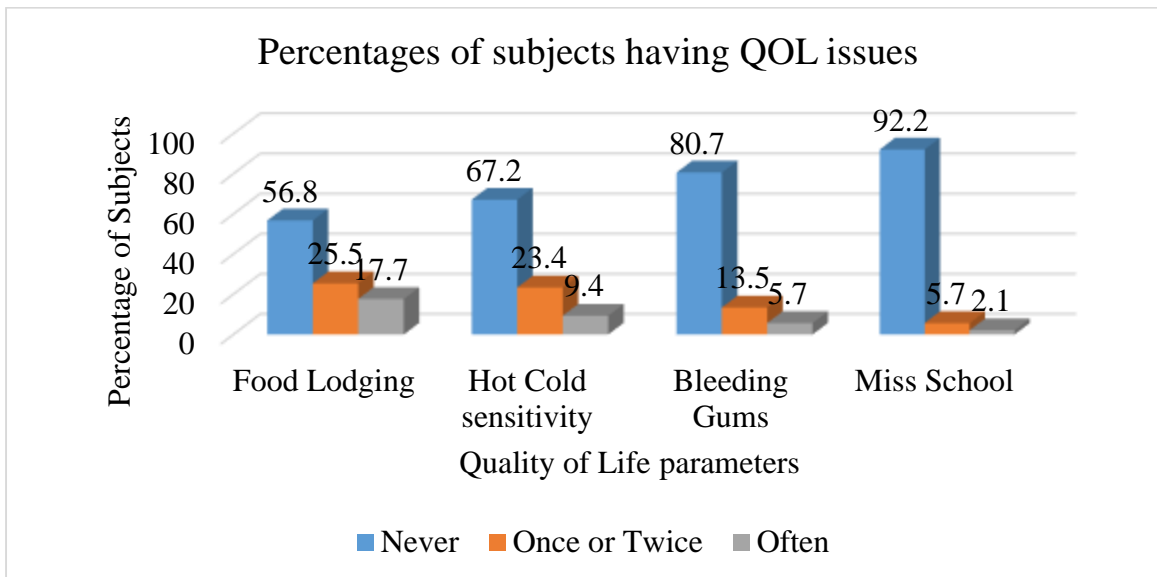


Figure 3: Percentage of subjects having vegetarian/Non vegetarian diet, Fibrous or sticky meals and who brush their teeth. (Original)

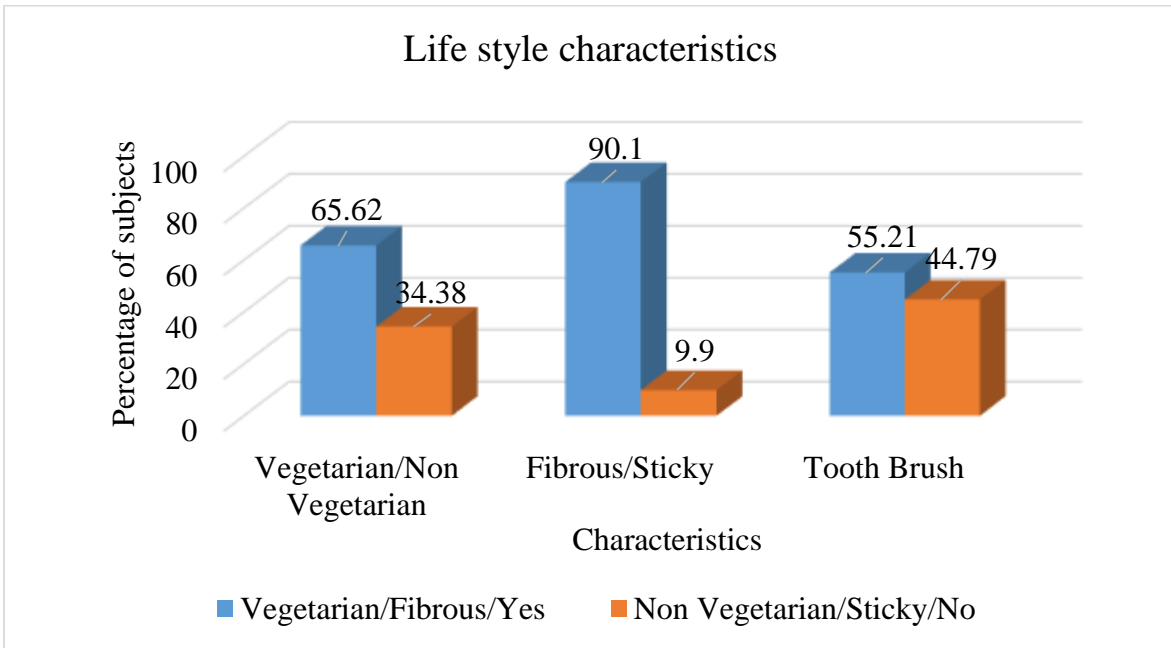
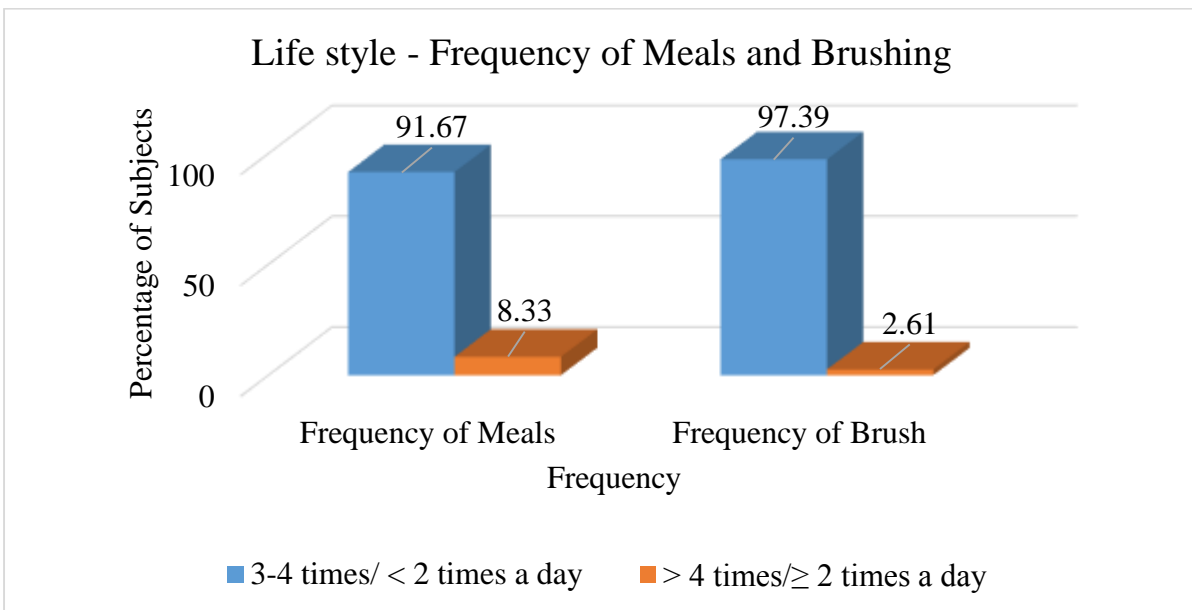


Figure 4: Percentage of subjects having 3-4 meals a day and individuals who brush < 2 times a day. (Original)



TABLES:

Table 1: Oral Impact on Daily Performance (OIDP) Scale(Original)

S. No	Oral Impact on Daily Performance (OIDP) Scale	Never	1 or 2 episodes	Once or Twice a month	Once or Twice a week	Constantly affected
1.	Have you ever had a discomfort while eating something hard?	0	1	2	3	4
2.	Have you ever prevented yourself from talking to someone just because you thought you had a foul breath?	0	1	2	3	4
3.	Do you ever had a problem in speaking or speaking some particular words because problem with teeth or dentures?	0	1	2	3	4
4.	Have you ever had a thought that your appearance is being compromised because of indecent looking teeth or dentures?	0	1	2	3	4
5.	Have you ever suffered from the problem of food getting lodged in your teeth?	0	1	2	3	4
6.	Have you ever had to restrict some food because of hot or cold sensitive or painful tooth?	0	1	2	3	4
7.	Have you ever had bleeding gums?	0	1	2	3	4
8.	Did you ever have to miss your school/college/work because of problem with your teeth?	0	1	2	3	4

Table 2: Simple count score (SC) and final Oral Impact on Daily Performance (OIDP) Scores and percentage of subjects affected in each parameter of OIDP scale (Original)

S.no	Parameter	Total score of 192 subjects (Never = 0, Once or twice =1, Often = 2)	Percentage of subjects affected (%)
1.	Discomfort while Biting or chewing	76	31.25
2.	Foul Breath	48	21.35
3.			
4.	Problem during Speaking	11	3.65
5.	Self-conscious or Nervous about looks	65	22.4
6.	Food Lodgment	105	43.2
7.	Hot and Cold Sensitivity	75	32.8

8.	Bleeding from Gums	41	19.27
9.	Restricted activity or work loss	19	7.81
10	Final OIDP Score*	139	72.4

*- Final OIDP Score is the sum of all the first eight parameters after dichotomization.

Table 3: Correlation between life style characteristics, addictive habits score with Oral Impact on Daily Performance (OIDP) Scores. (Original)

Variables	Oral Impact on Daily Performance (OIDP) Scores Correlation coefficient**	p-value (2-sided)
Vegetarian diet	0.116	0.109
Frequency of Meals	0.166	0.021
Fibrous food	0.09	0.214
Gender	0.164	0.023
Tooth Brush	-0.005	0.944
Frequency of brush	-0.015	0.836
Addiction score	-0.081	0.266
Dental Caries	0.225	0.002
Bleeding gums	0.264	<0.001

**= Spearman's rho correlation coefficient and p – value