

Assessing the Impact of Oral Health on Daily Performance and Well-Being**Keshav Kumar¹, Sumanta Kumar Koley², Tabita Joy³**¹Senior Resident, Department of Dentistry, DMCH, Laheriasarai, Darbhanga²Associate Professor, Department of Dentistry, DMCH, Laheriasarai, Darbhanga³Professor & Head, Department of Oral Pathology & Microbiology Gov. Dental College & Hospital, Mumbai

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Abstract:**Background and Objective:** Oral health is bound to play a major role in imparting the quality of life. The present study was conducted to assess the relationship between clinical dental status and its impacts on daily performances among college students of DMCH Laheriasarai Darbhanga.**Material and Methods:** Descriptive cross-sectional study was conducted among students of all the non-professional 6 bachelor, Darbhanga Around 1000 students were studying in these colleges, among them 10% of the total population of students were considered for study. Data was collected using OIDP (Oral Impacts on Daily Performance) scale; oral examination was done by using DMFT(S), CPI index, malocclusion status, oral mucosal condition etc. Group wise comparisons were made either by Z-test (for mean) or Mann-whitney- U test. Z-test and chi-square tests were used for proportions.**Results:** Among 600 students 375 were males and 225 were females and the age ranged from 17-24 years. The prevalence of oral impacts on daily performance was 48.3%. 115(19.2%) had a problem during 'cleaning teeth', 113 (18.8%) felt discomfort during eating. Mean DMFT was 1.3 ± 1.9 , and students with periodontal inflammation was 398 (66.3%).**Conclusion:** The findings of the study demonstrate that students attending non-professional bachelor degree colleges had a fair clinical dental status and there was a strong and consistent relationship between dental status and perceived oral impacts.**Keywords:** OIDP, Oral Condition; Oral Health, Oral Impacts On Daily Performance.This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Oral health is bound to play a major role in imparting the quality of life and this measurement in health care and especially oral health care has gained widespread recognition. Subjective self-report measures of impacts of health conditions on quality of life have expanded rapidly in the medical literature over the past 20 years.[1] Though the social impact to measuring disease outcome has seen widespread application in medicine, oral health status has not generally been conceived in those terms. Studies of oral health status have been firmly grounded in the measurement of tissue pathology characterized by the use of numerous clinical indicators with minimal attention to the impact of this pathology on social and psychological function. The significant lack of and need for social indicators and a comprehensive approach to measuring the social and psychologic impacts of dental disease has been highlighted in several recent reports.[2,3] Quality of life is concerned with "the degree to which a person enjoys the important possibilities of life". A person's oral health status can affect them

physically, psychologically and influence how people enjoy life; how they look, speak, chew, taste and enjoy food, socialize, self-esteem, self-image and feelings of social well-being.[4] Oral health related quality of life is now considered as an essential component of assessing oral health of individuals and populations as well as health care outcomes with emphasis on psycho-social impacts.[5] Most of the research on oral health related quality of life (OHRQoL) has been performed with adults in developed English-speaking countries.[5,6] Socio-dental indicators are measures of oral health-related quality of life and range from survival, through impairment, to function and perceptions. They measure the extent to which dental and oral disorders disrupt normal social functioning and bring about major changes in behaviour such as inability to work or attend school, or undertake parental or household duties. The Oral Impacts on Daily Performance (OIDP) is a newly developed indicator that attempts to measure oral impacts that seriously affect the person's daily life.

It is based on the WHO conceptual framework for the International Classification of Impairments, Disabilities and Handicaps which was modified for dentistry by Locker in the year 1988.[4]

Material and Methods

This Descriptive cross-sectional study was conducted among students attending the various non-professional bachelor degree colleges of Darbhanga Medical College and Hospital Laheriasarai, Darbhanga, Bihar. A pilot study was conducted on a convenience sample of the representative population and sample size was determined by the formula $n = z^2 p q / d^2$, $n = 4 \times 48 \times 52 / (4.8)^2 = 520$. The sample size was rounded to 600 to deal with any drop outs. The validity and reliability of the Oral Impacts on Daily Performance (OIDP) as well as the feasibility of study was assessed. The required modifications were done and the difficulties experienced were overcome by redesigning the proforma, which was later used for conducting the study. The stability of Oral Impact on Daily Performance scale was assessed by test-retest reliability. The first 10% of respondents who were interviewed and examined were again contacted after a week and undertook the same procedure. The level of agreement of the overall OIDP scores was good (80%). students were selected based on proportionate sampling. Then stratified random sampling technique was used to draw samples from various strata (Ist IInd and IIIrd year) of each college. Students with orthodontic bands and those suffering from any systemic diseases were excluded from this study. Students were interviewed first individually, in a separate room of the concerned college. Later clinical examination was conducted with the students seated on an ordinary chair in a separate room to maintain privacy under natural day light by another investigator. Data was collected using a specially designed pretested proforma. Survey proforma was categorized into three parts; First part consisted of recording the general information including name, age, sex etc. second part consist of components of Oral impacts on daily performances and the third part consist of details of clinical dental status.

This scale measures the physical, psychological and social aspects of performances. Physical performance includes eating, drinking, cleaning teeth, speaking, and physical activities. Psychological performances include sleeping, smiling, and emotional stability, Social performances includes major role activity (carrying out work) and contact with people. Before asking about effect on daily performances, global self-report indicator of oral conditions was measured by the item: E.g.: How do you grade the present condition of your mouth and teeth? (1-Excellent, 2-Good, 3-Fair, 4- Poor, 5-Very poor). And perceived symptoms by subjects were recorded by nine items

(Bleeding gums, Ulcers, Bad breath, Tooth ache, Tooth sensitivity, Food impaction, Stained tooth, Missing tooth and Mal positioned teeth).[7-10,14] The diagnosis of dental caries was done using the WHO 1997 criteria [11]. Periodontal status and Loss of attachment was assessed by using Community Periodontal Index (CPI) [11] and Malocclusion status using WHO 1986 criteria[12].

Results

A total of 600 students were included in this study, out of which 375 (62.5%) were males and 225 (37.5%) females. The age ranged from 17-24 years. 376 (226, 60% - males, 150, 40%- females) students were in the age group of 17-20 years and 224 (149, 66.5%- males, 75, 33.5% - females) in 21-24 year age group. The prevalence of oral impacts on daily performance was 48.3% (one or the other problem). None of the subjects rated their oral health as very poor. Very less number of subjects (41) graded their oral health as excellent when compared to good (382), fair (134) and poor (43). The oral health was rated better in males compared to females and was found to be statistically significant as shown in table I. 449 (74.85) subjects stated that they were satisfied with their appearance. However, the satisfaction of appearance in between gender (male -271, 72.3%, female - 178, 79.1%) was found to be statistically non-significant $= 3.50, p = 0.06, NS$. Maximum number of subjects faced some or the other problem since last 6 months in mouth and teeth while cleaning the teeth (115) followed by eating (113), smiling (54), speaking (51) and drinking (45) as depicted in table II. Almost every day subjects had problem with eating (34), smiling (22), cleaning teeth (20) and speaking (16) in table III. The more perceived oral health deviation among subjects was malalignment of teeth (55.8%) followed by bleeding gums (22.7%) whereas the least perception was for missing teeth (2.5%) as shown in Graph 1. The mean DMFT was 1.3—1.9 (range- 0-9) and DMFS was 1.8— Graph 2 shows the distribution of other clinical findings of subjects. 388 (64.7%) students had malocclusion out of which 307 (51.2%) had 'slight malocclusion' and only 81 (13.5%) had 'moderate or severe malocclusion'. There was no significant difference observed between males and females. subjects among which males had more (35.7%) stains when compared to females which was found to be significant ($\chi^2 = 8.305, p < 0.05, S$). Sharp teeth were observed only in (3.3%) subjects and no difference were observed between males (3.5%) and females (3.1%) ($\chi^2 = 0.055, p = 0.81 NS$). Very less number of subjects had fractured teeth (6.3%). Males had more fractured teeth than females $= 4.83, p < 0.05 S$. Tooth wear was present among (12.5%) subjects $= 1.708, p = 0.19 NS$. 31 (5.2%) subjects had an inflamed operculum whereas only 1 case (0.2%) was detected with abscess when

oral mucosal conditions were observed. There was a significant relation between the clinical dental status

and perceived oral health status on daily performance.

Table 1: Table showing distribution of study population according to the grade of their present condition of mouth.

Grade	Male		Female		Total	
	n	%	n	%	n	%
1- Excellent	34	9.1	7	3.1	41	6.8
2- Good	241	64.3	141	62.7	382	63.7
3- Fair	71	8.9	63	28.0	134	22.3
4-Poor	29	7.7	14	6.2	43	7.2
5-Very poor	0	0.0	0	0.0	0	0.0
Total	375	100	225	100	600	100

Male vs Female $\chi^2 = 13.0$ $p < 0.01$ S

Table 2: Table showing distribution of study population according to how often they have problems with mouth and teeth in last 6 months

Performances	Difficulties			
	Yes		No	
	n	%	n	%
Eating	113	18.8	487	81.2
Drinking	45	7.5	555	92.5
Cleaning teeth	115	19.2	485	80.8
Speaking	51	8.5	549	91.5
Physical activities	6	1.0	594	99.0
Sleeping	1	0.5	79	99.5
Smiling	54	9.0	546	91.0
Emotional stability	9	1.5	591	98.5
Carrying out work	16	2.7	584	97.3
Social contact	17	2.8	583	97.2

Discussion

Quality of life (QoL) is increasingly acknowledged as a valid, appropriate and significant indicator of service need and intervention outcomes in contemporary public health research and practice. It is especially useful for evaluating efforts to prevent disabling chronic diseases and assessing their effectiveness.

where students from different types of socio-economic status and various cultural backgrounds are studying. In the present study, among 600 students it was observed that about 63.7% were perceived that their present condition of mouth was 'good' and only 22.3% and 7.2% perceived 'fair' and 'poor' respectively. It may seem somewhat surprising that younger people perceive oral health as having a greater impact on their life quality than older people. Indeed, many of the quality of life indicators in dentistry have focused primarily on older age groups, partly on the assumption that they will have had a lifetime's experience of oral ill health and thus are likely to perceive oral health as having a greater impact on their quality of life. OIDP was developed in the year 1996, before it was called as Dental Impacts on Daily Life (DIDL).[15] OIDP was used first among low dental disease Thai population in 1996 [10] and in the year 2003 it was

used among Tanzanian students[7]. In the present study the Oral Impacts on Daily Performances were mainly induced by pain, discomfort and appearance. The impact of oral status on 10 aspects of daily performances in this study were considerably, consistent with two other studies,[7,10] except these two studies used a scale of 8 and 9 respectively. In the present study 'drinking' was added to the previous scale as most of the subjects complained tooth sensitivity during drinking water in the pilot study. The present study raised an issue towards unexpectedly high prevalence (48.3%) of young adults who reported that an oral problem had affected one daily performance in 6 months preceding the survey. Although the participants had relatively fair oral health, their quality of life was adversely affected by oral problems. Our study prevalence was in concurrence with other study report of Masalu JR et al (51%)[7] and was higher than that of studies conducted by Astrom AN et al (18.3%)[16] as well as Soe KK et al (15.8%)[17] However some studies showed a higher prevalence compared to ours (73.6%, 73%).[6,10] In the present study, it was observed that high frequency of impacts was on smiling, physical activities, speaking, eating, and social contact performances, whereas sleeping, carrying out work, cleaning teeth, emotional stability, drinking water were with a low

frequency, consistent with the study conducted among Thai population.[10] Apart from methodological differences such as the variations in the measures of oral health related quality of life that has been used, there are several reasons as to why the prevalence of oral impacts could vary between populations. First, as the prevalence and severity of oral conditions vary among populations in different countries, they may also experience oral impacts related to different aspects of their lives in varying frequencies. Secondly, people of different social, cultural and ethnic groups differ in their perception of what aspects of their oral health will affect their quality of life. These observations confirm with the well-established distinctions that medical sociologists have made between the concepts of disease, which is defined by the people who experience an episode of disease. It highlights the need for oral health to be considered in the same way that general health is seen, not simply as the absence of disease but rather as a positive resource for life. Such concepts are particularly important for developing health policy, and they are becoming critical issues as the dental profession seeks to become more accountable to community and consumer needs.[22-28]

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