INTRODUCTION

Health and disease have been a major concern for the humans since ancient times, however, the use of the term ‘health’ to define the well-being of an individual is recent. The World Health Organisation (WHO), stated health as “a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity”[1] Any standards for the measurement are not yet developed. Mortality trends, life expectancy and measurement of morbidity are still the most common descriptors of health. Measurement of Quality of Life has been developed in order to address broader aspects of health.

Recent changes and additions in the definition of health and measurement of health status have a very little affect on the profession. The profession has remained relatively narrow clinically in its approach oral health equalising health with disease, being the reason why dentistry has always been immune to broadening its concept of health. So now it is important to know that quality of life (QoL) measures are not just a substitute of measuring outcomes associated with the disease but are adjunct to them.

Dental caries is a major public health problem in most of the developed and developing countries affecting 60-90% of school children and majority of adults. Dental caries can lead to pain and can also have a negative impact on the quality of life of an individual. Sequelae of dental caries like pain, infection, loss of tooth and difficulty in chewing can impact day to day activities like recreation, communication etc.[2][3]

One’s Quality Of Life (QOL) can be affected if the oral health is worsened. So, the Quality of Life can be described as the perceptions of their position in life in the context of culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns” (WHO, 1995). The concept of quality of life (QoL) is used to evaluate general well-being and includes all emotional, social and physical aspects of an individual’s life. [4] Increasing acknowledgement about the fact that quality of life is also an important outcome of dental health care has lead to increase in

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**ABSTRACT**

**Background:** The concept of quality of life is used to evaluate general well-being and includes all emotional, social and physical aspects of an individual’s life. Oral diseases are not usually fatal, but can affect the ability to eat, speak and socialize without active disease or embarrassment and contribute to ones’ general well-being.

**Aim and objective:** To assess the relationship between clinical measure of dental caries and oral health related quality of life.

**Methods:** Cross-sectional data from all the patients attending the OPD at the dental institution was collected. A 14-item Oral Health Impact Profile to assess oral health related quality of life was used and clinical examination was done to record DMFT according to WHO criteria 2013.

**Results:** The prevalence of caries was 74%. The most prevalently affected OHIP-14 question was individual being self-conscious due to oral problems (80%), followed by individual being uncomfortable to eat food due to oral problems (78%). There is positive correlation between the caries and oral health related quality of life which is not statistically significant.

**Conclusion:** Clinical indicator of oral health status; dental caries has an impact on Oral health related quality of life.
MATERIALS AND METHODS

Oral diseases predominantly consists of tooth decay or periodontal diseases and its impact on the individual and society is considerable in terms of pain and distress, loss of function and compromised quality of life. Daves et al (1976) proclaimed that apart from pain and life-threatening cancers, oral diseases are mainly of cosmetic concern without any impact on social life. It was later in the late 1980s OHRQoL concept started to gain more acceptance and started to evolve as an important part of health as more evidence grew of the impact of oral disease on general health. Furthermore, the Global Oral Health Program by WHO in 2003 emphasized on OHRQoL as an integral part of general health and well-being.

OHRQoL is a multidimensional construct that includes a subjective evaluation of the individual’s oral health, functional well-being, expectations and satisfaction with care, and sense of self. In essence, oral disorders can affect various aspects of life, including oral function, appearance interpersonal relationship and daily activities and therefore the ‘goodness’ or ‘quality of life’.[6]

The Oral Health impact Profile (OHIP-14) is one of the instrument which measures the populations’ take on the social impact of oral diseases on their general well being. It covers seven thoughtfully and conceptually framed dimensions that are based on the locker’s theoretical model of oral health. The seven dimensions are: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap. The hierarchy of the dimensions covers outcomes in the way that have an increasingly destructive impact on the individual’s lives.

Thus, the present study was undertaken to assess the effect of variable of dental caries on oral health related quality of life among adult residents of the Muradnagar, Ghaziabad.

MATERIALS AND METHODS

Study design and study settings: A descriptive cross sectional study was conducted to assess dental caries and its effect on oral health related quality of life on 50 adult residents of Muradnagar

Inclusion criteria: All the patients visiting the outpatient department (OPD) of a teaching hospital, above the age of 18yrs, who gave a written consent were included.

Questionnaire: A specially prepared questionnaire was administered to the population to know the demographic variables. 14-item Oral Health Impact Profile (OHIP) was interviewer administered to assess Oral health related quality of life. For each of the 14 OHIP questions, study subjects were asked how frequently they had experienced the impact in the preceding 12 months. All the questions were explained in their local language verbally and the answers were recorded by the examiner itself. Responses were made on a Likert-type scale and coded; 4 = “very often”, 3 = “fairly often”, 2 = “occasionally”, 1 = “hardly ever”, 0 = “never”.

Clinical Examination: Clinical examination was done to record the DMFT of all the study subjects visiting the OPD of ITS Dental College according to the WHO Oral Health Assessment form (2013).[10]

Statistical Analysis

Descriptive statistics such as mean, standard deviation and percentage was used. Association was evaluated using chi square. Pearson’s correlation coefficient was used to assess the association between components of DMFT and OHIP-14. Any-value less than 0.05 were considered as significant.

RESULTS

The present study was conducted on 50 patients reporting to the OPD of ITS Dental College, Muradnagar. The population of interest was aged between 18 to 60 years with the mean age of 37.78 ±14.14 years. The study population comprise of equal number of males and females. Among the 50 people studied, maximum people were having a salaried job i.e. 32%, followed by housewives (30%), unemployed (20%), daily wage workers (10%) and only 8% of the study population were businessmen, as shown in Table 1.

Oral health related quality of life

The table 2 shows the assessment of oral health related quality of life using OHIP 14 questionnaire which has 7 subscales. The data collected and evaluated revealed that the 86% of the population studied was never unable to function because of problems with their teeth or mouth followed by 76% of the population reporting that they never had trouble pronouncing any words because of the problems with their teeth, mouth or dentures. On the other hand 80% of the population reported that they have been self-conscious because of their teeth or mouth followed by 78% of the population reporting that they found it uncomfortable to eat any food because of problems with their teeth or mouth and also found that they have been embarrassed because of problems with their teeth or mouth followed by 74% of the people reported that they had painful aching in their mouth and 70% of the people reporting that they felt tense and also have a bit irritating with other people because of problems of their teeth or mouth.

Figure 1 describes the mean value of the respective subscales with highest being psychological discomfort (3.3) followed by physical pain (3.26) and least value for the domains of social disability (1.64) and handicap (1.06).

Correlation between the caries status, age and OHIP 14

Among the 7 subscales of OHIP 14, 5 of them (functional limitation (0.023), physical pain (0.174), psychological discomfort (0.246), physical disability (0.117) and psychological disability (0.132)) had a positive correlation with the caries status while the rest 2 subscales i.e. social disability (-0.034) and handicap (-0.108) had a negative correlation. All the 7 subscales had a negative correlation with the age. The overall OHIP score had positive correlation with the caries status (0.133) and negative correlation with the age (-0.242) with the mean score of overall OHIP being 7.67±10.
Table 1. Demographic characteristics of the study population

<table>
<thead>
<tr>
<th>Variables</th>
<th>Age Group (years)</th>
<th>Gender</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-40</td>
<td>41-60</td>
<td>60+</td>
</tr>
<tr>
<td></td>
<td>32 (64)</td>
<td>18 (36)</td>
<td>10 (20)</td>
</tr>
</tbody>
</table>

Table 2. Distribution of responses for OHIP 14

<table>
<thead>
<tr>
<th>Items</th>
<th>Never (%)</th>
<th>Hardly ever (%)</th>
<th>Occasionally (%)</th>
<th>Fairly Often (%)</th>
<th>Very Often (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you had trouble pronouncing any word because of problems with your teeth or mouth.</td>
<td>38 (76)</td>
<td>6 (12)</td>
<td>3 (6)</td>
<td>1 (2)</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Have you felt tense because of problems with your teeth or mouth.</td>
<td>10 (20)</td>
<td>12 (24)</td>
<td>11 (22)</td>
<td>11 (22)</td>
<td>6 (12)</td>
</tr>
<tr>
<td>Have you had difficulty doing your usual job because of problems with your teeth or mouth.</td>
<td>25 (50)</td>
<td>7 (14)</td>
<td>15 (30)</td>
<td>1 (2)</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Have you been embarrassed because of problems with your teeth or mouth.</td>
<td>17 (34)</td>
<td>15 (30)</td>
<td>11 (22)</td>
<td>6 (12)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Have you had any food in your mouth requiring you to interrupt meals because of problems with your teeth or mouth.</td>
<td>18 (36)</td>
<td>8 (16)</td>
<td>19 (38)</td>
<td>2 (4)</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Have you had to have your diet unsatisfactory because of problems with your teeth or mouth.</td>
<td>22 (44)</td>
<td>13 (26)</td>
<td>12 (24)</td>
<td>1 (2)</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Have you had to have your sense of taste worsened because of problems with your teeth or mouth.</td>
<td>32 (64)</td>
<td>8 (16)</td>
<td>8 (16)</td>
<td>2 (4)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Have you found it uncomfortable to eat any food because of problems with your teeth or mouth.</td>
<td>11 (22)</td>
<td>8 (16)</td>
<td>20 (40)</td>
<td>7 (14)</td>
<td>4 (8)</td>
</tr>
<tr>
<td>Have you found it difficult to relax because of problems with your teeth or mouth.</td>
<td>10 (20)</td>
<td>12 (24)</td>
<td>11 (22)</td>
<td>11 (22)</td>
<td>6 (12)</td>
</tr>
<tr>
<td>Have you felt tense because of problems with your teeth or mouth.</td>
<td>15 (30)</td>
<td>7 (14)</td>
<td>19 (38)</td>
<td>7 (14)</td>
<td>2 (4)</td>
</tr>
</tbody>
</table>

DISCUSSION

The present study was conducted among the patients attending the OPD to mainly correlate the oral health indicator i.e. caries status with the oral health related quality of life. In the present study, physical pain was most commonly and positively related, in contrast to the study conducted by Ingle et al (2010)[12] in Chennai, where it was related with the missing component. Psychological disability in the study was positively related to the caries status, whereas in the study conducted by Ingle et al (2010)[12] in Manipal where physical pain was related to decayed teeth. Caries status was related to the impact on life of these people since it leads to pain, food lodgement, difficulty in mastication and to carry out daily routine activities which is perceived by patients as physical and psychological discomfort. Functional limitation in the present study was positively correlated with the caries status in contrast to the study conducted by Ingle et al (2010)[12] in Chennai, where it was related with the missing component. Psychological disability in the study was positively related to the caries status, whereas in the study conducted by Ingle et al (2010)[12] in Chennai, it was correlated only to the missing component. Social disability and handicap were negatively correlated with caries status, the most possible reason for being that the most people who were considered under the study already had the problems with their teeth.

The OHIP 14 score was positively correlated with the caries status in our study. The study shows that there is a need to improve the knowledge and oral hygiene practices to prevent
the occurrence of oral diseases. The lack of attitude and carelessness towards one’s oral health has a negative impact on the quality of life, tending to more physical pain and psychological discomfort. Therefore, it is important to focus on improving the attitude towards preventive mechanism which would in return reduce the negative impact of dental caries on the quality of life.[9]

CONCLUSION

Oral health related quality of life (OHRQoL) has an important impact on the clinical practice of dentistry and dental research. OHRQoL is a multidimensional paradigm. The study demonstrated prevalence of dental caries in the study population, which was positively related to their quality of life. Patient oriented surveys like OHIP-14 will improve our knowledge and understanding of the relationship between oral health and general health and demonstrate to clinical researchers and practitioners that improving the quality of a patient’s well being go beyond simply treating oral conditions.

Limitations

The possible limitation is the smaller sample size which resulted in the not so significant correlation between the different variables and also social desirability bias could be possible limitation.

References