ABSTRACT

Background: Oral health has an impact on general health, self-esteem and quality of life, but it often has a low priority in the context of mental health and in some phases of illness, the priority may be nonexistent. Patients with psychiatric illness have poor oral hygiene than general population. Very few studies have been reported regarding the oral health among Indian psychiatric inpatients.

Aim: To assess the oral health status of long-term psychiatric inpatients in a psychiatric institute and to evaluate the treatment requirements of psychiatric inpatients for maintaining the oral hygiene.

Materials and methods: Psychiatric inpatients were examined and data was collected using the WHO standardized dental evaluation form in the psychiatric institute.

Results: One hundred and forty-one patients (53% female; mean age: 36.56 ± 13.26 years; 47% male; mean age: 37.36 ± 12.49 years; length of illness: More than 5 years, 35.5%; less than 5 years, 64.5%) were included in the study, 73% being schizophrenics. Dental caries was found in 55.3% patients. Calculus was present in 94.3% patients. Missing teeth was found in 22.7% patients. Mucosal lesions and oral ulcers were seen in 5.7 and 1.4% of total examined patients respectively. Percentages of patient requiring extractions were 34.8%, oral prophylaxis 98.6%, conservative treatment 31.9% and prosthesis 20.6%. Age was significantly correlated with number of decayed (r = 0.294, p < 0.01) and missing teeth (r = 0.436, p < 0.01). Length of illness was significantly correlated with number of decayed (r = 0.256, p < 0.01) and missing teeth (r = 0.229, p < 0.01).

Conclusion: Oral health is an important and integral part of health care. Members of multidisciplinary team should be encouraged to assist psychiatric patients in maintaining their oral health with good oral hygiene and access to dental treatment taking into account their special needs.

Keywords: Oral health, Treatment needs, Psychiatric inpatients, Schizophrenics.


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Conflict of interest: None declared

INTRODUCTION

Oral health has an impact on general health, self-esteem and quality of life, but it often has a low priority in the context of mental health and in some phases of illness, the priority may be nonexistent. Psychiatric illness has been proved by many studies to influence oral health. These groups of patients have poor oral health than general population. The dental health of the general population has been consistently reported to be poor all over the world. For instance, it was found that the mean number of decayed teeth in the general population of Norway was 4.9. Similarly, dental caries (43.2%) and periodontal diseases (34.8%) were common in an Indian community. The prevalence of dental caries was 76.6% in a national survey of China.

Poor oral health has been reported among various psychiatric populations, such as acute patients in an inner city psychiatric unit, institutionalized and psychogeriatric patients and the homeless mentally ill. Various diagnostic groups including schizophrenia, bipolar disorder, major depression and mental retardation, are at risk of developing dental problems. A sizeable proportion of psychiatric patients do not have good oral health habits, such as regularly visiting a dentist or brushing their teeth. The perceived need for dental care among psychotic patients is low and only a small proportion are aware of the caries-inducing potential of psychotropic drugs. The apathy of carers and the staff and administrators of long-term facilities and the inaccessibility of dental services, aggravate existing dental problems.

Poor oral hygiene along with psychiatric medications manifests into dental hard tissue and oral mucosal disorders. Most common being dental caries (tooth decay) and periodontal diseases (gum disease). The reason of high caries activity in psychiatric patients had been related to irregular eating and oral hygiene habits in combination with xerostomia. Oral health behaviors like tobacco use and brushing habits have been associated with depression and psychological factors. Depression has been consistently associated with smoking and psychological factors were significant predictor of plaque accumulation. Tooth brushing was more neglected among psychotic patients compared with nonpsychotics.

Psychiatric disorders affecting dental health include dental anxiety, dental phobia, psychosis, eating disorders (anorexia and bulimia nervosa), alcohol and substance abuse and mood disorders. Dental problems may be associated with both positive and negative symptoms of schizophrenia.
Teeth are sometimes incorporated into delusions and hallucinations. These include delusions of pain, oral infestation by worms or insects or bizarre delusions. Those who are dependent on drugs or alcohol often neglect their personal hygiene and dietary needs and may live in poor social conditions, all of which contribute to poor oral health. Bruxism (tooth grinding), gingivitis and tooth abscesses are more common in those with alcohol dependency. Smoking cigarettes and drinking alcohol increase the risk of carcinoma of the oral cavity. Those who take illicit opioids may require more analgesia than expected. Psychomotor retardation may result in a person with depression neglecting their oral hygiene.\textsuperscript{17}

Reporting of dental problems needs a multidisciplinary approach. Most members of the multidisciplinary team or carers will be able to recognize some dental problems. When a patient refuses to eat or unexplained changes in behavior occur, oral health problems should be considered as a potential cause.\textsuperscript{17} Very few studies have been reported regarding the oral health among Indian psychiatric in-patients. This study aims to examine the oral health status of psychiatric inpatients predominantly institutionalized with chronic schizophrenia.

MATERIALS AND METHODS

The study was performed in a psychiatric institute. The survey was conducted in 10 adult psychiatric wards from July 2011 to September 2011. All the consenting patients were examined using a standardized dental evaluation form (World Health Organization, 1997). Basic demographic and clinical data were recorded from case record file of individual patient.

The intraoral examinations were conducted by a single examiner throughout the study. The examinations were performed using sterile plain mouth mirror, explorer and CPI probe under artificial illumination and no other investigations or interventions were done on the participants.

This was a hospital-based cross-sectional study. Descriptive statistics was used to examine the demographic, clinical and dental health variable. Where the data was continuous we have used mean and standard deviation and where the data was discrete/in frequency $\phi$ (phi) coefficient was used for correlation. The level of statistical significance was set at 0.05.

RESULTS

One hundred and forty-one patients were included in the study. The age range of patients was 16 to 75 years with mean age of $36.93 \pm 12.87$; among them 53% were females and 47% were males. Sixty-four (64.5%) patients were having less than 5 years of length of illness and 35.5% patients were having more than 5 years of length of illness and psychiatric diagnoses included schizophrenia (73%), bipolar affective disorder (mania; 17%), bipolar affective disorder (depression; 4.3%), substance dependence (5.7%). Data on educational level was available, 54.6% were literate and 45.4% were illiterate. Data on marital status revealed 36.2% unmarried, 39% married and 24.8% separated. Thirty-one percent (31.2%) were from urban area, 38.3% were from rural area, whereas 30.5% were from peri-urban area. Almost 89% (88.7%) were unemployed (Table 1).

In the present study, only 1.9% patients with schizophrenia had healthy periodontium, 94.2% had calculus, 2.9% had mucosal lesions (candidiasis, leukoplakia, etc.) and 1%

<table>
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<th>Age range (mean)</th>
<th>16-75 years, 36.93 ± 12.87</th>
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</thead>
<tbody>
<tr>
<td>Gender (male)</td>
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<td>46.8</td>
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<tr>
<td>Gender (female)</td>
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had xerostomia. On an average, two teeth per patient were decayed and one tooth per patient was missing. In bipolar affective disorder (mania) patients 4.2% had healthy periodontium, 95.8% had calculus and 12.5% had mucosal lesions. On an average, one tooth was found decayed and missing per patient in this set of patients. In bipolar affective disorder (depression) and substance dependence cases all the patients had calculus, 16.7 and 12.5% had mucosal ulcers respectively. Oral ulcers were seen mostly in patient (25% cases) and one tooth per patient was found missing in patients with substance dependence. Hence, our study suggests that patients’ irrespective of their psychiatric illness have poor oral health and hygiene (Table 2).

On treatment need domain, 34.8% patient needed extraction, 98.6% needed oral prophylaxis, 31.9% needed conservative treatment and 20.6% needed prosthesis. Patients’ age was significantly correlated with the number of dental extraction required ($\phi = 0.397$, $p < 0.001$), number of missing teeth ($\phi = 0.436$, $p < 0.001$) and number of decayed teeth ($\phi = 0.29$, $p < 0.001$; Table 3).

**DISCUSSION**

A total of 141 psychiatric inpatients in the age group of 16 to 80 years formed the study population, between the age group of 0 and 19 only six participants were there, followed by the age group of 61 to 80 (nine participants), between 41 and 60 (33 participants) and maximum participants, i.e. 93 were between the age range of 20 and 40. Recently, a study on 250 psychiatric patients from various rehabilitation centers in Bengaluru has been

![Fig. 1: Mean decayed, missing and filled teeth (DMFT) of patients with various psychiatric diagnoses](image-url)
reported. Their study sample comprised of the age group of 50 to 75 years and above, among them 192 (77.2%) participants aged between 50 and 64 years, 36 (14.4%) were of 65 to 74 years age group and there were only 21 patients aged 75 years and above. In another study 180 psychiatric patients were examined in two general hospitals in Davangere, Karnataka, of which 58.3% were males, mean age was 36.7 years. In a study at Pune, oral hygiene of 103 male psychiatric patients was recorded with mean age of 34.4 years.

Psychiatric diagnoses included schizophrenia (73%), bipolar affective disorder (mania; 17%), bipolar affective disorder (depression; 4.3%) and substance dependence (5.7%). Similarly, Tang et al have also predominantly studied subjects with schizophrenia (80.2%).

In the present study, only 2.1% cases were having healthy periodontium. Finding of the present study was similar to Kenkre and Spadigam, and Tang et al. They have also found that only 1.2 to 5% of an institutionalized psychiatric population in India had healthy periodontium. Whereas, Gurbuz et al and Teng et al have reported that 8.8 to 10% of psychiatric subjects had healthy periodontium.

We found that 95% cases had calculus. Finding of the present study was contradictory in some aspect of the findings of Gurbuz et al and Teng et al, who have reported that 31 to 51.8% psychiatric cases had dental calculus.

In the present study, dental caries was found in 55.3% (n = 78), number of caries varied from 1 to 14 with a mean of 3.70. The mean number of missing teeth was 1.38 ± 4.27 with mean DMFT (decayed, missing, filled, teeth) of 3.45 ± 5.17. Present findings are consistent with previous findings of Mirza et al and Gowda et al, who have reported that 65 to 75.3% of acute psychiatric patients had dental caries. Tang et al also reported dental caries per patient from 1 to 28 with a mean of 5.5 ± 6.1. Similarly, Gowda et al and have reported a mean DMFT of 4.49 but Nosouhian et al reported mean DMFT as 11.02. Findings of the present study are contradictory to Velasco et al and Tang et al. They have reported higher mean of number of dental caries (eight) and mean number of missing teeth (9.5-17).

In our study, patients’ age are significantly correlated with the number of dental extraction required, number of missing teeth and number of decayed teeth, which are similar to the findings of Tang et al. Similarly, other previous studies have also reported that age is a predictor of poor oral health. Length of hospitalization has also been a predictor of poor health and our findings were consistent with Angelillo et al and Thomas et al.

In the present study, 34.8% patient needed extraction, 98.6% needed oral prophylaxis, 31.9% needed conservative treatment and 20.6% needed prosthesis. Similarly, Kumar et al have also reported that 29.9% psychiatric patients required extraction, 18.9% required restorative care and 87.6% required oral hygiene instructions and oral prophylaxis. In contrast, other studies have reported that higher prevalence (54-80.7%) of cases needed extraction, 78.8% cases required conservative dental treatment and 68.1% cases needed denture.

Limitations of this study include small sample size, heterogeneity in diagnosis, cross-sectional design and the lack of a matched control group. As patients were recruited from a psychiatric inpatient unit, findings of the survey may not apply to long-term rehabilitation hospitals, psychiatric outpatient units of general hospitals.

CONCLUSION

Oral health is an important and integral part of health care. Members of multidisciplinary team should be encouraged to assist psychiatric patients in maintaining their oral health with good oral hygiene and access to dental treatment taking into account their special needs. Psychiatric inpatients in Ranchi have poorer oral health, hence, it is necessary to intensify preventive dental care in this vulnerable population.

REFERENCES

Oral Health Status and Treatment Needs of Psychiatric Inpatients in Ranchi, India


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