

Study Protocol

Evaluation Of Oral Health And Associated Factors In Patients With Various Psychiatric Disorders In Indian Population

Abstract:

Background: In addition to physically healthy living, mental health is equally important. It affects people from all walks of life and occurs at all socioeconomic levels. The number of people suffering from mental disorders worldwide is estimated to be approximately 450 million. Every individual should understand that poor oral health affects general health regardless of the cause.

Objectives: This study is designed to assess the oral health status of patients with a range of psychiatric problems in the Indian population and to find out the correlation of oral health and related constituents in these patients.

Methodology: Patients visiting the outpatient department of the hospital (AVBRH, Wardha) diagnosed with any of the psychiatric disorders will be evaluated. Extra oral and intraoral assessments will be performed and information will be recorded. Statistics will be analysed using the ANOVA test.

Results: There might be correlation between oral health and associated factors in the various psychiatric disorders.

Conclusion: A non-discriminatory guideline which addresses the needs of these patients irrespective of their illness, financial state, and other restrictions is required. Provisions can be made so that oral health need assessment of these patients is included in general health assessment. Health promotion programs could be created in collaboration with health, social and voluntary organizations. Early attention with a multidisciplinary team is the goal.

Keywords: Oral Health, Psychiatric Disorders, intraoral assessments, mental disorder.

Background:

Mental health is one of the rudimental ingredients of healthy living. In the United Nations Constitution of the World Health Organization, health is defined as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. Various studies have shown that mental health impacts physical health, and physical health impacts mental health. Both are essential for maintaining better health.¹ Psychiatric disorders affect people from all socioeconomic groups around the world and affect over 450 million people worldwide.²

The meta-analysis conducted by Reddy and Chandrashekar estimated that there were 58 mental disorders per 1,000 people in India. Ganguli estimated it to be 70.5 (rural), 73 (urban) and Jay Kumar stated it in South Asian countries as one hundred and twenty two per 1,000 persons.³ South Asia is home to 22 million people, including India, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka and Afghanistan, creating a quarter of the world's population. About 150-200 million people in South Asia suffer from mental illness, or one fifth of the total number around the world. These countries are largely united by similar social, political and religious values. Almost all of the countries of South Asia fall under the category of developing economies with limited resources. Most of these countries do not consider mental health to be a major concern. The issue of insufficient resources for treating mental health problems is also widespread in South Asian countries. South Asian

governments spend less than one percent of their total health budgets on mental health. Health enhancement for people with mental illness is very important.

A person's overall health is directly related to their oral health, regardless of whether they suffer from mental illness or not. There is a strong correlation between oral health problems and medical conditions such as cardiovascular disease, type 2 diabetes, low birth weight, aspiration pneumonia, osteoporosis, including rheumatoid arthritis.⁴

Psychosocial factors including the type, severity, and lack of awareness of oral health, difficulty in obtaining health care, after-effects of psychotropic medications, poor diet, and lack of professional awareness can make people more prone to oral diseases. The reason for the difficulties these people face in receiving dental treatment is their inexperience, lack of motivation, apathy, low willingness to cooperate, difficulty adapting to new prosthetic devices, mobility issues, fear of treatment, poor communication, and financial concerns.⁵ The complex interrelationship between socioeconomic factors, illness, and its treatment will affect self-care, leaving oral health on the back burner.

There is insufficient awareness of dental pathology among psychiatrists and about the psychological impacts of oral disease among their patients. The good news is that there are several studies that show that people with psychiatric disabilities will have better oral health and hygiene if they are taught, instructed, and reminded, and that adaptive education can help them acquire new skills.⁶⁻⁹

Study by Teng¹⁰ et al concluded that only 40 % of 19,609 patients visited the dentist. More and more people are realizing the importance of oral health. Further, poor oral health can negatively impact eating, nutrition, speech, quality of life, confidence and self-image.

Kebede B¹¹ has reported poor oral health conditions among these patients in Southwest Ethiopia.

India has few published data on the oral health of those suffering from psychiatric disorders. A comprehensive data on all the components of the stomatognathic system including the soft and hard tissues of the oral cavity and temporomandibular joint is required. These findings will be used to review the patients' oral health status and find correlation with associated factors and identify dental treatment needs.

Objectives:

- To evaluate the status of oral health for individuals suffering from various psychiatric disorders in Indian population.
- To find correlation between oral health status as well as associated factors among these patients.
- To identify the magnitude of the oral health problem, as well as how to treat it.

Methods:

Study design: A cross-sectional observational study is being carried out at the department of Psychiatry at a regional hospital in Central India after approval from the institutional ethics committee.

Study population, sample size: Patients visiting the outpatient department of the Acharya Vinoba Bhave Rural Hospital (AVBRH), Sawangi (Meghe), Wardha, Maharashtra, India diagnosed with any of the psychiatric disorders will be evaluated. All the patients visiting during a period of 6 months will be evaluated. This study will be explained to participants, their guardians and caregivers as well as the psychological clinic staff. The participants

meeting the inclusion criteria will be enrolled only after obtaining their guardians' or caregivers' written consent since they have a reduced ability to consent.

The sample consists of patients referred to the department of psychiatry for the duration of 6 months.

Selection criteria:

1. Patients diagnosed with any type of psychiatric disorder.
2. Patients aged greater than 22 years.

Data collection procedure: A case study form is prepared to obtain comprehensive data on all the components including socio demographic data, thorough examination of oral cavity and temporomandibular joint. We will record age, gender, occupation, marital status, education level, and mental illness duration as demographic variables. In addition to mental disorders, patient records will record medications used and diagnoses of mental disorders.

Oral hygiene habits, toothbrushing frequency, smoking and drinking habits, psychiatric disorders, and sweet intake habits will also be recorded as factors predisposing to oral health problems.

As required by the WHO protocol, experienced dentists will conduct oral examinations. This will cover information on teeth, periodontium, tongue, lips and cheek, floor of mouth and palate mucosa, saliva, condition of natural and artificial teeth, occlusion and oral hygiene.

Decayed, Missing and Filled teeth (DMF-T) index for dental caries status and Community Periodontal Index (CPI) for periodontal assessment will be used.

Tooth wear will be monitored by Smith and Knight Tooth wear index.

Temporomandibular joint evaluation will be done according to Helkimo's Index for tenderness in joint and muscles of mastication, joint sounds, and deviation of the jaw and limitation of jaw movement.

Statistical analysis of the data will be done by descriptive analysis, ANOVA test and multiple regression analysis using SPSS software.

Expected Results:

There might be correlation between oral health and associated factors in the various psychiatric disorders.

Discussion:

According to **Lewis S. and co-authors (2001)** research, the total number of hospitalized individuals who participated in the study was 469. Of those, 326 (70%) went through the study. Subjects in the study were 71.1 years of age on average. The prevalence of dementia was 47 percent, schizophrenia was 23 percent, and depressive illness was 19 percent. In addition to assessing oral health, periodontal health, and caries prevalence, the examination focused on oral hygiene. A population-wide treatment need assessment was also conducted. Sixty-three percent of the population is considered edentulous according to a recent study. Dental hygiene was poor among dentates, and periodontal disease was rare. Scaling and polishing treatments were primarily needed.⁹

In cross-sectional surveys conducted by **Stevens et al. (2010)**, it was found that psychiatric patients' oral health is poorer than that of the general public, being more likely to have dental caries as well as poorer periodontal health. Their study has evaluated the oral health requirements of inner-city psychiatric patients visiting a dedicated dental clinic. Prior to

opening the hospital's dental clinic, and five months later, a questionnaire was conducted on inpatient wards about oral health. After establishing a dedicated dental clinic for inpatients, patients' perspectives regarding oral health, behaviors contributing toward good oral health, and understanding of access to dental services improved. In some cases, oral health promotion and treatment may be possible in psychiatric institutions. An important component of inpatient care is often overlooked. As a result, oral health promotion may have been influenced by the clinic and its services.

Adeniyi et al. (2011) conducted a study, in which one hundred and five consecutive outpatients were observed in the department of psychiatry of the Lagos State University Teaching Hospital (LASUTH) between October and December 2008. The participants ranged in age between 14 and 76 years. One out of every two respondents in the study population (1 in 1.23) was female. The majority of respondents (33%) were 46 years and older.

Table 1. An overview of the study population's socioeconomic characteristics

Treatment method	N	%
Restoration	50	47.6
Extraction	32	30.5
Periodontal therapy	93	88.6
Prosthesis	10	9.5

In their study, they found that psychiatric outpatients in Nigeria have poor oral health. Researchers have found that oral health should be taken into account as part of the overall care of psychiatric patients.

The study conducted by **Biruktawit Kebede and colleagues (2012)** involved 240 participants. The study was conducted from January to May 2011. DMFT scores for patients with mental illness were 1.9461 ± 2.12 (mean \pm SD) with decayed teeth being 1.28 ± 1.69 , missed teeth being 0.51 ± 1.19 , and filled teeth being 0.14 ± 0.48 (mean \pm SD). CPI scores were healthy in only about 24% of the patients with psychiatric disorders. DMFT scores of 2 or higher were significantly associated with poor teeth brushing technique (AOR=3.58; 95% CI: 1.65, 7.79). Eating sweets increased the risk of dental caries (AOR=2.91; 95% CI: 1.43, 5.95). Furthermore, smokers were statistically associated with dental caries (AOR =18.98; 95% CI: 5.06, 71.24). Based on their findings, they determined that mental illness patients had poor oral health. In order to protect psychiatric patients' oral health, oral hygiene education must be provided to them which will encourage them to avoid sugary foods, quit smoking, and use the correct brushing technique.

Using a national representative sample, **Teng et al. (2016)** examined oral health care utilization among severely mentally ill individuals. Study data were gathered from Taiwanese National Health Insurance Research data for 2009. A sample consisted of individuals with serious mental illness (ICD-9-CM: 290–298), and another sample was made up of control subjects. When it comes to dental care utilization, any dental visit was considered positive. For each diagnosis of severe mental illness, regression analyses were conducted, controlling for potential covariates and comparing the odds of dental care utilization with those in the general population. The average number of patients with severe mental illnesses visiting a dentist within a year was 40 percent. Compared to the control population, where the rate of visits to the dentist is 48.3 %, this is a significant reduction. Severely mentally ill individuals don't receive as much dental care as the general public. Caretakers of patients with severe

mental illness, as well as health care providers, need to promote regular dental care among those who suffer from mental illness.

As part of a cross-sectional study, **Di Ying Joanna Ngo and colleagues (2018)** investigated dental caries experiences, dental treatment requirements, and dry mouth experiences among one ninety one long-term psychiatric infirmity patients in Singapore. Medical history, dental caries experience (determined by the Decayed Missing or Filled Teeth Index [DMFT]), salivary flow, and treatment needs were noted by the physician. The survey included questions about brushing, pain (while eating), and xerostomia. Researchers used bivariate analysis to determine the relationship between DMFT, saliva flow, and salivary gland hypofunction (SGH) and xerostomia. The association between SGH and DMFT was examined using simple linear regression. There were 143 men (74%) and 48 women (25%) in the sample, between the ages of 24 and 80. One hundred and ninety-six patients (88.5%) were diagnosed with schizophrenia. There was a range of DMFT values, ranging 0 to 32, and with a mean of 21.6 (SD 9.7). Males and elderly patients scored significantly higher on the DMFT. SGH was detected in 77 out of 176 patients (43.8%). SGH and DMFT appear to be related. The mean saliva flow was significantly lower in those taking antipsychotics and anticholinergics. A total of 107 out of 165 people (64.8%) experienced xerostomia. Psychiatric inpatients in Singapore with long-term mental health disorders suffer from severe oral health problems, inadequate treatment, and oral dryness, according to these findings. Dangore et. al. reported on prevalence of oral mucosal disorders in institutionalized and non-institutionalized psychiatric patients¹². Studies related to psychiatric disorders and health needs were reviewed¹³⁻¹⁷.

Researchers hope to gain a better understanding of how mental illnesses may affect oral health among the oral health professionals through the findings of this study. A general health assessment of these individuals can include an oral health assessment. Patients with various psychiatric disorders could be given health promotion programs to aid in the improvement of their oral health.¹⁸⁻²¹

Conclusion:

Oral health care can help with overall wellness and improvement in quality of life. This study will give an insight to Oral Health professionals regarding how mental illness affects the oral health of people. A non-discriminatory guideline which addresses the needs of these patients irrespective of their illness, financial state, and other restrictions is required. Provisions can be made so that oral health need assessment of these patients is included in general health assessment. Health promotion programs could be created in collaboration with health, social and voluntary organizations. Early attention with a multidisciplinary team is the goal.

Ethical approval

A cross-sectional observational study is being carried out at the department of Psychiatry at a regional hospital in Central India after approval from the institutional ethics committee.

Consent

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

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