Dental Health Requirements for Psychiatric Patients

Lt Col EM Gowda*, Lt Col PS Bhat⁺, Col MM Swamy[#]

Abstract

Background: This study was conducted to assess the dental treatment requirements of psychiatric patients in comparison with the non psychiatric patients admitted in the hospital.

Methods: A total of 103 hospitalised psychiatric patients were examined with an equal number of non psychiatric hospitalized patients.

Result: 73.22 % of psychiatric patients exhibited higher caries index along with higher decayed missing filled teeth (DMFT) as compared to 68.31% in the control group. The incidence of periodontal diseases were significantly higher among the study group than the controls. There were statistically significant correlation between smoking, family pattern, calculus index and gingival index amongst psychiatric patients.

Conclusion: There was a higher incidence of caries index, missing teeth and less filled teeth among psychiatric patients, indicating extensive dental treatment requirement for this group.

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Key Words : Dental caries; Periodontal disease; Psychiatric patients

Introduction

Oral health is an integral part of general health. It promotes self confidence and improves the quality of life. Troops deployed in counter insurgency operations are subjected to higher level of stress and are vulnerable to various psychiatric ailments. They are often prone to dental neglect due to adverse effects of antipsychotic drugs.

Material and Methods

The study group comprised of 103 hospitalized psychiatric cases, deployed in counter insurgency operations, while an equal number of non psychiatric patients hospitalized in other wards with comparable age formed the control group. With permission from the concerned authorities a detailed personal, medical and dental history was recorded. Clinical examination was conducted in the ward. Each patient was examined under artificial light using mouth mirror, explorer and periodontal probe.

The variables like the domicile, family pattern, per capita income, educational status, smoking and tobacco chewing habits were included. Data recorded included the decayed, missing, filled tooth (DMFT) index and the involved decayed surfaces index i.e. DMFST, calculus index, plaque index, gingival index and periodontal index. The data was subjected to Chi square test and students't test for statistical analysis and the difference was significant ($p < 0.05$).

Results

The study group comprised of 103 psychiatric patients,

all male with mean age of 34.4 years and with an average service of 10.12 years. The control group comprised of equal number of non psychiatric patients with a mean age of 33.92 years and an average service of 9.63 years. Smoking and tobacco chewing were the most prevalent oral habits, in both groups.

73.22% of study group exhibited caries, with a mean DMFT of 4.49, as compared to 68.31% among the control group. Mean number of missing teeth were predominant in 38.57%, decayed teeth in 30.52% and filled teeth in 4.30%. The control group had missing teeth of 35.82%, decayed teeth in 25.93% and filled teeth index of 6.59% (Table 1).

There was neglected restorative care with 69 % requiring treatment for carious and missing teeth. The need for restorative care was recorded at 30.52% for one surface and 47.41% for two or more surface restorations, which was higher as compared to the non psychiatric patients.

11% of the study population exhibited healthy gingival status, while bleeding from gingiva was recorded in 34.73%. 91.26% had calculus with 67.9% having shallow pockets and

Table 1

Details of mean decayed, missing, filled teeth (DMFT), decayed teeth (DT), missing teeth (MT), and filled teeth (FT)

Status	Psychiatric patients		Controls		Comparison of means	
	%	Mean	%	Mean	p value	Significance
DMFT	73.22	4.49	68.31	4.26	0.783	NS
DT	30.52	1.87	25.93	1.52	0.795	NS
MT	38.57	2.36	35.82	1.97	0.772	NS
FT	4.30	0.26	6.59	0.76	0.711	NS

*Classified Specialist (Prosthodontics), Air Force Institute of Dental Sciences, Bangalore 560007. ⁺Classified Specialist (Psychiatry), Command Hospital (Central Command), Lucknow. [#] Dy Commandant, Command Military Dental Centre (Southern Command), Pune.

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32.09% deep pockets. Among the control group, 18.5% exhibited healthy gingival status, while incidences of bleeding gingiva and shallow pockets were high at 61.9 % and 71.62% as compared to psychiatric patients, which was statistically significant (Table 2).

In psychiatric patients, there were statistically significant correlation between family pattern of the individual and the Gingival Index. There was also significant correlation between smoking, calculus index and gingival index (Table 3).

Discussion

Psychiatric disorders affect the general behaviour of a person, impair level of functioning and alter perception towards oral health. Eating and sleeping patterns take precedence over personnel hygiene, making them susceptible to many oral diseases [1]. Regular oral hygiene practices and eating procedures were observed by the study group contrary to irregular oral hygiene practices as reported by others [2-5]. This can be attributed to the early reporting of psychiatric cases in the defence set up and constant supervision by the managing staff in such cases. The present study revealed caries prevalence of 30.52% in the study group, which is less than the missing teeth in the same group. The control group exhibited caries prevalence of 25.93%. This is in accordance with other studies [2,4,6-10]. It could be attributed to irregular eating habits and improper oral hygiene practices along with xerostomia, among psychiatric patients.

Table 2

Percentage representation of periodontal status among the study population.

Status	Psychiatric patients	Controls	p value	Significance
Healthy	10.67	18.44	0.172	NS
Bleeding gums	34.73	61.90	0.023	S
Calculus	91.26	83.49	0.655	NS
Shallow pockets	67.90	71.62	0.794	NS
Deep pockets	32.09	28.37	0.649	NS

Table 3

Statistical correlation between the variables and sub variables among the psychiatric patients

Variable	Sub variable	DMFT		Calculus index		Plaque index		Gingival index		Periodontal index	
		p value	Significance	p value	Significance	p value	Significance	p value	Significance	p value	Significance
Domicile	Rural/urban	0.085	NS	0.252	NS	0.240	NS	0.479	NS	0.718	NS
Family pattern	Nuclear/Joint	0.086	NS	0.745	NS	0.398	NS	0.000	S	0.437	NS
Per capita income	Upto Rs 4000/- and > Rs 4000/-	0.678	NS	0.914	NS	0.481	NS	0.625	NS	0.137	NS
Smoking	Smoker/Non-smoker	0.734	NS	0.042	S	0.077	NS	0.009	S	0.321	NS
Tobacco chewing	Yes/No	0.805	NS	0.624	NS	0.384	NS	0.302	NS	0.996	NS
Education status	Upto Matric/Above Matric	0.697	NS	0.706	NS	0.728	NS	0.380	NS	0.464	NS

* Rs = Rupees

Missing teeth of 38.57% among study group and 37.79% in controls is in agreement with other studies [2,5], indicating there was rapid progress of caries to a point where extraction becomes necessary which may be attributable to xerostomia and negligence.

Further the F or filled component was almost non-existent (4.3%), reflecting negligence towards dental treatment in spite of availability of dental services and routine dental inspection conducted annually. The control group exhibited marginally higher incidence of the filled teeth index at 6.59%. This situation may be attributed to inability of the psychiatric patients to describe the symptoms. This is in contrast to Vigild et al [6], wherein high prevalence of filled teeth has been reported among psychiatric patients and accredited to regular dental treatment of those patients.

The present study also revealed that there was no statistical correlation between the domicile, per capita income, tobacco chewing and the educational status in this group. There was a statistically significant correlation between the family pattern, gingival index and amongst smoking – gingival index and calculus index ($p < 0.05$). This can be attributed to the decrease in the flow of saliva due to smoking. The non immune and immune (secretory immunoglobulin A) components of the saliva provide an initial protective barrier against the periodontal diseases. These results were in accordance with the studies done by Belting et al [11].

The present study also revealed a higher prevalence of periodontal diseases particularly shallow pockets of 67.9% and deep pockets of 32.09% in accordance with other similar studies [2,5-7,10,11]. However, the control group exhibited increased shallow pockets of 71.62% but lower prevalence of deep pockets at 28.37%. Jackson et al [1], reported that the altered quality and quantity of saliva, altered oral microbial flora, endocrine dysfunction and reduced resistance to infection among these patients lead to higher incidence of periodontal diseases. The control group also exhibited higher

incidence (61.9%) of bleeding gums as compared to 34.73% among the study group which was statistically significant. About 92 % patients of this study group required some kind of gingival / periodontal treatment which was similar to the findings of Barnes and Hede [2,12], while the control group exhibited lower prevalence with 83.49% patients requiring intervention.

This study revealed a relatively poor oral health status with inadequate restorative and periodontal care in psychiatric patients. The following suggestions are made to improve oral health status of the psychiatric patients.

- Specific preventive dental programs should be made an integral part of psychiatric treatment and care.
- The dental inspection and treatment protocol of troops should be carried out meticulously.
- Application of appropriate preventive measures like topical fluoride application, fluoride mouth rinses and chlorhexidine mouth rinses.
- Better coordination between medical, dental and unit administration to serve the needs of this group of patients.

Conflicts of Interest

None identified

References

1. Jackson E. Psychiatry and Dentistry. In: Kaplan HI, Freeman AM, Saddock BJ editors. Comprehensive Text Book of Psychiatry. 5th edition. Lippincott: Williams and Wilkins, 1980: 2069-77.
2. Hede B. Oral health in Danish hospitalized psychiatric patients. Comm Dental Oral Epidemiol 1995; 23: 44-8.
3. King V. Facilitating oral hygiene in patients with chronic Schizophrenia. J Am Dent Assoc 1979; 99: 644-5.
4. Tang WK, et al. Oral health of psychiatric in – patients in Hong Kong. International Journal of Social Psychiatry 2004; 50: 186-91.
5. Sjogren R, Nordstrom G. Oral health status of psychiatric patients. Journal of Clinical Nursing 2000;9 : 632-8.
6. Vigild M, et al. Oral health and treatment needs among patients in psychiatric institutions for elderly. Comm Dental Oral Epidemiol 1993; 21: 169-71.
7. Angelillo IF, et al. Dental health and treatment needs in institutionalized psychiatric patients in Italy. Comm Dental Oral Epidemiol 1995; 23: 360-4.
8. Rekha R, Hiremath SS. Oral health status and treatment requirements of hospitalized psychiatric patients in Bangalore city: A comparative study. J Indian Soc Pedo Prev Dent 2002; 20: 2: 63-7.
9. Stiefel, et al. A comparison of the oral health of persons with and without chronic mental illness in community setting. Special care in dentistry 1990; 10: 6-10.
10. Ilyas M, et al. Oral health of psychiatric in patients. British Journal of Psychiatry 2001; 25: 143-5.
11. Belting CM, Gupta OP. The influence of psychiatric disturbances on the severity of periodontal diseases. J Periodontal 1961; 32: 219-20.
12. Barnes GP, et al. Dental treatment needs among hospitalized adult mental patients. Spec Care Dent 1998; 8: 173-7.

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