

ORAL HEALTH STATUS AND DENTAL TREATMENT NEEDS AMONG NON-INSTITUTIONALIZED PSYCHIATRIC PATIENTS

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ABSTRACT

Objectives: To describe the oral health status among non-institutionalized patients with chronic psychiatric illness receiving long-term anti-psychotic and anti-depressant medications and to compare the oral health status with a similar group without such history.

Methods: Forty psychiatric outpatients were selected as a study group on the having chronic psychotic illness and on neuroleptic medications for at least 2 years. The control group consisted of 40 healthy dental patients who were selected to match the study group by age and gender, and for both groups 20 teeth excluding the third molars should be present. Demographic characteristics, smoking and brushing habits in addition to dental examination including decayed, missed filled teeth, plaque index and periodontal treatment needs according to the Community Periodontal Index of Treatment Needs were recorded for each patient in both groups.

Results: Psychiatric diagnosis for the study group revealed that 57% were having schizophrenia and 43% mood disorders, the mean duration of illness was 11 years. The mean age was 34.8yrs for the study group and 34.6yrs for the control group with a male female ratio of 1:1 in both groups. Dry mouth was the chief complaint among 40% of the psychiatric patients while dental pain was the main complaint among 60% of the control group. The mean indices for the study vs. control groups were as follows, (9.07 vs. 8.65) for the decayed-missed-filled-teeth, (1.96 vs. 1.55) for the plaque index and (2.3 vs. 1.97) for the periodontal treatment needs. Filled teeth and plaque index score-0 were significantly greater in the control group, while plaque index score-3 and periodontal treatment need score-1 were significantly greater in the study group. About 47.5% of the psychiatric patients were smokers compared to 30% of the control group. Regarding brushing habits, 50% of the psychiatric patients never brushed their teeth while 60% of the control groups brush their teeth once or twice daily.

Conclusion: Oral health status of chronic psychiatric outpatients seems to be worse than that of the mentally healthy population. Mental health professionals should pay more attention to dental care and oral health needs of the psychiatric outpatients.

Key Words: Psychiatric outpatients, Oral health, Dental treatment needs

JRMS June 2006; 13(1): 27-31

Introduction

Psychiatric patients are prone to develop dental problems. This may be part of the general physical ill health associated with mental illness ⁽¹⁾, as a result of general self-neglect, poor diets, lack of exercise and heavy smoking ⁽²⁾. Psychological disturbances can lead patients to neglect oral hygiene with the resultant un-

favorable effect on teeth, oral mucosa ⁽³⁾ and periodontal diseases ⁽⁴⁾. Many patients suffering from long-term psychiatric illness are on medication for long periods of time. These medications frequently cause xerostomia leading to an increased risk of oral diseases in particular caries and periodontal disease.

Several studies have been conducted to assess dental

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Manuscript received October 28, 2004. Accepted January 6, 2005.

status of acutely ill in-patients in psychiatric hospitals. They reported poor oral health among hospitalized patients with mental disorders compared with the general population^(5,6). One study was conducted on psychiatric outpatients in a military hospital in Jordan, but it was mainly concerned with oral mucosal health among those patients and without comparing it with mentally healthy people⁽⁷⁾. The aim of the present study was to describe and compare the oral health status and dental treatment needs among non-institutionalized patients with chronic psychiatric illness receiving long-term anti-psychotic and anti-depressant medications with a similar group without such history.

Methods

The study group for this investigation consisted of 42 psychiatric patients who were regular attendants of the psychiatric clinics at Prince Hashim Military Hospital (PHMH) and Princess Aisha Medical Complex (PAMC). Patients were selected after reviewing their medical files, only those who had chronic psychotic illness (as diagnosed according to International Classification Disease (ICD)-10⁽⁸⁾) and had been on xerogenic medication for at least two years and having at least 20 teeth excluding third molars were included in this study. The diagnosis, medication, and duration of the psychiatric illness were recorded for each patient within the study group.

For the control group, 40 dental patients who attended the general dental practice clinic at the same hospitals were selected to match the study group by age and gender, and also on the basis of being medically healthy and having at least 20 teeth excluding third molars.

For each patient in both groups, the following data were recorded: age, gender, marital status, occupation, education level, income, and smoking habits. These data were recorded by the psychiatrist for the study group and by the dentist for the control group.

The dental examination for both groups was carried out at the dental clinic and included the chief complaint, brushing habits, DMF (Decayed, Missed, Filled teeth), Plaque index⁽⁹⁾ for all buccal and lingual surfaces of all teeth present according to the following criteria: 0=no plaque; 1=plaque visible only when scraped by an explorer; 2=visible plaque; 3=heavy plaque accumulation. In addition to the Community Periodontal Index of Treatment Needs (CPITN)⁽¹⁰⁾ in which the full dentition is divided into 6 segments, three in each jaw (1 anterior and 2 posterior), only the highest score in any given sextant of teeth examined is recorded as follows: 0=healthy periodontium (no treatment); 1=bleeding on probing (only oral hygiene instruction OHI); 2=calculus and iatrogenic marginal irritation (OHI and scaling); 3=shallow pockets up to 5mm (OHI and scaling); 4=deeper pocket from 6mm (OHI and scaling and complex periodontal treatment). Data for each index were pooled and analyzed by the use of students t-test. P value < 0.05 was considered statistically significant.

Results

Out of the 42 patients who accepted to participate in the study group, two patients were excluded because they had less than 20 teeth. The mean age was 34.77 years for the study sample, and 34.57 years for the control sample. Male to female ratio was 1:1 in both groups. Other demographic data are listed in Table I, more study subjects than control were single or divorced (17.5% vs. 55%), 50% were illiterate or having elementary education compared to 22.5% in the controls, 50% were unemployed or unskilled workers compared to 17.5% in the control group. The average monthly income for the study and control groups was 167.5 vs. 251 JDs respectively.

All study subjects were suffering from psychotic illnesses, 57% were having schizophrenia and 43% mood disorder including unipolar and bipolar disorders. Duration of illness ranged from 2- 28 years with a mean of 11 years. All patients were on medication including haloperidol, chlorpromazine, thioxanthine, carbamazepine, flupentixol, sodium valproate, amitriptyline, clomipramine, and maprotiline. Oral and injectable preparations were used.

Ten patients (25%) from the study group were not aware of any dental complaint, while the major chief complaint of the remaining 30 patients was dry mouth in 16 patients (40%), followed by dental pain in 12 patients (30%) and bleeding gum in 2 patients (5%). For the control group, the major chief complaint was dental pain in 24(60%) patients followed by tenderness and bleeding gum 8 (20%); mobility of teeth 2 (5%); pericoronitis 2 (5%); fractured teeth 2 (5%); seeking orthodontic treatment and replacement of missing teeth 2 (5%).

The mean number of teeth present for the study group vs. the control group was (25.03 vs. 26.15). Dental findings according to the DMFT revealed that decayed and missed teeth were greater within the study group although not statistically significant, while filled teeth were significantly greater within the control group (Table II). Plaque index showed that PII0 (no visible plaque) was significantly greater within the control group while PII 3 (heavy plaque accumulation) was significantly greater within the study group (Table III). Periodontal treatment needs as reflected by the CPITN is presented in Table IV and revealed that there was no statistically significant differences between the two groups at any level of the index except for CPITN 1. However, the percentage of sextants that had been scored as 0 and 1 (require no treatment or just oral hygiene instruction) were greater in the control group while the percentage of sextants that had been scored, as 2, 3 and 4 were greater in the study group although statistically insignificant.

Differences in brushing habits between psychiatric patients and control are presented in Table V and revealed that 50% of the study group never brush their teeth, while about 60% of the control group brush their teeth once or twice daily. There were 19(47.5%) smokers in the study group and 12(30%) smokers in the control

group; differences in the amount and duration of smoking between the two groups are listed in Table VI.

Discussion

Oral health has an impact on general health, self-esteem and quality of life ⁽¹¹⁾, but it often has a low priority in the context of mental health and in some phases of illness, the priority may be non-existent. On the other hand, psychiatric illness had been proved by many studies to influence oral health. Most of these studied were conducted on subjects from in-patient psychiatric wards ^(6,12). Few studies were conducted on psychiatric outpatients, Stiefel et al compared groups with and without mental illness in community settings and found that those with chronic mental illness had a significantly higher incidence of self-reported dry mouth, plaque and calculus ⁽³⁾. Another study was based on questionnaire and concerned only with schizophrenic outpatients in which it was also concluded that those patients have poor oral health than general population ⁽¹³⁾.

The subjects of this study were psychiatric outpatients living and treated in the community and most of them were well controlled and more cooperative, yet it was still found that they had a worse oral health and more treatment needs than the control group.

Indices were used in this investigation to assess the oral health status, the DMF-T to evaluate the cariological condition in terms of decayed missed and filled teeth in which it was found that the mean index was higher among the mentally ill patients (9.07) compared to control (8.65). The mean DMF-T of the mentally ill group in this study group was less than that of other studies concerned with psychiatric in-patients, which was 15.5 and 21.5 in Italy and Norway respectively ^(14,15). The means of decayed and missed component of the DMF-T were greater in the study group but the difference was not statistically significant, while the mean of filled teeth was significantly higher among the control group. Other studies found no significant difference in the missed and filled component of the DMF-S between psychiatric outpatients and normal population ⁽³⁾. The reason of high caries activity in psychiatric patients had been related to irregular eating and oral hygiene habits in combination with xerostomia ⁽¹⁵⁾.

Three indicators of periodontal disease status can be assessed by the CPITN, those are, gingival bleeding (score 1), calculus and periodontal pockets which are further subdivided into shallow 4-5mm (score 2&3) or deep >6mm (score4). As the index scores increased, the need for periodontal treatment also increased.

Our results revealed that CPITN-3 and 4 were scored in about 37% of the study group compared to 24% in the control group while scores 0,1 and 2 were greater among the control group, which means that more psychiatric patients than control are in need for periodontal treatment. The highest percentage of sextants in our study group was recorded for the CPITN score 2 which was 48.1%, this finding is consistent with the study of Velasco and Bullon who found that CPITN-2 got the highest percentage (43.8%) among psychiatric in-patients in Spain ⁽¹⁵⁾. While a high occurrence of deep pocketing (CPITN-4) was found among hospitalized psychiatric patients in Italy ⁽¹⁶⁾.

The most common side effect of psychiatric medication is a dry mouth (xerostomia) caused by reduced salivary flow. This has a significant impact on oral health, increasing the risk of dental caries, periodontal disease and oral infections ⁽¹⁷⁾. Our study subjects were on long term use of antidepressants and antipsychotic medication including tricyclic and tetracyclic antidepressants, phenothiazines and butyrophenones in oral and long acting injection preparations, and mood stabilizers. The subjective sensation of dry mouth was the chief complaint among 40% of our study group patients compared to none among the control group who were attending the dental clinic and seeking dental therapy for a variety of dental complaints. However, xerostomia was observed in 70% in the Jordanian psychiatric outpatients ⁽⁷⁾.

Some oral health behaviors were evaluated in our study such as tobacco use and brushing habits. Depression has been consistently associated with smoking ⁽¹⁸⁾, in this study, the mentally ill group smoked more and for longer duration than the healthy individuals. Psychological factors were significant predictor of plaque accumulation ⁽¹⁹⁾, this finding is consistent with our results since abundant plaque accumulation (score 3) was significantly higher among the study group, in addition tooth brushing was more neglected among the psychotic patients compared with the non-psychotics.

In conclusion, the results of this study revealed that oral health of psychiatric non-institutionalized patients seems to be worse than that of general population. There is a need for basic dental health education and access to dental care for the psychiatric outpatients.

Acknowledgment

The authors would like to thank Miss Amara Abu Al-Haija for her advice and help in the statistical analysis of this work.

Table I. Differences in demographic characteristics between study and control group

Demographic characteristics	Study Group	Control Group
Age range (Mean)	20-55yrs (34.77)	20-56yrs (34.57)
Marital S. (Single)	19 (47.5%)	7 (17.5%)
Marital S. (Married)	18 (45%)	33 (82.5%)
Marital S. (Divorced)	3 (7.5%)	0 (0%)
Total	40	40
Education (Illiterate)	4 (10%)	3 (7.5%)
Education (Elementary)	16 (40%)	6 (15%)
Education (High school)	16 (40%)	19 (47.5%)
Education (Collage)	4 (10%)	12(30%)
Total	40	40
Occupation (Housewife)	8 (20%)	13 (32%)
Occupation (Un-employed)	14 (35%)	5 (12.5%)
Occupation (Un-skilled)	6 (15%)	2 (5%)
Occupation (Skilled)	9 (22.5%)	10 (25%)
Occupation (Retired)	3 (7.5%)	10 (25%)
Total	40	40

Table II. Differences in the DMFT between the study and control group

DMF Index	Study Group No: 40			Control Group No: 40			P value
	No% of teeth	Mean	SD	No% of teeth	Mean	SD	
Decayed	191(19.08%)	5.23	4.63	139(13.25%)	3.63	3.12	1.60 NS
Missed	119(11.88%)	2.98	2.95	74 (7.07%)	1.93	1.99	1.05 NS
Filled	53(5.29%)	1.33	1.83	133(12.71%)	3.50	3.31	0.001 S
DMFT	363	Mean index 9.07		346	Mean index 8.65		
Teeth present	1001	Mean teeth 25.03		1046	Mean teeth 26.15		

Table III. Differences in the plaque index between the study and control group

Plaque Index	Study Group No: 40			Control Group No: 40			P value
	No% of surfaces	Mean	SD	No% of surfaces	Mean	SD	
PII 0	8 (0.39%)	0.05	0.22	104 (4.97%)	2.60	5.95	.008 S.
PII 1	613 (30.61%)	15.38	13.77	807 (38.57%)	20.68	12.03	.07 NS.
PII 2	831 (41.50%)	20.88	8.19	1087 (51.95%)	24.60	14.65	.16 NS.
PII 3	550 (27.47%)	13.95	13.84	94 (4.49%)	2.35	7.20	.00 S.
Total Surfaces examined	2002	Mean index 1.96		2092	Mean index 1.55		

Table IV. Differences in the CPITN between the study and control group

CPITN	Study Group No: 40			Control Group No: 40			P value
	No% of sextants	Mean	SD	No% of sextants	Mean	SD	
CPITN0	0	0	0	3 (1.25%)	0.08	.35	0.17 NS
CPITN1	36 (15.06%)	.90	1.46	66 (27.5%)	1.65	1.78	0.04 S
CPITN2	115 (48.11%)	2.83	1.92	112 (46.6%)	2.78	1.98	0.90 NS
CPITN3	68 (28.45%)	1.70	1.56	45 (18.75%)	1.15	2.03	0.17 NS
CPITN4	20 (8.36%)	.50	1.24	14 (5.83%)	.35	1.33	0.604 NS
Total sextant examined	239	Mean index 2.3		240	Mean index 1.97		

Table V. Differens in brushing habits between the study and control group

Brushing Habits	Study Group (No. %)	Control Group (No. %)
Never	20 (50%)	1(2.5%)
Occasional	10 (25%)	15 (37.5%)
Once daily	2 (5%)	9 (22.5%)
Twice daily	5 (12.5%)	15 (37.5%)
More than twice daily	3 (7.5%)	0

Table VI. Differens in smoking habits between the study and control group.

Smoking Habits		Amount cig/day			Duration (years)		
		<10	10-20	>20	<10	10-20	>20
Study (47.5%)	19	0	9 (47.36%)	10 (52.63%)	2 (10.52%)	12(63.15%)	5(26.13%)
Control (30%)	12	0	9 (75%)	3 (25%)	4 (33.33%)	6 (50%)	2(16.66%)

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