

Oral health in mentally ill patients attending the outpatient clinic of Taha Baasher Psychiatric hospital , Sudan. © 2018

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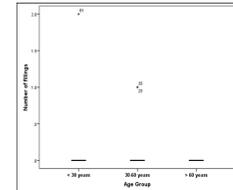
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Introduction:

- **Oral health** is a state of being free from mouth and facial pain , oral and throat cancer, oral infection and sores, periodontal disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.¹
- **Mental illness** is defined as health conditions involving changes in thinking, emotion or behavior (or a combination of these). it could be associated with distress and/or problems functioning in social, work or family activities.²
- 19 % of U.S. adults experience some form of mental illness ,4.1 % have a serious mental illness and 8.5 % suffered from substance use disorder.
- There is a great unmet need of physical health care for those suffering from mental illness due to many reasons including the reluctance of people with mental illness to access health care providers who may be unaware of the nature of mental illness & may have stigmatizing attitudes towards them.
- There is also the usual attribution of any physical complaint as arising from or due to mental illness. Provision and accessibility of dental health services is even less than general medical services and may be more expensive.^{3,4}
- **Untreated dental diseases** can lead to teeth loss such that people with severe mental illness have 2.7 times the likelihood of losing all their teeth, compared with the general population . Also chronic exposure to neuroleptic drugs can cause phenomena of bruxism . In which there is a direct correlation between tooth wear and administration of certain drugs.⁵
- The poor physical health faced by people with mental illness has been the subject of growing attention, but there has been less focus on the issue of oral health even though it is an important part of physical health and mentally ill patients are not an exception and usually face the same dental problem.⁶

Type of Oral Conditions

On the right, the figure and the table indicated that our study participants had not benefited from health care despite the oral conditions



Age Group	No Dentures	Total
< 30 years	39	43.3
30-60 years	42	46.7
> 60 years	9	10.0
Total	90	100.0

Principle and rules in recoding:

1-DMFT:

- 1- A tooth may have several restorations but it counted as one tooth. F.
- 2- A tooth may have restoration on one surface and caries on the other, should be counted as decayed D.
- 3- No tooth must be counted more than once, D M F or sound.

Calculation of DMFT \ DMFS:

I- For individual
DMF = D + M + F

2- For population
Mean DMF = $\frac{\text{Total DMF}}{\text{Total No. of the subjects examined}}$

Objectives:

General objective:

- To determine the status of oral health in outpatients attending Taha Baasher hospital

Specific objectives:

- To determine the types of oral health conditions in outpatients attending Taha Baasher hospital.
- To determine the factors associated to oral health in outpatients.
- To determine the association between oral health and the associated factors.

Methodology:

Study Design:

- An observational descriptive facility-based cross-sectional study implemented in 2017.

Study Area and Population:

- The study area was Taha Baasher Psychiatric Teaching Hospital located on Al-Said Ali Avenue in Bahri locality. The hospital had 6 units, with 1 rotating unit for outpatients through four working days and 2 units operating on Wednesday.
- Data was collected from patients > 18 years attending the outpatient clinic at the end of their meeting with their mental health professionals. The data were collected from Sunday to Wednesday ; Thursday devoted to child psychiatric outpatient clinic was not a data collection day as psychiatric children are excluded from our study.

Sampling Technique and sampling size:

- A purposive convenient sampling technique was used to recruit the study participants fulfilling the inclusion and exclusion criteria. Because of time constraint a sample size was estimated based on the formula $n = \frac{Z^2pq}{d^2}$, where n is the estimate sample size, Z is two standard deviations from the mean and set 1.96 for 95% confidence interval, d is the degree of accuracy set at 0.05, q=1-p, $p=0.10$, p was the proportion of outpatients with mental disorders and oral health presenting in Taha Baasher Teaching Hospital.

So this led to an estimated sample size was 139 patients.

Data Management and Analysis:

A Standardized research tool developed by the researcher was used to collect data related to

- Socio-demographic characteristics.
- Dental oral examination for calculating DMFT.
- Type and duration of psychiatric illness were extracted from patient records.

The statistical package for social sciences (SPSS 22) was used to analyze the collected data. The data was firstly summarized numerically (mean, standard deviation, median) and graphically (frequency tables for estimating proportion and graphics).

Association between categorical variables was determined through Chi-square tests; association between categorical and continuous variables was tested through ANOVA test. All the statistical tests will be considered significant when $p < 0.05$.

Results: Characteristics of the study population

Variable	Number	%
Gender (n=90)		
female	49	54.4
male	41	45.6
Age (n=90)		
below 30	39	43.3
30-60	42	46.7
over 60	9	10.0
Residence (n=90)		
rural	24	26.7
urban	66	73.3
Occupation (n=90)		
employed	33	36.7
unemployed	57	63.3
Marital Status (n=90)		
married	46	51.1
single	44	48.9

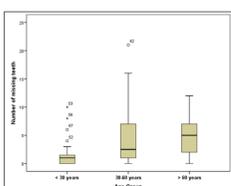
More than half of the participants were females

The 30-60 years were predominant followed by those < 30 years

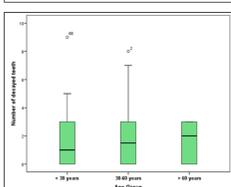
Of the 90 participants the majority lived in urban area

While more than half of the participants were unemployed, 51% are married.

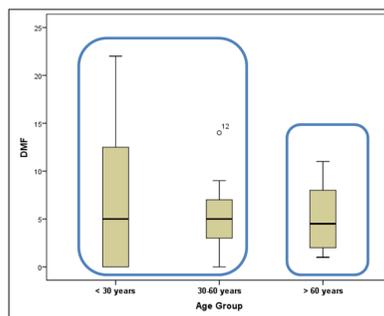
Type of Oral Conditions



The two left figures revealed that the number of missing teeth and the number of decayed teeth increased with age.



The need of oral health care existed in our study population



Across the age groups, the median DMFT was slightly lower in older participants (> 60 years) than in those < 30-60 years

DMFT was not statistically associated to the duration of the disease

DMF * Duration of illness	Sum of Squares	df	Mean Square	F	p-value
Between Groups	109.292	2	54.646	2.864	0.062
Within Groups	1659.997	87	19.08		
Total	1769.289	89			

DMFT was also not statistically associated to the conditions diagnosed

DMF * Diagnosis	Sum of Squares	df	Mean Square	F	p-value
Between Groups	121.168	11	11.015	0.521	0.883
Within Groups	1648.121	78	21.13		
Total	1769.289	89			

Discussion:

The sample consisted of 90 individuals from a calculated estimated sample size of 139, this reduction in number was due to the fact that many patients instead of attending the clinic themselves had a family member attend in their stead and/or refusal to participate in the study.

The median DMFT score in this study was 4.91 which was half of that of Native America⁷, Turkey¹², South Wales¹³, Belgrade¹⁵, Israel¹⁴, Catanzaro⁸ and Taiwan¹⁶ most probably due to the access to caregivers of the patients and availability of outpatient management system in our study. A lower DMFT score of 2.3 was reported by a study conducted in Nigeria²⁸.

The absence of dentures in Sudanese psychiatric patients was in line with the results found in Goa in India⁹.

This study was in accordance with the results of a study conducted in Spain¹¹ showing that the amount of missing teeth correlates with patient age, female gender and length of hospitalization. A similar study done in Virgen Macarena University¹⁰ revealed that all patients in need of a denture didn't have one.

A limitation of this study was its restriction to only one of the two major psychiatric institutions of the country. A second limitation was the purposive convenient sampling technique used.

However, the results of this study enabled to conclude that the DMFT scores of psychiatric patients were high and that a limited number of the patients had dental interventions . The high DMFT was mostly due to missing teeth and that none of the patients had dentures.

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