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Prevalence of Psychiatric Symptoms and Correlation Between Psychiatric Domain of ASI and Brief Psychiatric Rating Scale Among Patients with Substance Use Disorders in Northeastern Nigeria

Yerima Mukhtar Mohammed[1, 2, *], Onifade Peter Olutunde[3], Ibrahim Abdu Wakawa[4, 5], Pindar Sadique Kwajaffa[4, 5], Jidda Mohammed Said[4, 5], Musami Umar Baba[4, 5], Wakil Musa Abba[4, 5]

[1]College of Medical Sciences, Gombe State University, Gombe, Nigeria

[2]Department of Medicine, Federal Teaching Hospital, Gombe, Nigeria

[3]Neuropsychiatric Hospital, Aro, Abeokuta, Nigeria

[4]Department of Mental Health, University of Maiduguri, Maiduguri, Nigeria

[5]Federal Neuro-psychiatric Hospital, Maiduguri, Nigeria

Email address:

mukhtarym@gmail.com (M. M. Yerima), oniffpo@yahoo.com (O. P. Olutunde), abduwakawa72@yahoo.com (I. A. Wakawa), sadiquepindar@unimaid.edu.ng (P. S. Kwajaffa), msjidda@gmail.com (J. M. Said), ubmusami@gmail.com (M. U. Baba), bawakil@yahoo.com (W. M. Abba)

[*]Corresponding author

Abstract: The use of psychoactive substances is a common and ubiquitous behavior globally with considerable burden, mortality and morbidity. There is considerable degree of psycho-social, psychiatric and medical problems associated with the abuse of psychoactive substances. Few studies have examined the prevalence of psychiatric symptoms among patients with substance use disorders. Aims and Objectives: This study examined the prevalence of psychiatric symptoms and the concurrence of the Addiction Severity Index (ASI) psychiatric domain with Brief Psychiatric Rating Scale (BPRS). Methodology: a sample of 142 participants was selected purposively and administered the ASI and the BPRS after informed consent procedures. Results: The mean age of participants was 31 years (SD =8) and males were predominant (96.5%). The two most commonly used substances were Opioids (other than heroine) and Cannabis in 60.6% and 55.6% respectively. Twenty six (18.3%) patients reported depressive symptoms. Anxiety symptoms, Poor concentration, and suicidal thoughts were reported, respectively, by 30(21.1%), 17(12.0%), and 15(10.6%) patients. There was a strong positive correlation (r=0.862, p< .001) between the ASI psychiatric domain and the BPRS. Conclusion: participants had some symptoms of psychiatric disorders and there was a strong positive correlation between the ASI psychiatric domain and the BPRS.

Keywords: Prevalence, Psychiatric Symptoms, Substance Use Disorders, Concurrence ASI, BPRS

1. Introduction

The use of psychoactive substances, both licit and illicit including injection drug use, is a common and ubiquitous problem globally with considerable burden, mortality and morbidity [1]. Psychoactive substance use disorders are burdensome and costly disorders globally. Alcohol, for instance, is associated with 3.8% of all global deaths and costs high and middle-income countries about 1% of their Gross National Product (GNP) [2].

The extent of abuse of various substances varies from one country to another. In a recent international study, however, the age of onset, usually in adolescence to young adulthood, was similar cross-nationally [3]. In Nigeria the most commonly used psychoactive substance according to a community study was alcohol and both alcohol and tobacco were the most commonly used psychoactive substances among the middle-aged respondents [4]. There is considerable degree of psycho-social, psychiatric and medical problems associated with the abuse of psychoactive substances which result in distress to persons involved as well as their relations, including the unborn child in the case of maternal illicit drug users, and the society at large [5-11]. These problems when actively identified and specifically targeted for interventions (such as psychosocial and integrated medical treatments),could significantly improve the outcome of addiction therapy [12-15]. Psychiatric symptoms can occur in patients with substance use disorders due to a coexisting primary mental illness or they may be substance-induced [16-18]. Furthermore, if there is a coexisting mental disorder, establishing a causal relationship between substance use and the mental disorder is often difficult to decide in most cases. Evidence, however, is overwhelming in the causal relationship between cannabis use and schizophrenia [19-22], and alcohol use and depression [23, 24]. Whatever the relationship may be, identifying the psychiatric symptoms in patients with substance use disorders is the first step in delineating whether the symptoms are of primary psychiatric disorder or substance-induced and in planning subsequent interventions.

Few studies have looked at the prevalence of psychiatric symptoms or psychiatric disorders among patients with substance use disorders in Nigeria. This study examined the prevalence of psychiatric symptoms among patients with substance use disorders using both the psychiatric domain of the Addiction Severity Index (ASI) and the Brief Psychiatric Rating Scale (BPRS), and also examined the correlation between the two instruments. The ASI is a valid multi-domain instrument has been used extensively in both clinical settings and in the evaluation of the addiction treatment programs.

2. Aims and Objectives

The aim of the study was to examine the prevalence of psychiatric symptoms among patients with drug abuse and the correlation between the BPRS and the psychiatric domain of the ASI.

3. Methodology

A sample of 142 patients in the addiction wards (Detoxification, Rehabilitation) of the Federal Neuropsychiatric Hospital Maiduguri was included. Participants were recruited after informed consent had been obtained. The socio-demographic questionnaire was administered to all participants first to obtain data on

demographic variables. Thereafter, participants were randomized to either commence with the BPRS or the ASI. This was done by asking them to randomly choose small folded papers labeled "B" for BPRS or "A" for ASI. The "B" group were first administered the BPRS followed by the ASI. The reverse order was used for the "A" group and the time between administering the two instruments was between 6 to 24 hours. The existing algorithm for computing composite scores of ASI domains was used to compute the composite scores of the psychiatric domain of the ASI for all the participants. The 24 item BPRS was used and the total score computed for all participants.

The data generated from the above-detailed procedure were subjected to statistical analyses. The statistical package for social sciences version 20.0 was used for these analyses. Demographic variables were summarized using frequencies, percentages and means. Pearson's correlation coefficient was used to look at the relationship between the BPRS scores and psychiatric composite scores of the ASI. The Receiver Operating Characteristic (ROC) curve was also computed with BPRS Cut off point of 42 (corresponding to moderate psychopathology) [25]and Area Under the Curve (AUC) was obtained. Ethical clearance was given by the research ethics committee of the Federal Neuropsychiatric Hospital Maiduguri.

4. Results

The mean age of the study participants was 31 years (SD =8) and the range was 18-54 years. Males were the predominant gender in the study (96.5%). The distribution of the religions of the participants showed that most were Muslims (84.5%). More than half (54.2%) had primary or secondary education while the rest had higher education and up to 66.2% were never married. See table 1 for details of the socio-demographic characteristics of the study participants.

The mean number of days in which patients used more than one substance was 14.7 (SD=5.2) range 3-26 days and the mean number of days in which patients experienced drug problems in the past 30 days was 11.6 (SD=5.9). More than half (58.5%) of the patients were considerably bothered by the drug problems. The two most commonly used substances were Opioids (other than heroine) and Cannabis in 60.6% and 55.6% respectively of the respondents. See table 3 for a summary of the psychoactive substances used by the respondents. Participants experienced psychiatric problems in the past 30 days for an average of 5.07 (SD=6.88). Most, 106 (74.6%), of the patients reported no depressive symptoms while 10 (7.0%) had symptoms only when "high" or in withdrawal. Twenty six (18.3%) patients, however, reported depressive symptoms. Anxiety symptoms, Poor concentration, Violent behavior and suicidal thoughts were reported, respectively, by 30 (21.1%), 17 (12.0%), 6 (4.2%) and 15 (10.6%) patients. Only 4 (2.8%) patients reported having attempted suicide. See table 2 for details of the psychiatric symptoms experienced by patients.

There was a strong positive correlation between the

psychiatric domain composite scores of the ASI and the Brief Psychiatric Scale scores with Pearson's correlation coefficient of 0.862 (p < 0.001). The AUC for the psychiatric domain composite score was 0.946 (p=0.03), 95% CI 0.89-1.0.

Table 1. Socio-demographic profile of the study participants.

Variable	N=142	Frequency(N)	Percentage (%)
Gender	Female	5	3.5
	Male	137	96.5
Religion	Christians	22	15.5
	Muslim	120	84.5
Ethnicity	Shuwa-arab	11	7.7
	Hausa	14	9.9
	Kanuri	45	31.7
	Fulani	8	5.6
	Marghi	11	7.7
	Babur	28	19.7
	Yoruba	2	1.4
	Kare-kare	13	9.2
	Igbo	5	3.5
	Other	5	3.5
Education completed	Primary	11	7.7
	Secondary	66	46.5
	Post secondary	32	22.5
	First stage tertiary	33	23.2
Marital Status	Married	42	29.6
	Separated	2	1.4
	Divorced	4	2.8
	Never married	94	66.2
Occupation	Armed forces	9	6.3
	Professionals	8	5.6
	Technicians	24	16.9
	Clerks	9	6.3
	Services/Sales	5	3.5
	Skilled agric. workers	1	0.7
	Crafts and trades	18	12.7
	Plant operators	17	12.0
	Elementary occupation	19	13.4
	Unemployed	32	22.5

Table 2. Psychiatric symptoms of patients in past 30 days.

Psychiatric symptoms		Frequency(N)	Percentage(%)
Depressive symptoms	No	106	74.6
	Onlywhenhighorinwithdrawal	10	7.0
	Yes	26	18.3
Anxiety symptoms	No	95	66.9
	Onlywhenhighorinwithdrawal	17	12.0
	Yes	30	21.1
Hallucinations	No	94	66.2
	Onlywhenhighorinwithdrawal	10	7.0
	Yes	38	26.8
Poor concentration	No	115	81.0
	Onlywhenhighorinwithdrawal	10	7.0
	Yes	17	12.0
Violent behaviour	No	136	95.8
	Yes	6	4.2
Suicidal thoughts	No	127	89.4
	Yes	15	10.6
Suicidal attempts	No	138	97.2
	Yes	4	2.8
Extent of trouble by psychiatricProblems			
	Notatall	77	54.2
	Slightly	4	2.8
	Moderately	14	9.9
	Considerably	36	25.4
	Extremely	11	7.7
Importance of treatment for the psychological problems			
	Notatall	77	54.2
	Slightly	5	3.5

Psychiatric symptoms		Frequency(N)	Percentage(%)
	Moderately	16	11.3
	Considerably	29	20.4
	Extremely	15	10.6

Table 3. Pattern of drug use and drug use problems in past 30 days.

Drugs used		Frequency(N)	Percentage (%)
Heroine	Yes	8	5.6
	No	134	94.4
Methadone	Yes	0	0
	No	142	100
Other opiates(pentazocine, codeine, tramadol)	Yes	86	60.6
	No	56	39.4
Barbiturates	Yes	0	0
	No	142	100
Sedatives (Diazepam, Flunitrazepam)	Yes	52	36.6
	No	90	63.4
Cocaine	Yes	0	0
	No	142	100
Anticholinergic agents (Benzhexol)	Yes	14	9.9
	No	128	90.1
Cannabis	Yes	79	55.6
	No	63	44.4
Hallucinogenes	Yes	0	0
	No	142	100

5. Discussion

The mean number of days that patients had psychiatric/psychological problems was 5 days. The prevalence of the different psychological problems is detailed in table 3. The prevalence of symptoms of depression and anxiety symptoms in the sample was 18.3% and 21.1% respectively. It is unclear, however, whether patients had these symptoms as part of primary psychiatric disorders and probably using psychoactive substances to self-medicate or they were substance-induced. Nor is it known whether the patients were having withdrawal symptoms of psycho-active substances some of which result in dysphoric mood, reduced energy, poor concentration, anxiety e.t.c., that would be difficult to differentiate from depressive or anxiety symptoms. Indeed evidence, sometimes compelling, suggest that there could be a causal relationship between use of some psychoactive substances and some psychiatric disorders notably schizophrenia [19, 20] and depression [23, 24] with use of cannabis and alcohol respectively. The relationship between other psychiatric disorders and other psychoactive substances is less clear [1]. Whatever the association it is very important to factor in mental health problems in designing treatment plans for patients in this population as evidence suggests that improvement in psychological functioning of patients results in general improvement in outcome of patients including chemical abuse [26].

The prevalence of suicidal thoughts and suicidal attempts were 10.6% and 2.8% respectively and this was close to the findings of a cross national study of suicidal ideations, plans and attempts which reported a prevalence of 9.2%, 3.1% and 2.7% respectively [27]. Additional evidence suggests that the use of alcohol and other drugs, among other factors, was a strong predictor of suicidal behavior [28]. Addressing the suicidal behaviors in this population is important considering the influence of drugs on impulsivity [29] which may cause behavioral disinhibition in patients and probably tilt them towards completed suicides. It is also important to make an effort at teasing out the primary root of the suicidal tendency: is it due to a co-morbid mental disorder? Is it due to the direct influence of the substances? Or is it due to the socio-medico-legal problems arising from the substance abuse? There is evidence indicating that what predicts completed suicide among alcohol abusers was the degree to which they took precautions against discovery (on the suicide intent scale) rather than even hopelessness or depression [30]. Identifying this would have important implications for intervention. Exploring the extent of precaution taking using the suicide intent scale may be helpful towards this end. Thankfully the addiction severity index has domains that explore all these dimensions which may underpin the root cause of the suicidal behavior thereby making targeted interventions readily available such as Dialectical Behavior Therapy which has been shown to be effective [31]. There was a strong correlation between the Psychiatric composite scores of the ASI and the BPRS scores. The AUC for the psychiatric domain was also significantly high suggesting a concurrence between the two instruments. Previous studies have established the concurrence of the psychiatric domain of the ASI and other instruments such as mental health scale of SF-36 [32].

6. Conclusion

Patients with substance use disorders have a tendency to present with psychiatric symptoms which are wide and varied that may need to be assessed in the course of evaluation and

treatment of the substance use disorder. The psychiatric domain of the ASI is a valid way of making this assessment as well as the BPRS.

7. Limitations of the Study

The following are limitations of the study:

1. The study is a hospital- based study which may limit the generalization of the study to out-patients with addiction. Because participants in this study belong to different demographic groups may mean that this is likely to be a serious limitation.
2. This study only assessed symptoms rather than psychiatric disorders thereby making it difficult to make comparisons with studies that assessed prevalence of psychiatric illnesses among patients with substance use disorders.

Recommendations

1. Further studies should look at the nature of the psychiatric symptoms among patients with substance use disorders in terms of whether they are due to primary psychiatric disorder or they are substance-induced. Additionally, symptoms that are identified with any psychiatric domain of the ASI should be further assessed with diagnostic instruments.
2. Efforts should also be made in the future to ascertain whether psychiatric symptoms occur in intoxication, withdrawal, or during a period of heavy substance use or not. This will go a long way towards teasing out whether psychiatric symptoms are due to primary psychiatric disorder or they are substance-induced.

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