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SOCIO-DEMOGRAPHIC CORRELATES OF AGGRESSION AMONG PSYCHIATRIC IN-PATIENTS AT JOS UNIVERSITY TEACHING HOSPITAL

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Abstract

Background & Aims: The cause/s of aggression among psychiatric patients has been a controversial topic from time immemorial. Data on this is scarce in the undeveloped world. This prospective cross-sectional study sought to elucidate the socio-demographic variables associated with psychiatric in-patients admitted over a 13-month period at a tertiary hospital in Northern Nigeria.

Methods: 298 out of 300subjects who satisfied the inclusion criteria for the study period completed the study. Diagnosis was made with the ICD 10 research diagnostic criteria. A socio-demographic questionnaire and the Modified Overt Aggression Scale were administered to each subject. The data was analyzed using the Statistical Package of the Social Sciences (SPSS) at 5% level of significance and 95% confidence interval.

Results: Out of 298 analyzed, 58(19.5%) manifested at least one type of aggression. Most of the aggressive incidents were of the verbal (45) and physical type (40). The greatest proportion was carried out by patients suffering from schizophrenia (32.8%) and mania (23.4%). The "odds" for aggression was highest among patients with substance use disorder (39%). For patients suffering from substance use disorder, aggression is significantly associated with the younger age groups: 10-19yrs (X^2 = 5.146, df=1, p <0.05), 20-29 yrs (X^2 = 4.901, df = 1, p<0.05), 30-39 yrs (X^2 = 5.146, df=1, p <0.05); being married (x2 = 5.566, df=1, p <0.05), male gender (x2 = 5.097, df=1, p <0.05), lack of formal education (x2 = 10.168, df=1, p <0.05) and unemployment (x2 = 7.422, df=1, p <0.05).

In schizophrenic patients, aggression is significantly associated with: age groups 40-49yrs (X^2 = 4.901, df=1, p <0.01) and 60-69yrs (x2 = 3.577, df=1, p <0.01) and tertiary education (X^2 = 5.473, df=1, p <0.05). For Acute psychotic disorder patients, aggression is significantly associated with tertiary education (X^2 = 4.781, df=1, p <0.05).

Conclusion: Predicting and preventing violent acts among the mentally ill adds another difficult dimension to managing an already hydra-headed problem.

INTRODUCTION

Aggressive behavior in humans often assures the form of violent actions against others, who may avoid such acts or fight back. It can also be described as the intent to harm self, others or destroy property. Therefore this behavior is not merely an emotion or motive. Sigmund Freud viewed aggression as an instinctive behavior which stemmed primarily from the redirection of self destructive death instinct (Thanatos) away from the person himself and outwards towards others [(1)].

Lorenz maintains that aggression is an integral part of the basic human nature, and springs primarily from innate fighting instinct that human beings share with many often organisms and which presumably developed during the long course of evolution because it provided many benefits e.g. for the survival of the organisms [(2)]. On the hand, the

social learning theory of aggression emphasizes that aggressive behavior is learned through observation, shaping or a combination of the two [3]. This theory suggests that the roots of aggressions are varied involving the aggressor's experiences and learning and a wide range of external situation factors.

Some psychiatric patients exhibit aggression as part of their abnormal behavioral manifestations [4].
It can be expressed through verbal hostility such as statements or invectives that seek to inflict psychological harm or murder. Other forms of aggressiveness which have been documented include a sexual violent type as well as auto-aggression and suicide [5].

Even though many studies have been carried out on aggression among psychiatric patients in the developed world, the same cannot be said of the underdeveloped world including Nigeria. Unfortunately, ignorance and myth solely based on tradition and superstition have affected negatively the proper handling of these patients in this part of the world [4]. Considering the myriad of negative consequences of aggression towards all who have a stake in managing or relating with psychiatric patients, a scientific enquiry into the socio-demographic variables most associated with aggression among various categories of psychiatric patients has become imperative.

The objective of this study therefore is to study the relationship between socio-demographic variables and aggressive behavior among psychiatric in-patients at Jos University Teaching Hospital. It is hoped that this study will contribute to our understanding of some factors associated with aggression and hence improve our knowledge and management of these patients.

METHODOLOGY

A prospective, cross-sectional study of 298 psychiatric in-patients of Jos University Teaching Hospital (JUTH) was carried out within a period of thirteen months. It is important to note that what is presented in this paper "Socio-demographic correlates of aggression among psychiatric in-patients at Jos University Teaching Hospital" is part of that larger study.

Instruments

For this study, the instruments that were employed were:

(1) The Modified Overt Aggression Scale (MOAS)
(2) The International Classification of Diseases, 10th Edition (ICD-10)
(3) A self-designed, semi-structured self-administered questionnaire containing socio-demographic and psychiatric illness variables

The MOAS is a one-page protocol that documents and measures specific aspects of aggressive behaviour based on observable criteria [6]. The MOAS has 4 subscales of aggression (verbal aggression, aggression against property, auto-aggression and physical aggression against other people). For each sub-scale, one can score 0,1,2,3 or 4. This corresponds to no aggression, mild aggression, moderate aggression, severe and profound aggression for any particular subscale. Furthermore, weighs are attached to each subscale. The verbal aggression subscale has a weight of XI; hence any score on this subscale should be multiplied by 1.

Similarly, the subscale of aggression against property has a weight X2, auto-aggression subscale, X3, while the physical aggression subscale has weight of X4 attached.

The ICD-10 is a comprehensive classification system of medical conditions and mental disorders. It is one of the official medical and psychiatric nosology used throughout most of the world.

The self designed questionnaire was translated into Hausa using a back-translation method for patients who could not communicate in English in the environment.

Procedure

Before the commencement of this study, approval of the ethical committee of the institution was sought and informed consent obtained from the patients to be involved in the research. Where a patient was not in a position to

give consent owing to his or her mental status at the point of admission, consent was sought from a reliable relation. The process entailed giving adequate information to the patients and relations. Every patient was informed that he/she had the right to participate or withdraw from the study at any time without any risk to his/her treatment.

The patients were admitted into the psychiatric wards of JUTH subsequent to a careful clinical assessment and diagnosis based on the ICD-10 criteria. Patients with delirium and dementia were excluded from the study because of their clinically significant deficit in cognition or memory which will affect interview, assessment and conclusions about their behavior.

Data analysis

The data was analyzed using the Statistical Package for Social Sciences (SPSS 15th version) at 5% level of significance and 95% confidence interval. Frequency distribution charts were employed to determine the ranges of aggressive behavior. Analysis of variance (ANOVA) was used to test for significance of aggressive behavior among diagnostic groups. T-test was used to assess continuous variables while chi-square test was used for categorical variables

RESULTS

Three hundred patients met the ICD-10 research criteria for various diagnoses, but only 298 completed the study. 58(19.5%) manifested at least one type of aggression. Of these 35 (11.7%) were males and 23(7.7%) were females. One hundred and twenty eight (128) aggressive incidents were carried out by the subjects. Most of the aggressive incidents were of the verbal (45) and physical type (40). The greatest proportion was carried out by patients suffering from schizophrenia (32.8%) and mania (23.4%). (see table 1).

The "odds" for aggression is higher among patients with substance use disorder (39%) than for any other diagnostic category. Depressive category had the least (table 2).

Table (3) shows that there is significant association between aggression and the male gender in substance use disorder patients. ($x2 = 5.097$, $df=1$, $p <0.05$).

Similarly, aggression in significantly associated with the younger age groups: 10-19yrs ($X^2 = 5.146$, $df=1$, $p <0.05$), 20-29 yrs ($X^2 = 4.901$, $df = 1$, $p<0.05$), 30-39 yrs ($X^2 = 5.146$, $df=1$, $p <0.05$) among patients suffering from substance use disorder. Aggression is also significantly associated with the age groups 40-49yrs ($x2 = 4.901$, $df=1$, $p <0.01$) and 60-69yrs ($x2 = 3.577$, $df=1$, $p <0.01$) in patients suffering from schizophrenia (see table 4).

Table 5 shows that there is no significant association between aggression and residing in either rural or urban area. Table 6 shows that there is a significant associated between aggression and being married ($x2 = 5.566$, $df=1$, $p <0.05$) among patients suffering from substance used disorder.

Furthermore, there is significant association between aggression and lack of formal education in patients suffering from substance used dissolved ($x2 = 10.168$, $df=1$, $p <0.05$).

The same applies to patients diagnosed with Acute psychotic disorder and schizophrenia who have tertiary education ($X^2 = 4.781$, $df=1$, $p <0.05$) and ($X^2 = 5.473$, $df=1$, $p <0.05$) respectively (see table 7).

Table 8 shows that there is significant association between aggression and unemployment status among patients with a diagnosis of substance use disorder ($X^2 = 7.422$, $df=1$, $p <0.05$).

DISCUSSION

This study shows that verbal aggression was the commonest type of aggression (40 out of 128 aggressive incidents) exhibited by the subjects. This could be a response to psychotic symptoms [7], especially delusions and hallucinations since evidence abounds that these can be significant in relation to aggression [8].

Furthermore, aggression may be partly explained socio-culturally in the sense that in our environment, verbal or physical exchange is often a means of setting conflicts instead of discussing issues [4, 9].

One of the most important finding, in this study is that the odds for aggression is higher among patients diagnosed with substance use disorder than for any other diagnostic category. This is in consonance with findings from studies that violent behavior would be exhibited more by patients suffering from substance use disorder than by another with a major mental disorder [10, 11].

This study also identified that in patients with a diagnosis of substance use disorder, aggression in significantly associated with being male, the younger age groups, the divorced, those without formal education as well as being unemployed. These findings are in consonance with findings from the other studies [12,13,14].

However the report of significant association of aggression with the married subjects is at variance with findings from previous studies. This could be explained culturally. In the middle belt region of Nigeria where this study was conducted, the married women bear a significant burden of family upkeep against the background of very harsh economic and cultural traditions that are less protective of married women.

Furthermore, paradoxically there was significant association between aggression and those with tertiary education who are suffering from acute psychotic disorder or schizophrenia.This is at variance with Volavke's findings [15], who reported that low educational attainment was significantly associated with aggression among schizophrenics. The harsh economic climate of Nigeria with very high unemployment rate and economic recession can be contributory to the opposite findings in this study in this regard.

Reports on the prevalence of aggression in rural areas compared to urban areas are conflicting. While some studies reported that aggression is more prevalent in rural areas [16], others reported the reverse [16, 17].

In this study there was no significant association between aggression and place of abode. This suggests that the multiplicity of stress factors which may predict the risk for aggressive behavior is present both in the urban and rural areas of the middle belt region of Nigeria.

CONCLUSION

Aggression against humans has constituted a grave concern to man from time immemorial. Predicting and preventing violent acts among the mentally ill adds another difficult dimension to an already hydra-headed problem because of the multiple factors that influence the behavior of this group of people.

Limitation: The study did not measure the frequency or severity of the psychotic symptoms that elicited aggressive behavior. Neither did it focus on identifying factors that correlate with aggression in specific psychiatric diagnoses.

RESULTS

Table 1: Distribution of aggressive incidents by diagnostic categories

N= 128 aggressive incidents

	Verbal aggression n=45	%	Aggression against property n=31	%	Auto aggression n=12	%	Physical aggression n=40	%	Total n=128	%
Diagnosis										
Depression	5	11.1	2	6.5	1	8.3	3	7.5	11	8.6
Schizophr	14	31.	13	41.	2	16.	13	32.5	42	32.

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Mania	10	22.2	6	19.4	4	33.3	10	25	30	23.4
Acute psychotic disorder	5	11.1	3	9.7	0	0	5	12.5	13	10.2
Substance use disorder	11	24.4	7	22.6	5	41.7	9	22.5	32	25
Total	45	100	31	100	12	100	40	100	128	100

Table 2: Proportions of aggressive and non-aggressive patients in each diagnostic category

N=298

DIAGNOSTIC CATEGORY										
	DEPRESSION		**SCHIZOPHRENIA**		**MANIA**		**ACUTE PSYCHOTIC DISORDER**		**SUBSTANCE USE DISORDER**	
	Total n=88		Total n=87		Total n=49		Total n=33		Total n=41	
	n	%	n	%	n	%	n	%	n	%
Aggressive	5	5.7	18	20.7	12	24.5	7	21.2	16	39
Non-aggressive	83	94.3	69	79.3	37	75.5	26	98.8	25	61
Total	88	100	87	100	49	100	33	100	41	100

TABLE 3: COMPARISON OF THE SEX DISTRIBUTION OF THE PATIENTS IN THE VARIOUS DIAGNOSTIC CATEGORIES

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
SEX	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MALE	3	60	45	54.2	10	55.6	33	47.8	8	66.7	24	64.9	4	57.1	14	53.8	10	62.5	10	64
FEMALE	2	40	38	45.8	8	44.4	36	52.2	4	33.3	13	35.1	3	42.9	12	46.2	6	37.5	15	36
Total	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

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Table 4: Comparison Of The Age Distribution Of Patients In The Various Diagnostic Categories

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
AGE GROUP	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
10-19	0	0	9	10.9	2	11.1	4	5.8	0	0	2	5.4	0	0	4	15.4	4	25	4	16
20-29	1	20	25	30.1	5	27.8	39	56.5	8	66.7	17	45.9	4	57.1	9	34.6	6	37.5	9	36
30-39	1	20	20	24.1	6	33.3	17	24.6	3	25	11	29.7	3	42.9	5	19.2	6	37.5	6	24
40-49	2	40	16	19.3	3	16.7	2	2.9	1	8.3	5	13.5	0	0	5	19.2	0	0	2	8
50-59	1	20	10	12	0	0	5	7.2	0	0	2	5.4	0	0	3	11.5	0	0	4	16
60-69	0	0	3	3.6	2	11.1	2	2.9	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

Table 5: Comparison Of The Patients' Places Of Abode In The Various Diagnostic Categories

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
PLACE OF ABODE	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
URBAN	2	40	49	59	12	66.7	33	47.8	9	75	23	62.2	4	57.1	12	46.2	9	56.3	14	56
RURAL	3	60	34	41	6	33.3	36	52.2	3	25	14	37.8	3	42.9	14	53.8	7	43.7	11	44
TOTAL	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

Table 6: Comparison Of The Marital Status In The Various Diagnostic Categories

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
MARITAL STATUS	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%

Single	2	40	40	48.2	10	55.6	37	53.6	9	75	21	56.8	4	57.1	9	34.6	9	56.3	13	52
Married	1	20	23	27.7	4	22.2	21	30.4	2	16.7	10	27.0	3	42.9	11	42.3	5	31.3	9	36
Divorced / separated	1	20	14	16.9	2	11.1	7	10.1	0	0	4	10.8	0	0	2	7.7	2	12.5	0	0
Widowed	1	20	6	7.2	2	11.1	4	5.8	1	8.3	2	5.4	0	0	4	15.4	0	0	3	12
Total	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

Table 7: Comparison Of The Educational Level In The Various Diagnostic Categories

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
EDUCTAIONAL LEVEL	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
No formal education	2	40	22	26.5	2	11.1	21	30.4	0	0	7	18.9	1	14.3	7	26.9	6	37.5	7	28
Primary education	2	40	33	39.8	8	44.4	25	36.2	8	66.7	14	37.8	2	28.6	9	34.6	5	31.3	12	48
Secondary education	1	20	18	21.7	5	27.8	21	30.4	3	25	9	24.3	2	28.6	9	34.6	4	25	6	24
Tertiary	0	0	10	12	3	16.7	2	2.9	1	8.3	7	18.9	2	28.6	1	3.8	1	6.3	0	0
Total	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

Table 8: Comparison Of The Employment Status Of The Patients In The Various Diagnostic Categories

N=298

	DEPRESSION				SCHIZOPHRENIA				MANIA				ACUTE PSYCHOTIC DISORDER				SUBSTANCE USE DISORDER			
EMPLOYMENT STATUS	AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG		AGG		NON-AGG	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Unemployment	3	60	58	69.9	11	61.1	27	39.1	9	75	21	56.8	85.7	11	42.3	62.5	10	62.5	3	12
Employed	2	40	25	30.1	7	38.9	42	60.9	3	25	16	43.2	1	14.3	15	57.7	6	37.5	22	88
Total	5	100	83	100	18	100	69	100	12	100	37	100	7	100	26	100	16	100	25	100

KEY
AGG = Aggressive
NON-AGG = Non-aggressive

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