

Prevalence and correlates of aggression among psychiatric in-patients at Jos University Teaching Hospital

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Abstract

Objective: The study was designed to determine the prevalence of aggression and clinical factors associated with aggression among psychiatric in-patients at Jos University Teaching Hospital. This will help create a good knowledge base about management of these patients.

Materials and Methods: All admitted psychiatric patients between December, 2005, and February, 2007, that met the ICD-10 criteria for a specific clinical diagnosis were included. The modified overt aggression scale was subsequently used to assess the type and severity of aggression. Additional information was obtained through a self-designed questionnaire containing sociodemographic and psychiatric illness variables.

Results: A total of 300 subjects satisfied the inclusion criteria, but only 298 were assessed because two patients absconded from the wards during the study period. The prevalence of aggression in this study was 19.5%. Of the 58 aggressive patients, 35 (21.7%) and 23 (16.8%) were male and female, respectively. Schizophrenic patients (31%) exhibited aggression more than any other diagnostic category. Most of the aggressive behavior occurred without provocation (63.3%). Aggression among psychiatric patients was associated with a history of previous acts of aggression and delusion of persecution.

Conclusions: Aggression is a significant clinical problem in psychiatric facilities. Consequences of aggression among psychiatric patients can be far reaching for the mental health worker. More longitudinal studies should be carried out among specific diagnostic categories of psychiatric patients to determine factors associated with aggression in each.

Key words: Aggression, correlates, prevalence, psychiatric

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Introduction

Aggression among humans has been a problem for as long as recorded history. There appears to be an increasing level of violence in the society at large, and this phenomenon in Nigeria over the years has necessitated a scientific enquiry into the nature and causes of violence.^[1,2] Human aggression has surely assumed unprecedented proportions, further compounded by the global giant strides in information, technology, transport, and arms.

Aggression implies the intent to harm or otherwise injure another person or destroy property, an implication inferred

from events preceding or following the act of aggression. Sigmund Freud viewed aggression as an instinctive behavior, which stemmed primarily from the redirection of the self-destructive death instinct (*Thanatos*) away from the person himself and outward towards others.^[3] But aggression is not only directed to others, but can be directed to oneself (auto-aggression) or property.

The frequency of mental illness and violence remains a surprisingly controversial subject.^[4] While some researchers

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maintain that the rate of violence is higher among the mentally ill than in the general population,^[5] others think otherwise. In his work, "The criminality of the mentally ill: A dangerous misconception", Teplin notes, "the data show that persons exhibiting signs of serious mental disorder were not suspected of serious crimes at a rate disproportionate to the remainder of the population. The patterns of crime for mentally disturbed persons when compared with those of the 'sane' individuals were substantially similar. These data help dispel the myth that the mentally ill constitute a dangerous group prone to violent crimes".^[6]

The prevalence rates of violence among psychiatric patients are in the range of 5-20%^[7-9] On the other hand, others strongly argue that it is difficult to compare prevalence estimates among different studies, due to variations in definitions of violence, populations studies, and sources of data collection.^[10]

Literature on aggression contains conflicting information about which factors are most associated with a patient's innate tendency for aggression. While some researchers maintain that the socio-demographic factors associated with crime in the general population are equally responsible for violence in mentally ill patients,^[11] others emphasize that clinical correlates in terms of the type and degree of the patient's psychopathology are more important.^[12] The relationship between demographic or clinical variables and violence is further complicated by situational factors.^[13]

A number of studies have been carried out on aggression among psychiatric patients in the developed world. This has contributed in no small measure to the effective management of these patients. Similar assertion cannot be made on this issue in Nigeria.

Unfortunately, ignorance and myth solely based on tradition and superstition have negatively affected the proper handling of patients in this part of the world. It is hoped that this study will not only establish in clear terms the prevalence of aggression and clinical factors that correlate with aggression among psychiatric patients, it will also create a good knowledge about the management of these patients.

Materials and Methods

This prospective, cross-sectional study of 298 psychiatric in-patients of Jos University Teaching Hospital (JUTH) was carried out in a period of 13 months.

Instruments

For this study, the instruments employed were as follows:

1. The Modified Overt Aggression Scale (MOAS)
2. The International Statistical Classification of Diseases, 10th Edition (ICD-10) diagnostic criteria for research

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 behavior based on observable criteria.^[14] The MOAS has four subscales of aggression (verbal aggression, aggression against property, auto-aggression, and physical aggression against other people). For each subscale, one can score 0, 1, 2, 3, or 4. These scores correspond to no aggression, mild aggression, moderate aggression, severe aggression, and profound aggression for any particular subscale. Furthermore, weights are attached to each subscale. The verbal aggression subscale has a weight of x1; hence, any score on this subscale should be multiplied by 1. Similarly, the subscale against property has a weight of x2, auto-aggression subscale has x3, while the physical aggression subscale has weight x4 attached.

The MOAS has been tested at various centers in the developed world and found to be a valid indicator of type and severity of aggression with good inter-rater reliability.^[14,15]

The MOAS has excellent psychometric properties; the correlation coefficient between raters was 0.9, while the discrimination power between cases and controls was confirmed and good concordance with BPRS was observed.^[15] Furthermore, the MOAS has been validated in Nigeria.^[16] It is used by clinicians to document and rate aggressive behavior observed in patients. Therefore, its translation to Hausa is not necessary.

The ICD-10 is a comprehensive classification system of medical conditions and mental disorders. It is one of the official medical and psychiatric nosologies used throughout most parts of the world. However, for this study, the ICD-10 diagnostic criteria for research were used. 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. In instances where the patient was not in a position to give consent due to his or her mental status at the point of admission, consent was sought from a reliable relation. Every patient was informed that he/she has 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 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 conclusion about their behavior. The MOAS was subsequently used. At the end of each week, recorded aggressive acts of each in-patient were examined and the most severe act of aggression in any subscale were scored for that week on the MOAS.

At the time of discharge, all MOAS records for a particular patient were examined. The most severe act of aggression on any particular subscale was taken as his final score on the MOAS for that subscale.

Data analysis

The data were analyzed using the statistical package for social sciences at 5% level of significance and 95% confidence interval. Frequency distribution charts were employed to determine the range of aggressive behavior. Analysis of variance (ANOVA) was used to test for significance among diagnostic groups. Contingency tests were carried out using *t* test for continuous variables and Chi-square test for categorical variables.

Results

Three hundred patients met the ICD-10 research criteria for various diagnoses. However, two patients enlisted in the study absconded from the ward. Of the 298 patients assessed, 58 (19.5%) manifested at least one type of aggression. However, a total of 128 aggressive incidents were recorded, 35 (21.7%) and 23 (16.8%) were males and females, respectively.

Most of the psychiatric patients in this study were not aggressive 240 (80.5%). The prevalence of aggression in this study was 19.5%.

Furthermore, most of the aggressive patients were either schizophrenic 18 (31.0%) or suffering from substance use disorder 16 (27.6%). Depression had the least proportion of aggressive patients 5 (8.6%) [Table 1]. Nevertheless, there is no significant association between having any of the psychiatric diagnoses and aggression $X^2 = 3.567$, $df = 2$, $P > 0.05$. However, there is a higher proportion of aggressive patients compared with non-aggressive patients among substance use disordered patients than for any other diagnosis [16 (39%)].

The patients exhibited different forms of aggression in the following frequencies: Verbal aggression (45), aggression against property (31), auto-aggression (12), and physical aggression (40). For all forms of aggression, most of the aggressive behavior occurred without any act or provocation. When aggression was as a result of provocation, the greatest proportion of aggressive patients 10 (17.2% of all aggressive patients) attributed their provocation to being denied of something they wanted at that point in time [Table 2].

Table 1: Aggressive and non-aggressive patients among the various diagnostic groups

Diagnostic category	Aggressives				Total no. of aggressive		Non-aggressive	
	Male		Female		N	%	N	%
	Total		Total					
	N	%	N	%	N	%		
Depression	3	8.6	2	8.7	5	8.6	83	34.6
Schizophrenia	10	28.6	8	34.8	18	31.0	69	28.8
Mania	8	22.8	4	17.4	12	20.7	37	15.4
Acute psychotic disorder	4	11.4	3	13.0	7	12.1	26	10.8
Substance use disorder	10	28.6	6	26.1	16	27.6	25	10.4
Total	35	100	23	100	58	100	240	100

Total N = 298

Table 2: Type of provocation among the aggressive patients

Type of provocation	Male		Female		Total	
	(N = 35)		(N = 23)		(N = 58)	
	N	%	N	%	N	%
Staff requiring patient to take medication	5	14.3	0	0	5	8.6
Patient forced to take medication	2	5.7	0	0	2	3.4
Patient insulted	2	5.7	3	13.0	5	8.6
Patient threatened	1	2.9	0	0	1	1.7
Patient denied something	4	11.4	6	26.0	10	17.2
Total number of acts of provocation	14		9		23	

N = 58 (total number of aggressive patients)

However, there is no significant association between any type of provocation and gender ($X^2 = 5.013$, $df = 1$, $P > 0.05$).

A greater proportion of aggressive patients reported a history of previous acts of aggression 37 (30.6%) versus 21 (11.9%). For non-aggressive patients, a lesser proportion of them reported a history of previous acts of aggression 84 (67.4%) versus 156 (88.1%). There is significant association between aggression in a psychiatric patient and a history of previous acts of aggression ($X^2 = 7.886$, $df = 4$, $P < 0.05$).

Table 3 shows the distribution of aggressive psychiatric patients who experienced different psychotic symptoms before their acts of aggression. Of the 58 aggressive patients in the entire sample, 46 reported experiencing psychotic symptoms preceding their acts of aggression in the ward. The remaining 12 remained silent on this. Of all psychotic symptoms, delusion of persecution (the belief that people are against them) was the most reported psychopathology. There is significant association between this psychopathology

Table 3: Distribution of aggressive psychiatric patients who experienced different psychotic symptoms before their acts of aggressions

Diagnosis	A		B		C		D		E		Total	
	N = 12	%	N = 3	%	N = 18	%	N = 7	%	N = 6	%	N = 46	%
Depression	1	8.3	0	0	1	5.6	0	0	1	16.7	3	6.5
Schizophrenia	6	50	1	33.3	8	44.4	2	28.6	0	0	17	37.0
Mania	2	16.7	1	33.3	2	11.1	4	57.1	1	16.7	10	21.7
Acute psychotic Disorder	1	8.3	0	0	1	5.6	0	0	1	16.7	3	6.5
Substance use Disorder	2	16.7	1	33.3	6	33.3	1	14.3	3	50	13	28.3
Total	12	100	3	100	18	100	7	100	6	100	46	100

N = 46 A = Auditory hallucination; B = Delusion of control; C = Delusion of persecution (Belief that people are against the patient); D = Delusion of harm (belief that there is imminent danger and so had to defend self); E = Visual hallucination

and aggression when preceded by psychotic symptoms ($X^2 = 6.230$, $df = 2$, $P < 0.05$).

Discussion

The prevalence of aggression among psychiatric patients in this study was 19.5%. This is in consonance with studies done elsewhere, which suggests a range of 5-20%.^[17-9]

This study identified depression as the diagnostic category with the least proportion of aggressive patients. Other studies stated that the least tendency for aggression was recorded for patients with depression and adjustment disorder.^[17] The finding that patients with substance use disorder have the highest odds for aggression was re-echoed by Bland and Orn: "the risk of violence was greatly elevated among those diagnosed with comorbid alcohol abuse disorder."^[18] The availability of substance abuse as well as increase in the rate of consumption of alcohol in the middle belt region of Nigeria (from where the cohort for this study was drawn), with its attendant psychiatric consequences,^[19] as observed in one study, may account for the significant number of patients with substance use disorder to be among the aggressive ones. However, another study that lasted for 18 months, involving 1,269 patients identified that patients with Bipolar Affective disorder and Schizophrenia had a 2.82 and 1.96 significantly increased risk of aggression respectively.^[17]

Furthermore, most of the aggression occurred without any observable act of provocation, and the most provocative factor was 'denying patients what they wanted'. This is similar to the conclusion drawn by Benjaminsen. The level of anger in patients was highest in response to unempathic limit setting styles of staff members, moderate for explanation, and lowest for empathic styles.^[20] The severity of psychopathology, the burden of mental illness, as well as deterioration of the patients' personality may be responsible for this, among other factors.

One of the major findings in this study is that there is significant association between aggression in a psychiatric patient and a history of previous acts of aggression. This confirms the opinion of Adamson that the greatest predictor of violence and criminality in the mentally ill is still the history of violence, criminality, especially for those suffering from schizophrenia and those with substance use disorders.^[21] Furthermore, the tendency for the patient with a history of aggression to exhibit more aggression can be explained based on the social learning theory; this, in other words, means that the patients have learnt to be aggressive.^[22,23]

Moreover, most of the aggressive patients reported experiencing psychotic symptoms preceding their acts of aggression and there is significant association between delusion of persecution (belief that people are against them) and aggression. This confirms earlier studies, which stated that aggression is known to occur in response to psychotic experience, especially delusions and hallucinations and that the content of the psychotic symptom may be significant in relation to dangerous behavior.^[22-24] Furthermore, aggression may be partly explained socioculturally in the sense that in our environment, verbal or physical exchange is often a means of settling conflicts instead of discussing issues.

Limitations

This study did not measure the frequency or severity of the psychotic symptoms that elicited aggressive behavior. Rather, the emphasis was on the type of psychotic symptoms that preceded an act of aggression and diagnosis of the patient who manifested the aggression. Also, of the 58 aggressive patients, 12 remained silent on the cause(s) of their aggression. It is possible that some or all of the 12 patients manifested aggression secondary to psychotic symptoms. The study did not focus on identifying factors that correlate with aggression in specific psychiatric diagnoses. This would here enrich our knowledge on the correlates of aggression among psychiatric patients.

It is recommended that further studies be carried out in this regard. Furthermore, considering the risk of working in psychiatric facilities, special attractive insurance incentives for all categories of psychiatric staff should be introduced.

References

- Noble P, Rodger S. Violence by psychiatric in-patients. *Br J Psychiatry* 1989;115:384-90
- Nzewi EN. Aggression-Hostility dimension in the psychosocial dynamics of the interpersonal relationship among Nigerians. Presented at the Annual Conference of the Association of Psychiatrists in Nigeria, 1983.
- Kaplan HI, Sadock BJ. Aggression: Synopsis of psychiatry. Vol. 7. Philadelphia: Williams and Wilkins; 1994. p. 171-8.
- Wessly S. The Epidemiology of Crime, Violence and schizophrenia. *Br J Psychiatry* 1997;170:8-11.
- Lagos JM, Perlmutter K, Saexinger H. Fear of the Mentally ill: Empirical support for the common man's response. *Am J Psychiatry* 1997;134:1134-7.
- Teplin LA. The criminality of the mentally ill: A dangerous misconception. *Am J Psychiatry* 1985;142:593-9.
- Fottrel EA. A study of violent behaviour among patients in psychiatric hospitals. *Br J Psychiatry* 1980;136:216-21.
- Grassi L, Peron L, Maragoni C, Zanchi P, Vanni A. Characteristics of violent behaviour in acute psychiatric in-patients: A 5-year Italian study. *Acta Psychiatr Scand* 2001;104:273-9.
- Miller RJ, Zadolinsky K, Hafner RJ. Profiles and predictors of assaultiveness for different psychiatric ward population. *Am J Psychiatry* 1993;150:1368-73.
- Shailesh K, Bradely N. Crowding and violence on psychiatry wards: Explanatory models. *Can J Psychiatry* 2001;46:433-7
- Monahan J. The predictor of violent behaviour Towards a second generation of theory and policy. *Am J Psychiatry* 1983;141:10-5
- Rossi M, Jacobs M, Monteleone M, Ocsen R, Surber RW, Winkler EL, et al. Characteristics of psychiatric patients who engage in assaultive or other fear inducing behaviours. *J Nerv Men Dis* 1986;124:154-60
- Binder RL, McNeil DE. The relationship of gender to violent behaviour in acutely disturbed psychiatric patients. *J Clin Psychiatry* 1990;51:110-4
- Rately JJ, Gutheil CM. The Measurement of Aggressive behaviour: Reflections on the use of the Overt Aggression Scale and the Modified Overt Aggression Scale. *J Neuropsychiatry clin Neurosci* 1991;3:57-60.
- Magari F, Matarazzo R, Casachia M, Rancone R, Dieci M, Safran S, et al. Italian validation of the MOAS and NOSIE: A useful package for psychiatric assessment and monitoring of aggressive behaviour. *Int. J Methods Psychiatr Res* 2005;14:109-18.
- Chukwujekwu DC. Prevalence and correlates of aggression among psychiatric-in patients at Jos University Teaching Hospital (JUTH). A dissertation of the part 2nd (final) fellowship examination of the West African College of physicians in part fulfillment of the requirement for the award of FWACP. 2006, 40.
- Kay SR, Wolkenfeld F, Murril LM. Profiles of aggression among psychiatric patients 2nd. Covariates and predictors *J Nerv Ment Dis* 1981;176:547-57.
- Bland R, Orn H. Family Violence and psychiatric disorder. *Can J Psychiatry* 1986;31:129-37.
- Isichei HU, Ikwuagwu UP, Egbuta J. Comparative study of alcoholic patients in Jos, Nigeria and in Castrop-Rauxel Germany. *Alcohol Alcoholism* 1994;29:75-8.
- Benjaminsen S, Gotzche-Larsen K, Norrie B, Harder L. Patients Violence in Psychiatric Hospital in Denmark; rate of violence and relation to diagnosis. *Nord J Psychiatry* 1996;50:233-42.
- Adamson TA. Violence and mental illness, any causal relationship? *Niger J Psychiatry* 2005;3:5-11.
- Taylor PJ. Motives for offending among violent and psychotic men. *Br J psychiatry* 1985;147:461-98.
- Mawson D. Delusions of poisoning. *Med Sci Law* 1985;25:279-87.
- Hafner H, Boker W. Crimes of violence by mentally abnormal offenders. Cambridge, England: Cambridge University Press; 1973.

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