Comparison of Catatonia Presentation in Patients with Schizophrenia and Mood Disorders in Lagos, Nigeria

Dada Mobolaji Usman, MBChB, MSc (Epid), FMCPsy [1]
Okewole Adeniran Olubunmi, MBBS [2]
Oduguwa Taiwo, MBChB, FWACPsych [2]
Afe Taiwo, MBChB [2]
Lawal Rahman, MBBS, FMCPsych, MPH [3]
Adepoju Oladipo, MBChB [4]

1 University Teaching Hospital, Ado-Ekiti, Ekiti State, Nigeria.
2 Federal Neuropsychiatric Hospital, Yaba, Lagos, Nigeria .
3 Senior registrar, Federal Medical Centre Bida, Niger State, Nigeria .
4 Consultant Psychiatrist, Federal Neuropsychiatric Hospital, Yaba, Lagos, Nigeria.

Corresponding author:
Dada Mobolaji Usman,
Department of psychiatry,
University Teaching Hospital,
Ado-Ekiti, Ekiti State, Nigeria.
Tel: +2348037121632
E-mail: bu_dada@yahoo.com

Objective: To compare the clinical profile and pattern of catatonic symptoms of patients with schizophrenia and mood disorder.
Method: Records of 13,968 patients seen between 1983-1985 and 2003-2005 were reviewed for symptoms of catatonia by resident doctors in psychiatry. Cases in which the diagnosis were schizophrenia or mood disorder were then noted. Socio-demographic and clinical features were described for each diagnosis.
Results: There were a total of 98 cases with catatonia out of the 13,968 case notes reviewed. Schizophrenia accounted for 82.5% and 53.4% in the two periods, while the proportion associated with mood disorders increased from 10% to 20.7%. Male to female ratio was 1.2:1 in schizophrenia and 1:3 in mood disorder. Those with schizophrenia were younger and with an earlier age of onset of symptoms than those with mood disorders.
Conclusion: Catatonia associated with mood disorder was found to be increasing over the years when compared with schizophrenia. Differences were observed in socio-demographic characteristics and number of predominant catatonic symptoms. Having a separate category for catatonia due to the mood disorders in the current diagnostic guidelines (10^{th} edition of the International Classification of Diseases and the 4^{th} edition of the Diagnostic and Statistical Manual) will help in better diagnosis of catatonia.

Keywords: *Catatonia, Mood disorders, Mutism, Schizophrenia, Stupor*

Iran J Psychiatry 2011; 6: 7-11

The concept of catatonia was first described by Kahlbaum in 1874. He described a state "in which the patient remains completely mute and immobile, with staring expression, gaze fixed into space, with an apparent complete loss of will, no reaction to sensory stimuli, sometimes with the symptom of waxy flexibility completely developed, as in catalepsy, sometimes of a mild degree, but clearly recognisable" (1). Emil Kraepelin, who developed the concept of dementia praecox suggested that symptoms of catatonia were a separate classification under dementia praecox (2).

Catatonia presents commonly in psychiatric patients in both acute and long term settings. Despite its common occurrence, catatonia remains a poorly understood, poorly studied, and poorly recognized syndrome, presenting with a variety of psychiatric and medical illnesses, which can be treatable once a diagnosis is established (3).

Various prevalence rates have been reported for catatonia occurring among patients with schizophrenia and mood disorders. According to rajagopal, catatonia is more commonly a consequence of mood disorders than of schizophrenia though historically catatonia has been regarded as being much more strongly associated with schizophrenia (4). He further stated that this bias giving schizophrenia an exaggerated place in the discussion of catatonia is also reflected in ICD–10 (Tenth Revision of the International Classification of Diseases and Related Health Problems) and DSM–IV(4^{th} Edition of Diagnostic and Statistical Manual of Mental Disorders) diagnostic guidelines in psychiatry (4).

In ICD-10, presence of one of the following signs is sufficient to make a diagnosis of catatonic schizophrenia (provided the individual already met criteria for schizophrenia): stupor, excitement, posturing, negativism, rigidity, waxy flexibility and

command automatism (automatic obedience) (5). However, if a patient with severe depression is in a stupor, a diagnosis of 'severe depressive episode with psychotic symptoms' (F32.3) is made, even if there are no delusions or hallucinations (5). In addition, a patient with manic stupor will be diagnosed as having 'mania with psychotic symptoms' (F30.2) (5).

Similarly, in DSM–IV a diagnosis of 'schizophrenia, catatonic type' (code 295.20) is made if the clinical picture is dominated by at least two of the following: motor immobility, excessive motor activity, extreme negativism, peculiarities of voluntary movements, and echolalia/echopraxia (6). Also, there is no separate diagnostic category for catatonia due to either depression or mania, but catatonia can be added as a specifier in mood disorders (6).

Prevalence rates for catatonia have been recorded between 6% and 38% for acute psychotic episodes, and only about 7% to 17% of those patients meet criteria for catatonic schizophrenia (3). Catatonic schizophrenia has been reported at a rate of 1 in 1000 in the general population, and up to 5% of all new diagnoses of schizophrenia (7). Other studies have reported prevalence rates of about 30% among patients with chronic schizophrenia (8, 9). While for mood disorders, prevalence rates ranging from 13% to 31% have been reported (10, 11). Various studies have also supported the view that catatonia is more strongly associated with mood disorders than with schizophrenia. For example, Abrams & Taylor recorded that, in a sample of 55 people with catatonia, only four had schizophrenia and more than two-thirds had affective disorders, especially mania (12). Similarly, Barnes et al reported only one person with schizophrenia in their sample of twenty-five, but nine with affective disorders (13).

Catatonic features ,however, are not specific to any disorder, and are seen in psychotic disorders, bipolar disorders, depressive disorders, reactive disorders, conversion disorders, dementias, other organic disorders (e.g. infections, epilepsy), metabolic disorders, drugs (prescribed [e.g neuroleptics] or recreational), idiopathic (4). An accepted and consistent diagnostic scheme for catatonic syndromes will certainly aid the delineation of their epidemiology.

The aim of this study is to compare the clinical profile and pattern of catatonic symptoms of patients with schizophrenia and those with mood disorder presenting with catatonia.

Materials and Method

The study was conducted at the Federal Neuro-Psychiatric Hospital, Yaba, Lagos, Nigeria. The hospital was established in 1907 , and is one of the largest psychiatric facilities in Nigeria. It is the only psychiatric hospital in the state and major funding is by the government. The hospital has a total bed capacity of 535 and caters for patients from both within and outside the state. Patients also come from neighbouring countries. Permission to conduct the study was granted by the Ethical committee of the Hospital.

Records of 13,968 patients seen between 1983-1985 and 2003-2005 were reviewed for symptoms of catatonia by resident doctors in psychiatry. Case definition was guided by ICD-10; and the 14-item Bush-Francis Catatonia Screening Instrument provided a list of catatonic symptoms (14).

Results

A total of 98 cases of catatonia were identified, 40 in 1983 –1985 (1.21%) ,and 58 in 2003 - 2005 (0.54%). Schizophrenia accounted for 82.5% and 53.4% in the two periods respectively, while the proportion associated with mood disorders increased from 10% to 20.7%. The mean age of the patients with catatonia who had ICD-10 diagnosis of schizophrenia was 27.05 years (SD=7.16 years), while the mean age of those with a diagnosis of mood disorder was 32.00 years (SD=11.29 years).

Most of the patients with mood disorders were females (75.0%), while only 29 females (45.3%) were diagnosed with schizophrenia. Details of other socio demographic factors are shown in Table 1 .

The most common symptoms of catatonia among patients with schizophrenia were mutism, starring and posturing; while, mutism, starring and withdrawal were the most common symptoms of mood disorder. (Details in Table 2). The result showed that most of the subjects in both diagnostic groups experienced mutism (82.8% of those with schizophrenia and 87.5% of patients with mood disorders). The result also showed that none of the patients with mood disorder experienced grimacing, stereotypy, verbigeration or waxy flexibility. However, this was not the case in patients with schizophrenia. Crosstabulation of the diagnostic groups with the various catatonia symptoms did not reveal any statistically significant differences. Also, comparing the presence or absence of the various symptoms of catatonia with the sociodemographic details such as age, sex and age of onset of symptoms did not reveal any statistically significant differences in neither of the diagnostic groups Comparing the diagnosis of the patients and the various socio-demographic factors, various statistical tests were used where appropriate. For instance, t-test was used for comparing continues variables such as age and diagnosis, while Chi2 was used to compare qualitative variables and diagnosis. The results showed that the mean age of patients with schizophrenia was lower than those with mood disorder and this difference was statistically significant ($t = -2.189$, $df= 75$, $p= 0.032$, CI = -9.575 to -0.451).

In addition, the observed female preponderance among patients with mood disorder, and male predominance among those with schizophrenia were statistically significant. ($X^2= 4.515$, $df=1$, $p=0.034$).

Differences in the other socio-demographic factors of the patients were not statistically significant .

Table 1. sociodemographic factors of patients with catatonia

Sociodemographic factor	chizophrenia n (%)	mood disorder n (%)
Sex		
Male	35 (54.7%)	4 (25.0%)
Female	29 (45.3%)	12(75.0%)
Marital status		
Single	51 (81.0%)	11(68.7%)
Married	12 (19.0%)	5 (31.3%)
Employment status		
Unemployed	35 (59.3%)	6 (37.5%)
Employed	24 (40.7%)	10 (62.5%)

Table 2. Catatonic symptoms

Symptom	Schizophrenia n (%)	Mood disorder n (%)
Posturing/catalepsy	23 (35.9%)	9(56.3%)
Grimacing	4 (6.3%)	0 (0.0%)
Echolalia/echopraxia	3 (4.7%)	1 (6.3%)
Stereotypy	3 (4.7%)	0 (0.0%)
Mannerisms	9 (14.1%)	1 (6.3%)
Verbigeration	1(1.6%)	0 (0.0%)
Rigidity	7 (10.9%)	4 (25.0%)
Negativism	7 (10.9%)	4 (25.0%)
Waxy flexibility	3 (4.7%)	0 (0.0%)
Withdrawal	20 (31.3%)	7 (43.8%)
Excitement	15 (23.4%)	1 (6.3%)
Immobility/stupor	13 (20.0%)	2 (12.5%)
Mutism	53 (82.8%)	14 (87.5%)
Starring	36 (56.3%)	8(50.0%)

Patients with catatonic schizophrenia had an earlier age of onset of illness (mean age= 25.27 years, SD= 6.65) compared with those with mood disorders (mean age = 29.56 years, SD= 9.67) . This age difference was found to be statistically significant (t=-2.065, df=73, p=0.043).

Discussion

This study reported a reduction in the overall prevalence of catatonia from 1.21% (1983-85) to 0.54% (2003-05). A decreasing prevalence has also been reported in other studies and various explanations have been offered for it. For instance, Mahendra, reported that since the 1950s, catatonia seemed to be decreasing in incidence or virtually disappearing (15). The probable theories put forward to explain this phenomenon are as follows: a general decline in interest in the motor aspects of psychiatric disorders; beneficial effects of modern pharmacotherapy; large-scale de-institutionalization; and active rehabilitative effort (15, 16).

Though there is a general decline in the prevalence of cases of catatonia as observed in this study, the proportion of those with mood disorder was observed to be rising as against the proportion of cases with schizophrenia which was falling. This finding can be compared to other reports which found more cases of catatonia due to mood disorders than due to schizophrenia (12, 13). Some studies suggested that changes in diagnostic criteria and in the concept of catatonia could account for the falling frequency of catatonic schizophrenia (16). Poor recognition of catatonic schizophrenia in clinical practice may also account for its relative rarity. In one study using standardized assessment, 43% of schizophrenic patients met DSM-IV criteria for catatonia but only 5% received the clinical diagnosis of catatonic schizophrenia (17). Hence, there is a need for use of standardized rating scales for catatonia.

This study observed that patients with catatonia due to mood disorders were significantly older than those with catatonic schizophrenia. Previous studies had reported that increasing age may be a significant risk factor for catatonia in depression (18), while others found that patients with catatonic schizophrenia were younger and hospitalized earlier than non-catatonic subjects (19).

The finding of an earlier age of onset of illness among subjects with schizophrenia compared with those with mood disorder may also explain the younger ages of subjects with schizophrenia as against those with mood disorder in this study.

While the finding of female preponderance among subjects with mood disorder is not surprising as mood disorders especially depression are more common among adult women in most countries using a variety of diagnostic schemes or interview methods (20), the finding of a higher number of males with catatonia schizophrenia in this study is contrary to a previous study which reported an equal sex prevalence of catatonic schizophrenia (21). Our explanation for this male predominance is that earlier studies had suggested that catatonic schizophrenia occurred in younger age groups than other schizophrenia subtypes (22), and since there is an earlier age of onset of schizophrenia in males than females (23), then there is a strong probability that there will be a larger number of males with catatonic schizophrenia.

Hence, classifying catatonia under schizophrenia as is currently being done in both the ICD- 10 and DSM IV while being used as a specifier under mood disorders in DSM IV may not be the best option. This opinion has also been expressed by other researchers (24-26). For instance, Fink and Taylor argued that catatonia should not be linked exclusively to schizophrenia and that classification systems could better reflect the evidence that catatonia occurs in many illnesses (26).

According to the American Psychiatric Association DSM-5 development workgroup, there is a valid clinical concern that maintaining a very robust association of catatonia with schizophrenia may result in worsening of catatonic symptoms for some patients treated with potent dopamine blocking agents, mainly in hospital settings (27). Hence, the working group proposed that placing catatonia criteria as a specifier in the psychotic, mood, and general medical chapters in the new DSM-V may be helpful to clinicians (27).

The findings of this study suggest that catatonic symptoms are increasingly being found among patients with mood disorders as against those with schizophrenia. Also, those with catatonic schizophrenia are likely to be younger with earlier age of onset of symptoms compared with those with mood disorders. Hence, having a separate category for catatonia due to mood disorders in the current diagnostic guidelines will add to an improved diagnosis of this disorder.

Acknowledgment

We would like to acknowledge the support of the records department of Federal Neuropsychiatric Hospital, Yaba, Lagos, Nigeria in the execution of this project. No financial support was received for the execution of this project.

References

1. Starkstein SE, Petracca G, Teson A, Chemerinski E, Merello M, Migliorelli R, et al. Catatonia in depression: prevalence, clinical correlates, and validation of a scale. J Neurol Neurosurg Psychiatry 1996; 60: 326-332.
2. Kraepelin E. Dementia Praecox and Paraphrenia. New York: R. E. Krieger Pub; 1971.
3. Penland HR, Weder N, Tampi RR. The catatonic dilemma expanded. Ann Gen Psychiatry 2006; 5: 14.
4. Rajagopal S. Catatonia. Advances in Psychiatric Treatment 2007; 13: 51–59.
5. World Health Organization. Tenth Revision of the International Classification of Diseases and Related Health Problems (ICD–10, WHO). Geneva: World Health Organization; 1992.
6. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, DSM- IV, 4th ed. Washington DC: American Psychiatric Association, 1994.
7. Guggenheim FG, Babigian HM. Catatonic schizophrenia: epidemiology and clinical course. A 7-year register study of 798 cases. J Nerv Ment Dis 1974; 158: 291-305.
8. Pfuhlmann B, Stober G. The different conceptions of catatonia: historical overview and critical discussion. Eur Arch Psychiatry Clin Neurosci 2001; 251 Suppl 1: I4-7.
9. Ungvari GS, Leung SK, Ng FS, Cheung HK, Leung T. Schizophrenia with prominent catatonic features ('catatonic schizophrenia'): I. Demographic and clinical correlates in the chronic phase. Prog Neuropsychopharmacol Biol Psychiatry 2005; 29: 27-38.
10. Taylor MA, Fink M. Catatonia in psychiatric classification: a home of its own. Am J Psychiatry 2003; 160: 1233-1241.
11. Caroff SN, Mann SC, Campbell EC, Sullivan KA. Epidemiology. In: Caroff SN, Mann SC, Francis A, Fricchione GL, eds. Catatonia: from psychopathology to neurobiology. Washington DC: American Psychiatric Publishing; 2004.
12. Abrams R, Taylor MA. Catatonia. A prospective clinical study. Arch Gen Psychiatry 1976; 33: 579-581.
13. Barnes MP, Saunders M, Walls TJ, Saunders I, Kirk CA. The syndrome of Karl Ludwig Kahlbaum. J Neurol Neurosurg Psychiatry 1986; 49: 991-996.
14. Bush G, Fink M, Petrides G, Dowling F, Francis A. Catatonia. I. Rating scale and standardized examination. Acta Psychiatr Scand 1996; 93: 129-136.
15. Mahendra B. Where have all the catatonics gone? Psychol Med 1981; 11: 669-671.
16. Stompe T, Ortwein-Swoboda G, Ritter K, Schanda H, Friedmann A. Are we witnessing the disappearance of catatonic schizophrenia? Compr Psychiatry 2002; 43: 167-174.
17. Oulis P, Lykouras L. Prevalence and diagnostic correlates of DSM-IV catatonic features among psychiatric inpatients. J Nerv Ment Dis 1996; 184: 378-379.
18. Starkstein SE, Petracca G, Teson A, Chemerinski E, Merello M, Migliorelli R, et al. Catatonia in

depression: prevalence, clinical correlates, and validation of a scale. J Neurol Neurosurg Psychiatry 1996; 60: 326-332.
19. Mimica N, Folnegovic-Smalc V, Folnegovic Z. Catatonic schizophrenia in Croatia. Eur Arch Psychiatry Clin Neurosci 2001; 251 Suppl 1: I17-20.
20. Piccinelli M, Wilkinson G. Gender differences in depression. Critical review. Br J Psychiatry 2000; 177: 486-492.
21. Cernovsky ZZ, Landmark JA, Merskey H, O'Reilly RL. The relationship of catatonia symptoms to symptoms of schizophrenia. Can J Psychiatry 1998; 43: 1031-1035.
22. Cunningham Owens DG, Johnstone EC. The disabilities of chronic schizophrenia--their nature and the factors contributing to their development. Br J Psychiatry 1980; 136: 384-395.
23. Gureje O, Bamidele RW. Gender and schizophrenia: association of age at onset with antecedent, clinical and outcome features. Aust N Z J Psychiatry 1998; 32: 415-423.
24. Morrison JR. Karl Kahlbaum and catatonia. Compr Psychiatry 1974; 15: 315-316.
25. Gelenberg AJ. The catatonic syndrome. Lancet 1976; 1: 1339-1341.
26. Fink M, Taylor MA. Catatonia: A Clinician's Guide to Diagnosis and Treatment. Cambridge: Cambridge University Press; 2003.
27. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, DSM-5. Retrieved from: http://www.dsm5.org/Pages/Default.aspx on 24-06-2010.