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Sociodemographic and clinical correlates of sexual dysfunction among psychiatric outpatients receiving common psychotropic medications in a Neuropsychiatric Hospital in Northern Nigeria

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Abstract

Background: Sexual dysfunction is common in patients receiving psychotropic medications and may reduce their quality of life and medication adherence with resultant negative impact on treatment outcomes.
Objectives: In this study, we described the various types of sexual dysfunction among psychiatric outpatients receiving psychotropic medications and the sociodemographic and clinical correlates associated with it.
Settings and Design: A descriptive, cross-sectional study conducted in a Neuropsychiatric Hospital in Northern Nigeria.
Methodology: The participants were made up of a consecutive sample of 255 outpatients attending psychiatric clinic from January to March 2014. Data were collected on sociodemographic items, patient's clinical diagnosis, psychotropic medications received, and duration of treatment. Information about sexual functioning was obtained using the International Index of Erectile Function Questionnaire for the male participants and the Female Sexual Function Index for the female participants.
Results: The mean age of the patients studied was 34.7 years (standard deviation [SD] =5.9), with a mean duration of treatment of 3.8 (SD = 6.5) years. Males constituted 47.8% and patients with schizophrenia constituted 43.1%; other diagnoses include bipolar affective disorder, recurrent depressive disorder, and substance use disorder. The prevalence of sexual dysfunction was 64.3%. Age, employment status, and psychotropic medication use were significantly associated with sexual dysfunction; however, only employment status and psychotropic medication use significantly predicted sexual dysfunction.
Conclusions: We concluded that sexual dysfunction is highly prevalent among patients receiving psychotropic medication; as such inquiries about sexual function should be routinely carried out by clinicians as this may negatively impact on adherence and quality of life.

Key words: Psychiatric outpatients, psychotropic medications, sexual dysfunction

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Introduction

Psychotropic medications are beneficial for the treatment of psychiatric disorders, but almost all have the potential to induce diverse sexual adverse effects.[1-4] This is further complicated by the effects of major psychiatric disorders on sexual functioning, among which are reduced libido and decreased sexual performance and satisfaction.[5,6] Sexual dysfunction is a common and distressing symptom in schizophrenia, with rates of up to 86–96% reported in more recent studies.[5] The high rates could be caused by antipsychotic treatment and illness variables such as negative symptoms, direct effects of psychosis, and abnormalities in the limbic system.[7-9]

Masters and Johnson first described a four-stage model of physiological responses to sexual stimulation to include excitement phase, plateau phase, orgasmic phase, and resolution.[10] Their work was criticized on the basis that it only evaluated sexual response from physiological perspective while psychological, emotional, and neuro-cognitive factors need to be taken into consideration. Other researchers described three phases: Desire (libido), excitement (arousal), and orgasm which are interconnected yet have different neurophysiological mechanisms.[11,12] Neurobiology of these three phases of sexual function shows that libido is primarily regulated by dopamine, arousal by acetylcholine and nitric oxide, and orgasm by serotonin and norepinephrine.[12] Accordingly, antipsychotic drugs that are dopamine antagonists might be expected to decrease libido while the many antidepressants that are serotonin agonists would be likely to interfere with orgasm.[13]

The psychotropic drugs most commonly associated with sexual dysfunction are antidepressants and antipsychotics. Sexual dysfunction has been cited as one of the most common reasons for patients dropping out of treatment with antidepressants.[1] There is very limited published information regarding effects of anticonvulsants, mood stabilizers, and anxiolytic drugs on sexual function. Direct inquiry reveals that delayed orgasm/ejaculation occurs in >50% and anorgasmia in at least one-third of patients given selective serotonin reuptake inhibitors.[2] In addition, sexual dysfunction is greatly underreported by patients.[14,15] Some studies have examined sexual dysfunction in patients taking tricyclic antidepressants or monoamine oxidase inhibitors and found delayed orgasm in 21% of men and 27% of women taking imipramine, in 30% of men and 36% of women taking phenelzine, and in no men and 11% of women taking placebo.[16] The resolution phase is the passive phase that follows orgasm. Very few studies have specifically looked at the effects of psychotropic medications on this phase of sexual response. Drugs such as benzodiazepines and antidepressants that cause delayed orgasm or anorgasmia do inhibit or prolong the resolution phase of the sexual response cycle.

Decreased libido is very common with the older conventional antipsychotic drugs since they are potent dopamine blockers, with 30–60% of patients experiencing disturbances of sexual function.[17] A study in Southwestern Nigeria involving 275 consecutive outpatients with psychotic disorders on conventional antipsychotics showed that 40.4% of respondents had one or more forms of sexual dysfunction. Sexual desire dysfunction was present in 17.1%, erectile dysfunction in 34.5%, orgasmic dysfunction in 18.5%, intercourse dissatisfaction in 26.2%, and overall dissatisfaction in 23.3% of respondents.[18] Other studies had similar findings and were more likely to be disturbing to men than women.[17,19-21] Among the newer atypical antipsychotic drugs, risperidone is most likely to cause elevations in prolactin levels and hyperprolactinemic symptoms such as menstrual disturbances, galactorrhea, erectile dysfunction, and decreased libido.[22,23] Benzodiazepines, particularly in higher doses, have been most strongly associated with decreased libido and ejaculatory difficulty.[24] Sexual dysfunction has consistently been found to be more common in patients taking carbamazepine and phenytoin than in those taking nonenzyme-inducing anticonvulsants such as lamotrigine and valproate.[2,25,26]

Despite this high rate, complaints about sexual dysfunction are largely unexplored or ignored by clinicians resulting in poor medication adherence and quality of life.[27] Furthermore, some patients may be shy or have cultural restrictions in discussing their sexual experiences. Most of the studies investigating sexual dysfunction in patients receiving psychotropic medications in Nigeria examined erectile dysfunction in male patients attending outpatient clinics or specific diagnostic groups. In this study, we described the various types of sexual dysfunction among male and female psychiatric outpatients receiving psychotropic medications and sociodemographic and clinical correlates associated with them.

Methodology

This is a descriptive, cross-sectional study design. Participants were made up of a consecutive sample of 255 male and female outpatients attending clinic in a Northern Nigerian Neuropsychiatric Hospital, which is the only federal government owned public psychiatric hospital in the town. Ethical clearance for the study was obtained from the Research Ethics Committee of the hospital.

Participants included consenting clinic attendees between the ages of 18 and 69 years who were married and/or who had a regular sexual partner and who had fulfilled the International Classification of Diseases-Tenth Edition

criteria for a neuropsychiatric disorder at 1 time or the other based on information from patients' case notes and who were currently on psychotropic medications for at least 3 months. The study excluded patients who were too ill to respond to the interview and those with clinical history or record of conditions and medications that may contribute to sexual dysfunction such as diabetes, hypertension, cerebrovascular disorder, and endocrine disorder/medications (all patients undergo routine laboratory screening including fasting/random blood sugar and full physical examination at presentation and regular intervals for any concomitant physical illness at the study center; body weight and blood pressure checks are also carried out at every visit).

The interviews were conducted by a consultant psychiatrist and two trained research assistants (a male and a female psychologist attending to the male and female respondents, respectively) in the outpatient clinic consultation rooms after routine consultation, to ensure confidentiality. Assistance in completing the questionnaires was provided for the respondents where necessary.

Instruments

Data were collected using a research protocol containing sociodemographic items, patient's clinical diagnosis, psychotropic medications being received, and duration of treatment.

Information about sexual functioning was obtained using the International Index of Erectile Function (IIEF) Questionnaire for the male participants and the Female Sexual Function Index (FSFI) for the female participants.

The International Index of Erectile Function questionnaire

This is a self-administered questionnaire that evaluates male sexual functions. The IIEF was developed by an international panel of experts through an extensive review of the literature and existing questionnaires in addition to a detailed interview of men with sexual dysfunction and their partners.[28] The IIEF instrument consists of 15 questions (Q), rated on a scale of 1–5, with 0 indicating no sexual activity or no attempt. It has five domains: Erectile dysfunction (Q1–5, 15), orgasmic function (Q9, 10), sexual desire (Q11, 12), intercourse satisfaction (Q6–8), and overall satisfaction (Q13, 14), each addressing a unique dimension of sexual function. Total IIEF questionnaire score ranged from 0 to 75, with higher scores indicating better sexual functioning. The instrument has a scoring algorithm showing the five domains of male sexual dysfunction with their cutoff scores. Responses to each question are based on sexual problems experienced over the past 4 weeks. The IIEF has been used by previous authors in Nigeria[29] and in their study, a reliability coefficient (Cronbach's alpha) of 0.921 was obtained.

The Female Sexual Function Index

This questionnaire was developed as a brief, self-report measure of female sexual function. Initial face validity testing of questionnaire items, identified by an expert panel, was followed by a study aimed at further refining the questionnaire. It was administered to 131 normal controls and 128 age-matched subjects with female sexual arousal disorder (FSAD) at five research centers. Based on clinical interpretations of principal components analysis, a 6-domain structure was identified, which included desire, subjective arousal, lubrication, orgasm, satisfaction, and pain. Overall test-retest reliability coefficients were high for each of the individual domains ($r = 0.79–0.86$), and a high degree of internal consistency was observed (Cronbach's alpha values of 0.82 and higher). Good construct validity was demonstrated by highly significant mean difference scores between the FSAD and control groups for each of the domains ($P < 0.001$).[30] The FSFI is a 19-item questionnaire that has six domains: Sexual desire (Q1, 2), sexual arousal (Q3–6), lubrication (Q7–10), orgasm (Q11–13), sexual satisfaction (Q14–16), and sexual pain (Q17–19). The instrument has an algorithm that aids clinical interpretation of results and has been validated in Nigeria.[31]

Statistical Package for Social Sciences version 16.0 (SPSS Inc. Chicago, 2007) was used for data analysis. Most of the variables were grouped for ease of statistical analysis. Results were calculated as frequency (%) and mean. Variables that were found to be significantly associated with any form of sexual dysfunction (independent variables) were then included in a logistic regression model with the presence or absence of sexual dysfunction as the outcome (dependent variable). The level of significance was set at 0.05.

Results

Sociodemographic characteristics

Two hundred and fifty-five male and female outpatients who met the inclusion criteria were recruited for the study. The mean age was 34.7 (standard deviation [SD] =5.9) years, and they were mainly between 20 and 29 years old (34.1%). The respondents were predominantly unemployed (61.6%) and 52.2% were female [Table 1].

Clinical and medication related variables

The majority of the participants had a diagnosis of schizophrenia (43.1%) and the mean duration of treatment with psychotropic medications was 3.8 (SD = 6.5) years, and median duration was 5.2 years. The mean antipsychotic dose was 408 mg chlorpromazine or equivalent per day,[32] mean

Table 1: Sociodemographic characteristics of participants

Variable	Frequency (%)
Age.(years)	
10-19	19 (7.5)
20-29	87 (34.1)
30-39	76 (29.8)
40-49	33 (12.9)
50-59	23 (9.0)
60-69	17 (6.7)
Total	255 (100)
Mean (SD)	34.7 (5.9)
Sex	
Male	122 (47.8)
Female	133 (52.2)
Occupation	
Employed	98 (38.4)
Unemployed	157 (61.6)

SD=Standard deviation

Table 2: Clinical and medication related characteristics of participants

Variable	Frequency
Diagnosis	
Bipolar affective disorder	13 (5.1)
Depressive disorder	37 (14.5)
Schizophrenia	110 (43.1)
Psychoactive substance dependence	26 (10.2)
Generalized anxiety disorder	14 (5.5)
Acute and transient psychotic disorder	14 (5.5)
Seizure disorder	31 (12.2)
Others (migraine, insomnia, somatization)	10 (3.9)
Medication	
TA	4 (1.6)
AA	13 (5.1)
Antidepresant	17 (6.7)
Anticonvulsant/mood stabilizer	25 (9.8)
AA + benzhexol	17 (6.7)
TA + benzhexol	71 (27.8)
TA + benzhexol + antidepresant	34 (13.3)
TA + anticonvulsant/mood stabilizer	13 (5.1)
TA + anticonvulsant/mood stabilizer + benzhexol	25 (9.8)
AA + anticonvulsant/mood stabilizer	20 (7.8)
AA + antidepresant	16 (6.3)
Participants on 2 or more psychotropic medications	196 (76.9)

TA=Typical antipsychotic; AA=Atypical antipsychotic

tricyclic antidepresant dose was 63 mg amitriptylline or equivalent per day,[33] mean SSRI dose was 20 mg fluoxetine or equivalent per day, mean dose of anticonvulsant/mood stabilizer was 752 mg Carbamazepine, 605 mg sodium valproate per day and mean dose of benzhexol was 6.4 mg per day. About 77% of the participants were using two or more psychotropic medications as at the time of the study [Table 2].

Table 3: Sex distribution of the various forms of sexual dysfunction

Gender	Sexual dysfunction	Frequency (%)
Male	Sexual desire dysfunction	31 (25.4)
	Erectile dysfunction	49 (40.2)
	Orgasmic dysfunction	25 (20.5)
	Intercourse dissatisfaction	15 (12.3)
	Overall dissatisfaction	22 (18)
Female	Sexual desire disorder	38 (28.6)
	Arousal disorder	48 (36.1)
	Lubrication disorder	39 (29.3)
	Orgasmic dysfunction	62 (46.6)
	Sexual satisfaction	10 (7.5)
	Sexual pain disorder	20 (15)

One or more forms of sexual dysfunction existed among 164 (64.3%) of the respondents. Of these, female sexual dysfunction constituted 58.8% while male sexual dysfunction constituted 40.2% [Table 3].

Correlates of sexual dysfunction

Sociodemographic-, medication-, and illness-related variables associated with one or more forms of sexual dysfunction in males and females are shown in Tables 4 and 5, respectively.

Independent correlates of sexual dysfunction

Regression analysis showed that unemployment in males ($P = 0.04$) and psychotropic medication use in males and females ($P = 0.026$ and 0.011, respectively) were the only significant predictors of sexual dysfunction.

Discussion

The current study examined the prevalence and correlates of sexual dysfunction among male and female psychiatric outpatients receiving psychotropic medications in a Neuropsychiatric Hospital in Northern Nigerian.

The study population consisted of approximately equal proportion of male and female participants, the majority of whom were unemployed (61.6%) with mean age of 34.7 years reflective of the adult clinic population where the study was conducted. The high unemployment ratio may be indicative of impaired occupational functioning resulting from their clinical diagnoses as majority had schizophrenia (43.1%), a condition known to impair occupational functioning.

About 77% of the participants were using two or more psychotropic medications as at the time of the study similar to an observation made in a study examining the prescribing habits for psychiatric inpatient admissions.[34] The highest combination was those on typical antipsychotics

Table 4: Association between specific sexual dysfunctions and sociodemographic, clinical and medication-related variables in male participants

Variable	χ^2, df, *P*				
	Sexual desire dysfunction	Erectile dysfunction	Orgasmic dysfunction	Intercourse dissatisfaction	Overall dissatisfaction
Sociodemographic					
Age group					
<30/30-39/40-49/50-59/60-69 years	3.045, 4 (0.568)	4.793, 4 (0.046)	9.3454 (0.023)	6.549, 4 (0.942)	11.065, 4 (0.105)
Employment status					
Employed/unemployed	8.098, 1 (0.002)	5.542, 1 (0.048)	7.642, 1 (0.032)	12.653, 1 (0.082)	3.098, 1 (0.039)
Clinical diagnosis					
BAD/DD/schiz/PSD/GAD/ATPD/SD/others	1.645, 7 (0.743)	4.791, 7 (0.074)	3.329, 7 (0.845)	2.969, 7 (0.164)	5.062, 7 (0.099)
Medication					
TA yes/no	12.753, 1 (0.035)	9.724, 1 (0.005)	3.956, 1 (0.656)	1.525, 1 (0.352)	4.864, 1 (0.254)
AA yes/no	1.853, 1 (0.529)	3.105, 1 (0.084)	6.482, 1 (0.853)	2.614, 1 (0.065)	8.535, 1 (0.162)
AD yes/no	5.875, 1 (0.095)	1.753, 1 (0.263)	11.325, 1 (0.035)	4.651, 1 (0.245)	5.421, 1 (0.143)
AC/MS yes/no	2.098, 1 (0.625)	4.157, 1 (0.547)	1.052, 1 (0.961)	5.645, 1 (0.086)	3.335, 1 (0.142)
AA + BZ yes/no	3.653, 1 (0.456)	7.125, 1 (0.045)	1.963, 1 (0.835)	4.175, 1 (0.245)	6.371, 1 (0.568)
TA + BZ yes/no	6.524, 1 (0.735)	9.583, 1 (0.032)	3.501, 1 (0.062)	5.264, 1 (0.284)	3.737, 1 (0.105)
TA + BZ + AD yes/no	4.642, 1 (0.631)	10.652, 1 (0.037)	6.498, 1 (0.028)	5.717, 1 (0.178)	2.746, 1 (0.082)
TA + AC/MS yes/no	8.647, 1 (0.015)	1.385, 1 (0.055)	4.115, 1 (0.482)	7.264, 1 (0.087)	3.572, 1 (0.285)
TA + AC/MS + BZ yes/no	0.654, 1 (0.528)	0.052, 1 (0.092)	1.005, 1 (0.618)	3.067, 1 (0.264)	0.005, 1 (0.492)
AA + AC/MS yes/no	5.952, 1 (0.185)	4.711, 1 (0.073)	1.558, 1 (0.569)	0.817, 1 (0.726)	2.947, 1 (0.091)
AA + AD yes/no	2.610, 1 (0.105)	5.094, 1 (0.445)	8.224, 1 (0.047)	3.056, 1 (0.624)	1.756, 1 (0.825)

TA=Typical antipsychotics; AA=Atypical antipsychotics; AD=Anti-depressants; AC/MS=Anticonvulsants/mood stabilizers; Bz=Benzhexol; BAD=Bipolar affective disorder; DD=Depressive disorder; Schiz=Schizophrenia; PSD=Psychoactive substance dependence; GAD=Generalized anxiety disorder; ATPD=Acute and transient psychotic disorder; SD=Seizure disorder; Others=Maigraine, insomnia, somatization

Table 5: Association between specific sexual dysfunctions and socio-demographic, clinical and medication-related variables in female participants

Variable	χ^2, df, *P*					
	Desire disorder	Arousal disorder	Lubrication disorder	Orgasmic dysfunction	Sexual satisfaction	Sexual pain
Sociodemographic						
Age group						
<30/30-39/40-49/50-59/60-69 years	4.865, 4 (0.072)	2.841, 4 (0.328)	8.617, 4 (0.025)	5.639, 4 (0.046)	1.716, 4 (0.124)	4.963, 4 (0.062)
Employment status						
Employed/unemployed	0.000, 1 (0.071)	0.976, 1 (0.105)	1.354, 1 (0.415)	5.001, 1 (0.048)	0.674, 1 (0.082)	2.015, 1 (0.439)
Clinical diagnosis						
BAD/DD/schiz/PSD/GAD/ATPD/SD/others	2.562, 7 (0.539)	0.756, 7 (0.274)	3.419, 7 (0.087)	1.842, 7 (0.456)	0.000, 7 (0.924)	0.005, 7 (0.225)
Medication						
TA yes/no	6.734, 1 (0.272)	3.836, 1 (0.665)	1.845, 1 (0.073)	5.234, 1 (0.037)	6.273, 1 (0.127)	1.568, 1 (0.684)
AA yes/no	0.000, 1 (0.615)	0.652, 1 (0.085)	0.004, 1 (0.264)	0.946, 1 (0.259)	1.947, 1 (0.582)	0.284, 1 (0.413)
AD yes/no	3.737, 1 (0.175)	1.486, 1 (0.072)	4.254, 1 (0.456)	6.452, 1 (0.044)	4.737, 1 (0.085)	7.529, 1 (0.528)
AC/MS yes/no	0.005, 1 (0.542)	0.745, 1 (0.105)	0.554, 1 (0.726)	1.886, 1 (0.155)	2.738, 1 (0.077)	0.638, 1 (0.335)
AA + BZ yes/no	3.745, 1 (0.254)	1.857, 1 (0.595)	0.862, 1 (0.067)	0.004, 1 (0.945)	0.000, 1 (0.124)	0.455, 1 (0.326)
TA + BZ yes/no	4.742, 1 (0.056)	2.185, 1 (0.106)	6.327, 1 (0.052)	3.596, 1 (0.264)	1.528, 1 (0.481)	0.885, 1 (0.325)
TA + BZ + AD yes/no	9.639, 1 (0.024)	7.752, 1 (0.048)	5.152, 1 (0.164)	10.862, 1 (0.002)	3.624, 1 (0.527)	6.431, 1 (0.822)
TA + AC/MS yes/no	0.052, 1 (0.326)	0.875, 1 (0.115)	0.068, 1 (0.722)	2.004, 1 (0.271)	1.856, 1 (0.337)	3.612 (0.455)
TA + AC/MS + BZ yes/no	7.192, 1 (0.025)	5.665, 1 (0.062)	5.268, 1 (0.165)	6.207, 1 (0.072)	4.993, 1 (0.825)	2.471, 1 (0.327)
AA + AC/MS yes/no	0.000, 1 (0.629)	0.006, 1 (0.147)	0.728, 1 (0.094)	1.465, 1 (0.376)	0.954, 1 (0.512)	2.625, 1 (0.375)
AA + AD yes/no	3.164, 1 (0.225)	5.296, 1 (0.079)	0.994, 1 (0.736)	1.522, 1 (0.145)	4.252, 1 (0.361)	1.557, 1 (0.544)

TA=Typical antipsychotics; AA=Atypical antipsychotics; AD=Anti-depressants; AC/MS=Anticonvulsants/mood stabilizers; BZ=Benzhexol; BAD=Bipolar affective disorder; DD=Depressive disorder; Schiz=Schizophrenia; PSD=Psychoactive substance dependence; GAD=Generalized anxiety disorder; ATPD=Acute and transient psychotic disorder; SD=Seizure disorder; Others=Maigraine, insomnia, somatization

and benzhexol constituting 27.8% followed by those on typical antipsychotics, benzhexol, and antidepressant combination (13.3%). These medications are known to individually cause sexual adverse effects via their mechanisms of action;[1-4] therefore, combinations such as these will more likely precipitate sexual adverse effects in patients.

Overall, about 64.3% of the respondents had at least one form of sexual dysfunction. This rate is similar to that reported in previous studies.[18,19] Considering the finding that the mean age (34.7 years) of the respondents fell within the reproductive age group, problems with their sexual functioning may be a significant source of concern for them with far reaching consequences if left untreated.

Erectile dysfunction was found to be the most common sexual dysfunction in men (40.2%) receiving psychotropic medication. This was followed by sexual desire dysfunction (25.4%) and then orgasmic dysfunction (20.5%). This finding is similar to the observation made in some other studies.[17,18,21] A difference was observed for the female where orgasmic dysfunction was found to be the most common type of sexual dysfunction (46.6%), followed by arousal and lubrication disorders (36.1% and 29.3%, respectively). This is similar to findings in some other studies looking at sexual dysfunction in women taking psychotropic medications.[16] This observed sex difference is in keeping with the natural differences observed by previous researchers in male and female disorders of sexual response where erectile dysfunction was found to be the most common sexual dysfunction in men and orgasmic dysfunction in the women in general population studies.[35] This study also found that men were more dissatisfied with their sexual functioning (12.3%) compared to women (7.5%) and similar to some other studies which found that sexual dysfunction is more disturbing in men than in women taking psychotropic medications.[17,19,21] It was not surprising that sexual arousal and desire dysfunction was found to be common among participants in this study considering the fact that majority of them were on multiple psychotropic medications, especially conventional antipsychotic (antidopaminergic), benzhexol (anticholinergic), and antidepressant (serotonergic/noradrenergic) combinations. Studies have found that libido is primarily regulated by dopamine, arousal by acetylcholine and nitric oxide, and orgasm by serotonin and noradrenaline.[13] Therefore, the mechanism of action of these psychotropic medications may be implicated as a cause of sexual dysfunction. Inability to achieve a good penile erection for optimal sexual satisfaction in men may be associated with feelings of inadequacy. In many societies, individuals with erectile dysfunction are often stigmatized and may be deserted by their spouse.[36] Once patients recognize that their psychotropic medications produce one form of sexual dysfunction or the other, it often results in poor treatment adherence.[1]

This study found that erectile and orgasmic dysfunction was significantly associated with age among the male participants while lubrication disorder and orgasmic dysfunction were significantly associated with age in the females. These associations may not be different from the natural changes that occur in male and female sexuality with aging as previous researchers have reported that erectile dysfunction in males and orgasmic dysfunction in females increases with age.[37] However, psychotropic medication use is likely to further increase the risk of developing these sexual adverse effects through their mechanisms of action.[1,2,13]

This study reports that employment status was significantly associated with sexual desire dysfunction, erectile dysfunction, orgasmic dysfunction, and overall sexual dissatisfaction in the male participants similar to the finding in some other studies[18] while in the female participants, only orgasmic dysfunction was found to be significantly associated with employment status. Overall, employment status was found to be predictive of sexual dysfunction in male patients receiving psychotropic medication. Unemployment seems to have more impact on the male sexuality and may result in role reversal within a relationship, bringing about feelings of inadequacy in the male partner which may negatively impact on self-worth and sexual performance or satisfaction. Several studies have shown that unemployment was associated with low sexual desire and erectile dysfunction in the general population.[38,39] It is very likely that financial stress might have negative impact on sexual functioning in population of unemployed mentally ill subjects.

This research showed no association between the clinical diagnoses of participants and sexual dysfunction, probably because the sample was made up of patients whom were mostly stable on psychotropic medications. However, some previous studies have found attributable effects of major psychiatric disorders on sexual functioning, among which are reduced libido and decreased sexual performance and satisfaction.[5,6]

Psychotropic medication use was found to predict sexual dysfunction in male and female participants. This may occur as a result of the effects of psychotropic drugs on catecholamines and their effects on sexual function. This may be even more relevant since as many as 76.9% of study participants were on multiple psychotropic medications. The study found that typical antipsychotic use was associated with erectile dysfunction in males and orgasmic dysfunction in males and females while antidepressant use was associated with orgasmic dysfunction in males and females similar to findings in some other studies.[17,18,22] This is believed to be due to the effects of these medications on the various catecholamines that play important roles in sexual functioning.

Sexual dysfunction has been cited as one of the most common reasons for patients dropping out of treatment with psychotropic medications.[1] In addition, it is greatly underreported by patients and unexplored or ignored by clinicians resulting in poor medication adherence and quality of life.[27] The diagnosis of psychotropic drug-induced sexual dysfunction is easy if the psychiatrist is sensitive to the existence of these adverse effects. Physicians should take sexual histories as a routine practice when prescribing psychotropic drugs. Diagnosis is usually established if the sexual dysfunction develops when the patient is receiving a psychotropic drug and then disappears when the offending drug is discontinued.[24]

This study described the various types of sexual dysfunction among male and female psychiatric outpatients receiving psychotropic medications in the Northern Nigerian Neuropsychiatric Hospital and highlighted the magnitude of the problem. It is hoped that this will create awareness and encourage the need for routine screening for sexual dysfunction in all patients receiving psychotropic medications so as to institute appropriate care.

This study has a number of limitations. First, it was cross-sectional in design, so the direction of causality between sexual dysfunction and the sociodemographic and clinical variables could not be inferred from the findings. Second, there is a limitation regarding the generalizability of the result to other patients on psychotropic medications in Nigeria as the study was conducted in just one center. Third, the absence of a control group is an important limitation to the generalizability of our results, especially as we know from literature that psychiatric conditions may also give rise to various types of sexual dysfunction.

Conclusion

Sexual dysfunction is common among psychiatric outpatients on psychotropic medications and is associated with demographic-, illness-, and medication-related variables; as such inquiries about sexual dysfunction should be routinely carried out by clinicians to improve case identification and encourage effective treatment.

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Conflicts of interest

There are no conflicts of interest.

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