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Gender Distribution and Prevalence of Psychiatric Disorders in a Nigerian Outpatient Setting: A "Cross Sectional" Study.

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ABSTRACT

Background: Mental illnesses are among the leading causes of disease burden, accounting for a substantial portion of disability-adjusted life years (DALYs) and years of life lost due to premature death (YLL). Gender and sex differences play important roles in the aetiology of psychiatric illnesses and may influence the prevalence, symptomatology, risk factors, and progression of these conditions.

AIM: To determine the prevalence and gender distribution of psychiatric disorders among patients attending psychiatric outpatient clinic at Usmanu Danfodiyo university teaching hospital Sokoto.

Materials and methods: Data were collected from 351 participants over three months using researcher-designed questionnaires and a convenience sampling technique, with ethical approval from the Ethics Review Committee of Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto. Analysis was conducted using SPSS version 25, with continuous variables summarized through means and standard deviations, and categorical variables presented as frequencies and percentages.

Results: The mean age of the respondents was 35.2 years standard deviation (SD) ± 14.2, majority of the participants (56.9%) aged between 20 and 39 years and with a slight female majority (56.7%). Depressive disorder was the most prevalent mental illness (21.6%), followed by schizophrenia (9.0%) and bipolar disorder (8.1%). Mood and anxiety disorders were more prevalent among the females while schizophrenia and substance use disorder were more prevalent among the males.

Conclusion: Depressive disorder, schizophrenia, and bipolar disorder were the most prevalent mental illnesses among psychiatric outpatients' attendees. Furthermore, schizophrenia, and substance use disorders were more prevalent among male. In contrast, mood and anxiety disorders, organic mental disorders, insomnia, and obsessive-compulsive disorder were more common in among females.

Key words: Prevalence, Psychiatric disorders, Outpatient Clinic, Male to female Ratio

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INTRODUCTION

Mental disorders are prevalent conditions that involve alterations in thinking, emotion, or behavior and often result in distress or difficulties in personal, social, occupational, or family functioning (1).The life time prevalence of psychiatric disorder in Nigeria is among the lowest globally with a rate of 12.0% , this is closely followed by China (13.2%), while higher prevalence reported in Israel, Italy, Japan, and Spain (over one-sixth), Belgium, Germany, Lebanon, Mexico, the Netherlands, and South Africa (over one-fourth), and the highest in Colombia, France, New Zealand, Ukraine, and the United States (over one-third) (2). According to the WHO, mental health is a state of well-being in which individuals recognize their potential, manage everyday stress, work effectively, and contribute to their community, yet this balance is disrupted in at least one in three people over their lifetime (3). From 1990 to 2019, global disability-adjusted life years (DALYs) caused by psychiatric disorders increased from 80.8 million to 125.3 million —rising from 3.1% to 4.9% of total global DALYs— primarily driven by years lived with disability (YLDs), which accounted for 32.42% of global YLDs and 13.03% of total DALYs, with five disorders— depressive disorder (2nd), anxiety disorders (7th), schizophrenia (11th), dysthymia (16th), and bipolar disorder (17th)—ranked among the top 20 global causes of YLDs in 2013 (3, 4).

The Institute of Medicine defines sex as "the classification of living things, generally as male or female according to their reproductive organs and functions assigned by chromosomal complement"

while gender is defined as "a person's self-representation as male or female, or how that person is responded to by social institutions based on the individual's gender presentation, which is shaped by environment and experience (5). Gender as well as sex differences in psychiatric illnesses are among some of the most intriguing and consistent findings in psychiatry, as they are evident in prevalence, symptomatology, risk factors, and progression, with women experiencing a higher lifetime prevalence of mood and anxiety disorders than men, along with a later onset of schizophrenia (6). While some mental illnesses are exclusive to females due to biological sex differences such as postpartum psychosis, variations based on gender also occur in responses to psychotropic medications, gastric pH, the expression of metabolic enzymes and drug transporters, and drug clearance, such as with zolpidem (5, 7, 8). The hypothalamic-pituitary-gonadal axis may explain the aetiology of gender differences in mental disorders, for instance in schizophrenia an increased incidence has been observed during periods of low estradiol levels and many women experiencing estradiol deficiency and gonadal dysfunction in the untreated prodromal phase of schizophrenia (9). On the other hand, domestic violence and abuse are acknowledged as manifestations of power imbalances between males and females, and many other inequalities, such as traditional gender roles, gender harassment, and workplace discrimination, likely also impact women's psychological health (10, 11). This may also potentially predispose females to certain forms of mental illness.
Despite the evidence of the sex and gender difference in the epidemiology of psychiatric illness, limited prior studies have focused on sex and gender differences in the etiologies and management of psychiatric illnesses resulting in biased, gender-neutral guideline that undermine scientific validity and hamper the provision of gender-sensitive mental health management, adversely affecting both sexes (5). This research seeks to examine the prevalence and gender distribution of major psychiatric disorders among patients at the psychiatric outpatient clinic of Usmanu Danfodiyo University Teaching Hospital in Northwestern Nigeria, aiming to provide a foundation for further studies in this important area.

Materials and Methods

Socio-demographic and clinical data were gathered through researcher-designed sociodemographic questionnaires, informed by previous studies. These instruments collected information on various socio-demographic and clinical characteristics. A total of 351 participants were enrolled over a three-month period using a convenience sampling approach. (Given the 3-month data collection period, an estimated 500 outpatients (including repeat visits), and a sample size of 350—plus the likelihood of ineligible participants—a probability sampling technique was not feasible.)

The study was conducted at a clinic with a sampling frame of approximately 500 patients per quarter, as derived from medical records. Eligible participants included those attending outpatient visits who gave informed consent, as well as parents or guardians who provided consent for minors under 18 years of age. Individuals who did not consent were excluded. Ethical approval was obtained from the Ethics Review Committee of Usmanu Danfodiyo University Teaching Hospital (UDUTH/HREC/2024/1400/V2).

Statistical Analysis

The analysis was conducted using Statistical Product and Service Solutions (SPSS) version 25. Continuous variables were analyzed and presented using measures of central tendency, such as the mean, and measures of dispersion, such as the standard deviation. Categorical variables were analyzed and presented using frequency distribution tables and percentages.

Results

Socio-demographic characteristics of the study participants

Table 1 presents the sociodemographic characteristics of the study participants. The mean age was 35.2 years standard deviation (SD) ± 14.2, with the majority (56.9%) of participants between 20-39 years of age. A slight majority (56.7%) were female. Most participants (56.0%) were unemployed. Regarding marital status, the largest proportion were married (52.2%). The majority of participants were of Hausa ethnicity (87.9%).

Table 1: Socio-demographic characteristics of the study participants

Variable	Frequency	%
Age (years): (Mean 35.2 SD±14.2)		
<20	31	8.9
20-39	198	56.9
40-59	91	26.1
60-79	26	7.5
>80	2	0.6
Gender		
Male	152	43.3
Female	199	56.7
Marital status		
Single	125	37.3
Married	175	52.2
Separated	1	.3
Divorced	28	8.4
Widowed	6	1.8
Employment status		
Employed	48	15.1
Retired	2	.6
Unemployed	178	56.0
Business	21	6.6
Student	69	21.7
Tribe		
Hausa	291	87.9
Yoruba	9	2.7
Igbo	7	2.1
Others	24	7.3

Table 2 presents the prevalence of psychiatric disorders among the study participants. Depressive disorder was the most prevalent disorder, affecting 21.6% of respondents. Schizophrenia follows, with a prevalence of 9.0%. Bipolar disorder and organic psychiatric illnesses each were having a prevalence of 8.1%. Seizure disorders were seen in 7.2% of the clients, while substance use disorders affect 6.6% of participants. Anxiety disorders impact 6.1% of the population studied. Less prevalent disorders, including dysthymia, sexual compulsion, pathological grief, hypochondriasis, post-traumatic stress disorder, and encopresis, each have a prevalence of 0.6%.

Table 2: Prevalence of mental illness

Diagnosis	Prevalence
Schizophrenia	9.0%
Bipolar disorder	8.1%
Depressive disorder	21.6%
Postpartum mental illness	3.2%
Seizure disorders	7.2%
Anxiety disorders	6.1%
Somatoform disorders	3.7%
Substance use disorders	6.6%
Dissociative disorders	0.3%
Organic mental disorders	8.1%
Intellectual Disability	3.5%
Insomnia	2.0%
Dementia	3.5%
Obsessive compulsive disorders	1.4%
Dysthymia	0.6%
Persistent delusional disorder	3.0%
Schizoaffective disorder	0.9%
Sexual Compulsion	0.6%
Adjustment	0.9%
Pathological Grief	0.6%
Hypochondriasis	0.6%
Post-traumatic stress disorder	0.6%
Encopresis	0.3%
Compulsive Behavior	0.3%
Autism spectrum disorder	0.3%

Table 3 represents the male-to-female ratio of participants with mental illness. A higher male-to-female ratio is observed among patients with schizophrenia, somatoform disorder, intellectual disability (ID), and substance use disorder. In contrast, mood disorders, seizure disorders, anxiety disorders, organic mental disorders, insomnia, and obsessive-compulsive disorder are more prevalent among females. Dysthymia, hypochondriasis, and post-traumatic stress disorder exhibit an equal male-to-female ratio.

Table 3: Male-to-Female ratio of participants.

Diagnosis	Male: Female Ratio
Schizophrenia	1.3: 1
Bipolar disorder	1: 3
Depressive disorder	1: 2.1
Seizure disorder	2: 3
Anxiety disorder	3: 4
Somatoform disorder	2.3: 1
Substance use disorder	10.5: 1
Organic mental illness	3: 4
Intellectual disability	2: 1
Insomnia	1: 2.5
Obsessive compulsive disorder	1: 4
Dysthymia	1: 1
Hypochondriasis	1: 1
Post-traumatic stress disorder	1: 1

Discussion

The study showed that depressive disorder was the most common mental illness in the outpatient department. This finding is similar to that of a nationwide study conducted in Sweden, where Swedish scientists observed a high prevalence of depressive disorder among patients attending primary care (12). In contrast, findings of Abubakar and co-researchers identified seizure disorder as the most prevalent condition among patients treated at a Nigerian Federal Neuropsychiatric Hospital, with depressive disorder ranking as the second most common (13). This discrepancy may be due to the setting of Abubakar's study, which was conducted in a specialized psychiatric hospital where psychiatrists manage all cases of seizure disorder. Conversely, the index study was conducted in a teaching hospital where the Department of Internal Medicine includes a Neurology unit responsible for managing seizure disorders, alongside the Pediatrics Department, which has a Pediatric Neurology unit that treats seizure disorders in pediatric patients. Therefore, the Psychiatry Department in this context treats a decreased number of seizure disorder patients due to the distribution of responsibilities across these other specialized units. Also in contrast, Pahadi et al. in Nepal found anxiety disorders to have highest prevalence in their retrospective study (1). This discrepancy may be attributable to variation in service delivery models, as the psychiatric outpatient clinic in the current study setting predominantly manages moderate to severe psychiatric disorders , whereas patients presenting with milder conditions are largely assessed and managed within the general outpatient department of the hospital.

The study found that depressive disorder has higher predilection for female gender. This aligns with findings from several studies (14-16). For instance a systematic review on the global prevalence of depression and elevated depressive symptoms among adolescents, reported a higher prevalence of elevated depressive symptoms among female adolescents compared to their male counterparts (17). Lim's study also revealed a significantly higher point prevalence of depression among women in a community-based sample spanning 30 countries from 1994 to 2014 (15). However, Forlani found no evidence of gender differences in the prevalence of depression (18).This discrepancy may be attributed to the study population, as Forlani's research focused exclusively on individuals aged 74 and above. The higher predilection for depressive disorder in the female gender is linked with various potential predispositions, including the effects of sex hormones, a blunted hypothalamic–pituitary–adrenal axis response to stress among females, decreased self-esteem, an increase tendency for body shame and rumination, heightened rates of interpersonal stressors, experiences of violence, childhood sexual molestation, and societal challenges such as gender discrimination and inequality (6, 10).

It may also be partly due to their greater willingness to acknowledge depressive symptoms, while some men may be misdiagnosed with alcohol-related disorders instead of depression, contributing to an underestimation among men (10). Overall, it is notable that many factors known to elevate the risk of depression are more common among women, likely contributing to their increased rates of the disorder (6).

Conclusion

Psychiatric illnesses make up a significant proportion of the global burden of disease. Their occurrence varies greatly, with some psychiatric illnesses manifesting more frequently than others. Specifically, major depression, schizophrenia, and bipolar disorder are notably the top three most prevalent among psychiatric outpatients in our study.

Sex and gender play important roles in the epidemiology of mental disorders, despite the fact that gender-specific management approaches remain underexplored. In our study, more male-to-female ratio has been found among patients diagnosed with schizophrenia, somatoform disorders, intellectual disability (ID), and substance use disorders as against mood disorders, seizure disorders, anxiety disorders, organic mental disorders, insomnia, and obsessive-compulsive disorder which were more prevalent among women. However, dysthymia, hypochondriasis, and post-traumatic stress disorder were similarly prevalent among both sexes.

There is an urgent need for more studies focusing on the most common psychiatric illnesses, particularly in relation to gender and sex differences. Such studies could contribute to the development of targeted interventions that might have the potential of improving the prevention, early detection, and primordial treatment strategies as well as rehabilitation and reintegration of persons with mental illness based on gender-specific needs.

Index study is not without limitations. As a hospital-based study, its generalizability to the broader community is constrained. Furthermore, a limited sample size and the use of a non-probability sampling technique further restrict the study's representativeness due to the potential for more biases. Subsequent studies employing longitudinal designs and interventional approach would offer premium insights into the role of gender and sex in the etiology, manifestations, prevention, and management of mental illnesses.

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Conflict of interest

The authors did not declare any conflicts of interest.

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