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PREVALENCE OF SUBSTANCE ABUSE AND MENTAL ILLNESS CO-MORBIDITY AMONG IN-PATIENTS AT THE ANKAFUL PSYCHIATRIC HOSPITAL, GHANA

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ABSTRACT

This study sought to examine prevalence of substance use disorder (SUD) and mental disorders (MD) comorbidity among in-patients at the Ankaful Psychiatric Hospital in the Central Region of Ghana. A descriptive longitudinal (retrospective) review of 500 case records of mental health patients aged 11 to 50 years seen in 2017 was done. Data entry and analysis were done with SPSS Version 21.0. Frequencies and percentages were used to analyse the data. Alcohol use was more prevalent in the sample studied, followed by marijuana. Similarly, co-occurring use of alcohol and marijuana was more prevalent. Prevalence of schizophrenia is highest, followed by mood disorder and antisocial personality disorders. Likewise, comorbidity of schizophrenia and mood disorder was most prevalent, followed by schizophrenia and antisocial personality disorder. Marijuana use was more associated with Schizophrenia. However, only marijuana use was associated with mood disorder. SUD and MD comorbidity is a common occurrence among mental health patients. It is recommended that assessment and treatment protocols for such patients must also seek to identify co-existing SUDs and MDs. Nurses who deal with mental health patients must therefore be adequately exposed to the management of co-occurring MDs and SUDs.

Keywords: Substance use disorder, mental disorders, comorbidity, Ghana

Introduction

An increased frequency of comorbid mental disorders (MDs) in persons who abuse psychoactive substances has been observed in recent studies, alerting the world to an important public health burden and reaffirming the need for strategic action (Langås, Malt, & Opjordsmoen, 2011; Adu-Gyamfi & Brenya, 2015). It is estimated that 30–80% of people across the world with a substance use disorder (SUD) have a concurrent mental health problem such as depression or schizophrenia (Teesson & Proudfoot, 2003). According to the European Monitoring Centre for Drugs and Addiction (EMCDDA), comorbidity of substance use and mental disorder (MD) is the co-occurrence of an SUD and another MD in the same individual (EMCDDA, 2016). In this paper, however, 'comorbidity' and 'dual diagnosis' are used to suggest the coexistence of two or more psychiatric disorders of which at

least one is related to substance use, although the co-occurring psychiatric disorder may not necessarily be substance use-related.

Psychoactive substance use is the illegal consumption of any natural or artificially made chemical either for pleasure, to deal with emotional stressors, or to improve performance (Adu-Gyamfi & Brenya, 2015). These substances often alter a person's mood, perception, reality and or cognitive behaviour when smoked, injected, swallowed, drunk, inhaled in powdered or vapour form (Adu-Gyamfi & Brenya, 2015). Three main classifications of psychoactive substances have been identified. They include depressants such as heroin, barbiturates; stimulants such as cocaine, crack and amphetamines; and hallucinogens such as marijuana and ecstasy (United Nations, 2008).The use of these substances has often been associated with MDs (Langås, Malt, & Opjordsmoen, 2011). For example, research suggests that alcoholics are three times more likely to have another psychiatric disorder (Kumar, Kumar, Bhatia, & Jhanjee, 2010). However, for each psychiatric disorder examined by Petrakis, Gonzalez, Rosenheck and Krystal (2002), prevalence rates were higher among people diagnosed as alcohol dependent than among alcohol abusers.

In Europe and America, the presence of psychiatric disorders in persons with SUD has become an alarming issue, thereby affecting drug policy and treatment provision (Matusow, et al., 2013; EMCDDA, 2016). In the United States of America, for example, some 8.9 million people have both past year mental illness and dependence on or abuse of illicit drugs or alcohol (Rockville, 2011). Co-occurring disorders are generally more severe, chronic, and do not respond well to treatment as compared to single disorders. In a cohort study conducted to determine the incidence of alcohol and other substance use in 196 patients presenting with acute psychiatric illnesses at an emergency department of an Australian hospital, it was observed that 38.3% abused alcohol while 48.7% abused cannabis (Latt, et al., 2011)..

In Africa, limited data can be found on prevalence of comorbidity of substance use and mental health, although the burden of comorbidity is estimated to be pervasive (Charlson, Diminic, Lund, Degenhardt, & Whiteford, 2014). Whiteford, Degenhardt, Rehm, Baxter and Ferrari (2013) estimated that mental health and substance use disorders are the leading cause of disability, accounting for 19% of all disability-associated burden (years lived with a disability, YLD) in Sub-Saharan Africa in 2010. It was however, predicted that a significant population growth and ageing will result in an estimated 130% increase in the burden of mental health and substance use disorders in Sub-Saharan Africa by 2050. In Ghana, as in other African countries, there is limited research on mental health and substance use disorders (Read & Doku, 2012). Read and Doku believe that the link between substance use and mental disorders in the country may be exaggerated. In the light of the limited literature therefore, there is the need for further studies to properly understand the prevalence of comorbidity in Ghana.

Among the general population of Ghana, the misuse of illicit drugs has been well documented. In a study on the prevalence and social consequences of substance use among second cycle and out-of-school youth in Ghana, Antwi, Druye and Akentewah (2003) identified some common types of substances and grouped their various names. Among psychiatric patients, the use of psychoactive substances is reported to be a frequent phenomenon, if not under estimated (Martinotti, et al., 2014). Kumar, Kumar, Bhatia and Jhanjee (2010) opined that as the concepts about the nature of psychoactive SUD has evolved, the terminology has undergone changes. They stated that the terms "addiction" and

"habituation" were in common use until in 1964 when a WHO expert committee on addiction producing drugs recommended that the terms be changed to "dependence", in order to lessen the disapproval that is often met with the existing terms.

While some researchers have argued that treating SUD and MDs concurrently lead to better outcomes (Latt, et al., 2011), other authors have disputed this claim. One study found a rather worse outcome in concurrent treatment of SUD and MDs (Balkin, Flores, & Casillas, 2011). The authors observed that adolescent clients treated in a dual diagnosis crisis residence programme had less therapeutic goal attainment than clients in a general psychiatric crisis residence programme. According to them, not only did the extra emphasis on substance abuse counselling appear to be ineffective in a crisis residence setting for adolescents but focus on substance abuse counselling issues might have actually hindered the client's ability to process coping mechanisms (Balkin, Flores, & Casillas, 2011).

Individuals with SUD often experience mental health disorders at higher rates than those without SUD (EMCDDA, 2016; Kumar, Kumar, Bhatia, & Jhanjee, 2010). In a study conducted in the United States of America to examine similarities and differences between opioid and non-opioid users in residential treatment, opioid users reported more mental health symptoms prior to the study(Bride, et al., 2016)

Martinottiet al., (2014) also indicate that schizophrenics and subjects with other psychoses used to consume alcohol in 65.6% of cases, used cannabinoids in 41.9% of cases, consumed cocaine in 9.3% of cases, used novel consumption of psychoactive substances (NPS) in 9.3% of cases. Those diagnosed with depressive disorders consumed alcohol in 75% of cases, with a binge prevalence of 53.1%; cannabinoids were used in 21.9% of cases, cocaine in 6.3%, and NPS in 15.6%. Patients with a diagnosis of bipolar disorder consumed alcohol in 88.9% of cases, with concomitant binge drinking in 70.4% of the sample; use of cannabinoids was evidenced in 48.1% of cases, cocaine in 18.5%, and NPS in 14.8%. Patients diagnosed with personality disorder drank alcohol in 76.5% of cases, had binge drinking behaviours in 42.9% of cases, and used cannabinoids in 38.2% of cases, cocaine in 11.4%, and NPS in 5.7%. Those diagnosed with OCD consumed alcohol in 61.5% of cases, with a binge prevalence of 15.4%; they smoked cannabinoids in 7.7% of cases but did not use cocaine or NPS.

Literature on comorbidity is limited in Africa. However, high rates of substance use have been reported among in-patient psychiatric populations in Tanzania and Kenya (Hauli, Ndetei, Jande, & Kabangila, 2011; Ndetei, et al., 2008). Alcohol consumption per drinker in the World Health Organization defined Africa E region (including South Africa, Ethiopia, Kenya, etc.) was 16.6 L, compared with 14.3 L for the United States, Canada, and Cuba (Rehm, Rehn, & Room, 2003). In Northern Tanzania, Hauli, Ndetei, Jande and Kabangila (2011) recruited 184 psychiatric patients seen at Bugando Medical centre and assessed them for substance involvement using the WHO Alcohol, Smoking and Substance Involvement Screening Test. The most frequently used substances among respondents were alcohol (59.3%), tobacco (38.6%), and cannabis (29.3%), while heroin and cocaine were least used (2.1% and 1.6%, respectively).

In the Kenyan study by Ndetei et al. (2008), 691 patients admitted at Mathari hospital were assessed for SUD and MD comorbidity. There was high co-morbidity of alcohol abuse/dependence with opiate, sedative and stimulant use, as well as with mood and other psychotic disorders. Substance abuse disorders correlated significantly with other psychiatric disorders.

The use of psychoactive substances is increasingly becoming a major public

health problem in Ghana (Adu-Gyamfi & Brenya, 2015; Adu-Mireku, 2003). A 2007 World Drug Report by the UN Office on Drugs and Crime, for example, indicated that 21.5 % Ghanaians, aged 15 to 64, smoked marijuana or used another cannabis product in 2006. The report indicated that Ghanaians use marijuana more than five times the world average, which made Ghana the leading African country and the third in the world in cannabis or marijuana use, behind Papua New Guinea and Micronesia (Selby, 2011). Likewise, drug history has been commonly observed among patients in various psychiatric hospitals in Ghana. The Narcotics Control Board (NACOB) of Ghana, as cited in Donkor (2015), reported that patients of the Pantang Psychiatric Hospital in Accra within the ages of 15-20 years who had history of drug use kept increasing from 2003 to 2010. The report stated that there were 145 cases in 2003 compared to 767 cases in 2010, suggesting an average percentage increase of 61% annually.

At the Ankaful Psychiatric Hospital, an overwhelming observation of substance use disorder (SUD) has been made. In the year 2000, for example, a total of 1,455 admissions, made up of about 20 different diagnoses were made. Of these, 460 (32%) were SUD. In 2001 also, 519 (34%) out of 1,525 admissions were SUD. In 2004, a majority of 835 (53%) out of 1,562 cases admitted were SUD. Again in 2005, a majority of 793 (59%) out of 1,396 admissions were SUD (Boachie, 2005; Johnson, 2012). While no specific records on comorbidity, or data specifically linking SUD to MDs, comorbidity appears to exist in the country beside these records (Read & Doku, 2012). Studies suggest a strong association between SUD and MDs (EMCDDA, 2004; Langås, Malt, & Opjordsmoen, 2011; EMCDDA, 2016). This research therefore sought to find the prevalence of SUD and among MD comorbidity among inpatients at the Ankaful Psychiatric Hospital.

Studies have suggested that clients who suffer from substance use disorders usually suffer from an additional diagnosis, which may result in misdiagnosis or lack of identification of substance abuse disorders (Balkin, Flores, & Casillas, 2011). Also, these clients are usually more difficult to treat due to increased impairment and the type and duration of services rendered (King, Gaines, Lambert, Summerfelt, & Bickman, 2000). Caregivers who treat patients with dual diagnosis and focus on the non-substance abuse related diagnosis might decrease even the likelihood of positive outcomes due to the substance use interfering with the counselling intervention (Dausey, Pincus, & Herrell, 2009).

For effective outcomes, SUD and MDs must be treated concurrently and comprehensively, even though taking a history of substance use has often been difficult in such patients and therefore substance use is often missed (Latt, et al., 2011). Perhaps this may be the reason for the limited data on SUD and MD comorbidity in Ghana (Read & Doku, 2012). In spite of this, there is the need to understand the SUD and MDs in the country if effective treatment plans could be implemented. The outcome of this study at the Ankaful Psychiatric Hospital will form baseline data on SUD and MD comorbidity at the facility. This information could also be employed in treatment planning for effective management of comorbidity.

The purpose of this study was to find the prevalence of substance use disorder (SUD) and mental disorder (MD) comorbidity among inpatients at the Ankaful Psychiatric Hospital.

Objectives

The following are the objectives of the study:

1. To examine the prevalence of SUD among inpatients at the Ankaful Psychiatric Hospital.

2. To assess the prevalence of MD comorbidity among inpatients at the Ankaful Psychiatric Hospital.
3. To determine the association between SUD and MD among inpatients at the Ankaful Psychiatric Hospital.

Research Questions

1. What is the prevalence of SUD among inpatients at the Ankaful Psychiatric Hospital?
2. What is the prevalence of MD comorbidity among inpatients at the Ankaful Psychiatric Hospital?
3. What is the association between SUD and MD among inpatients at the Ankaful Psychiatric Hospital?

Methods

This study employed adescriptive longitudinal (retrospective) review of all case records of all mental health patients in 2018 in Ankaful Psychiatric Hospital.

This research was carried out at the Ankaful Psychiatric Hospital. The facility was built and officially commissioned in 1965. Ankaful Psychiatric Hospital is one of the three (3) main public psychiatric hospitals in Ghana and located in Ankaful, a town within the KEEA Municipality, Central Region. The hospital serves as a referral centre for most of the psychiatric cases from the other regions and also a training institution for health trainees in other institutions as nurses, midwives, medical students etc. The hospital has the following facilities:

- an Out-Patient Complex, (Psycho and Physical) which runs a 24-hour service.
- two (2) female wards (1 VIP)
- three (3) male wards (1 Acute; 1Chronic; 1 VIP)
- a 12-Steps Rehabilitation Centre.

All the wards admit various kinds of cases of mental illness except for the chronic wards and the 12-Steps rehabilitation centre which undertake rehabilitation. There are bed capacities of 50 in the various wards. The hospital has staff strength of 450 comprising of 142 registered psychiatric nurses fairly distributed to the wards. Each year, the hospital admits an average of 1200 patients with mental disorders, many of whom also abuse substances.

The study population covered all patients with at least one mental disorder who were admitted at the Ankaful Psychiatric Hospital from January 2018 to December 2018.All mental health patients who presented with first contact to mental health services were included in this study. Records of all in patients with at least one mental disorder (MD) admitted from January 2018 to December 2018wereconsidered for the study. The clinical diagnosis of a mental disorder as per DSM-V-TR (APA, 2010) had to be present for the patient to be included in the study. Records of all patients who are diagnosed with only substance use disorder (SUD) were excluded from the study. A total of 500 files that met the inclusion criteria were sampled

Instrument

A structured data sheet was used to collect data. Data collected included demographic data: gender, age, marital status, educational level, residential status and occupation and Clinical data: medical history, past psychiatric history, diagnosis (comorbid) and admission status. All cases were assessed by the principal researcher (a clinical psychologist).

Data Collection Procedure

A letter of permission was sent to the Management of the Ankaful Psychiatric Hospital before patient records were retrieved. Data collection started from 15thJanuary to 15thFebruary, 2019.

Ethical Consideration

The study was approved by the Institutional Review Board of the School of Nursing and Midwifery, University of Cape Coast. In order to ensure confidentiality and anonymity, patients'

rights and information were protected. We reassured the management and staff of the Ankaful Psychiatric Hospital that identities of patients would not be disclosed during the data collection, analysis and presentation of findings.

Data Processing and Analysis

Data were analysed with the Statistical Package for the Social Sciences (SPSS Version 21.0). Demographic data and the three research questions were analysed using frequencies and percentages.

Results

A descriptive longitudinal (retrospective) review of 500 case records of mental health patients aged 11 to 50 years seen in 2017 was done. Data entry and analysis were done with SPSS Version 21.0.

Demographic Characteristics of Patients

Table 1-Demographic Characteristics of Inpatients (n=500)

Category	Frequency	Percent (%)
Gender		
Male	438	87.6
Female	62	12.4
Age of Respondents		
10-19 years	29	5.8
20-29 years	186	37.2
30-39 years	146	29.2
40-49 years	84	16.8
50+	55	11.0
Marital Status		
Single	312	62.4
Married	127	25.4
Divorced	48	9.6
Widowed	13	2.6
Educational Level		
Non-Formal education	50	10.0
Basic	259	51.8
Secondary	116	23.2
Tertiary	75	15.0
Occupation		
Employed	227	55.4
Unemployed	182	36.4
Student	41	8.2
Residential Status		
Rural	173	34.6
Urban	327	65.4
Past Medical History		
Yes	133	26.6
No	367	73.4
Past Psychiatric History		
Yes	157	31.4
No	343	68.6
Admission Status		
Current	9	1.8
Discharged	491	98.2

Source: Field Data, (2018)

As shown in Table 1, out of 500 case records reviewed, males formed the majority (87.6%). The majority of patients were aged 20-39 years (66.4%), although more than half of those in this group were younger than 30 years (56.02%). In all, 62.4% of patients were single; 25.4% were married while 9.6% were divorced. In terms of education, 10.0% had no formal education, while 15.0%, 23.2% and 51.8% had tertiary, secondary and only basic education respectively. The majority were resident in urban areas (65.4%) and a little over half were employed (55.4%), while few were students (8.2%). Only 26.6% and 31.4% had a past medical and psychiatric history. Also, 98.2% had been seen and discharged while 1.8% were still on admission.

Research Question One

What is the prevalence of SUD among inpatients at the Ankaful Psychiatric Hospital?

The first research question identified the prevalence of SUD among inpatients at the Ankaful Psychiatric Hospital. The data were analysed with frequencies and percentages. The results are presented in Table 2.

Table 2-Distribution of Prevalence of SUD Among Inpatients (n=500)

Category	Frequency	Percent (%) Rank
Alcohol	349	69.8 1st
Marijuana	253	50.6 2nd
Other Inhalants	98	19.63rd
Cocaine	11	2.24th
Amphetamine	4	0.85th
Pethidine	0	0.06th

Source: Field Data (2018)

Table 2 shows that alcohol use was the most prevalent (69.8%) in the sample studied, followed by marijuana (50.6%), other inhalants (19.6%), cocaine (2.2%), and amphetamine (0.8%). Prevalence of pethidine use among the sample was (0.0%).

Research Question Two

The purpose of research question two was to find out the prevalence of MD among inpatients at the Ankaful Psychiatric Hospital. The data were analysed using frequencies and percentages. The results are presented in Table 3.

Table 3- Distribution of Prevalence of MD Among In-patients (n=500)

Category	Frequency	Percent (%)	Rank
Schizophrenia	320	64.0	1st
Mood Disorders	128	25.6	2nd
Antisocial Personality Disorder	81	16.2	3rd
Anxiety Disorders	24	4.8	4th
Borderline Personality Disorder	9	1.8	5th
PTSD	9	1.8	6th

Source: Field Data, (2018)

From Table 3,schizophrenia was the highest disorder (64.0%), followed by mood disorder (25.6%),antisocial personality disorders (16.2%), and anxiety disorder (4%). Prevalence of borderline personality disorder and post-traumatic disorder (PTSD) were the same(1.8% each).

Research Question Three

The third research question sought to find out the comorbidity of SUD and MD among inpatients at the Ankaful Psychiatric Hospital. Frequencies and percentages were used to analyse the data and the results are presented in Table 4.

Table 4- Distribution of SUD and MD Among In-patients

Category	Frequency	Percent (%)	Rank
Alcohol vs Schizophrenia	200	40.0	1st
Marijuana vs Schizophrenia	191	38.2	2nd
Alcohol vs Antisocial Personality	68	13.6	3rd
Marijuana vs Mood Disorder	55	11.0	4th
Alcohol vs Anxiety Disorder	22	4.4	5th
Cocaine vs Antisocial Personality	5	1.0	6th
Marijuana vs Borderline Personality	1	0.2	7th

Source: Field Data, (2018)

From Table 4, the comorbidity of alcohol and schizophrenia was (40.0%), marijuana vs schizophrenia was (38.2%), alcohol vs antisocial personality was (13.6%), marijuana vs mood disorder was (11.0%) while between marijuana vs borderline personality (0.2%).It can be observed from the study that the highest comorbidity was between alcohol and schizophrenia (40.0%).

Discussion

Prevalence of SUD Among Inpatients

Consistent with the studies of Martinotti et al. (2014), Petrakis, Gonzalez, Rosenheck, & Krystal(2002) and Assabil, (2010), alcohol use was more prevalent (69.8%) in this study, followed by Marijuana (50.6%). In Ghana, the use of marijuana has been well documented (Adu-Gyamfi & Brenya, 2015; Adu-Mireku, 2003), although there is a relatively lower prevalence (21.5%) among the general population (Selby, 2011). The use of other inhalants (19.6%), cocaine (2.2%) and amphetamine (0.8%) was also found in this study, while prevalence of pethidine use was not found (0.0%). It may be argued that the use of pethidine is nearly non-existent since it is unavailable, mostly controlled for clinical use. This may be supported by the fact that alcohol and marijuana which are commonly found in the country are the most used.

In this present study, prevalence of schizophrenia was the highest (64%) among the mental disorders, followed by mood disorder (25.6%); antisocial personality disorder (16.2%); and anxiety disorder (4%). The dominance of schizophrenia disorder has been reported in India (Kumar, Kumar, Bhatia & Jhanjee, 2010), Australia (Latt et al., 2011) and Kenya (Ndetei et al., 2008). Borderline personality disorder and post-traumatic disorder (PTSD) had 1.8% prevalence rate. The findings of the study were also in line with research findings of Whiteford, Degenhardt, Rehm, Baxter and Ferrari (2013), who reported that mental disorders included depression, anxiety disorders, schizophrenia and bipolar disorders.

Similar to reports from India (Kumar, Kumar, Bhatia &Jhanjee, 2010), alcohol use was found to be strongly associated with schizophrenia although marijuana use was more associated with that condition in this study. These findings are however

consistent with the study conducted in Australia by Latt et al., (2011) which found alcohol and cannabis use among psychiatric patients. This observation does not also deviate from Selby's report (2011) which revealed that marijuana use was prevalent among psychiatric patients. Furthermore, in Selby's report, alcohol use was also associated with antisocial personality and anxiety disorder, likewise, marijuana use was significantly associated with borderline personality disorder and mood disorder and cocaine was associated with antisocial personality disorder. While it makes sense clinically that cocaine use is associated with antisocial personality. Few other studies also (Kessler et al, 1997) suggest a weak relationship between substance use disorders with mood and anxiety disorders. Another study conducted by Cuffel and Chase (1994) found out that outpatients with schizophrenia co-occurring with Alcohol Usage Disorder had higher rates of hospitalization and depression as compared with those with schizophrenia only was inconsistent to the current findings.

Limitation

This study sought to assess the prevalence of SUD and MD comorbidity among inpatients only at and to assess the association between SUD and MD among inpatients at the Ankaful Psychiatric Hospital. The study did not seek to determine the cause of SUD or MD among comorbid, or how comorbidity impacts treatment outcome among inpatients.

Conclusion

On basis of the findings of the study, it can be concluded that substance abuse was generally found to be prevalent at the Ankaful Psychiatric Hospital. Mental disorder was also reported to be prevalent at the hospital in the sense that most of the records reviewed indicated that mental disorder such as schizophrenia and mood disorder were prevalent. It can therefore be concluded that majority of the respondents who abused substance also had mental disorder.

Recommendations

The following recommendations are made based on the observations made in this study.

The findings of this study suggest that the co-occurring use of substances as well as comorbidity of mental disorders is common. In reviewing mental health patients for treatment, it may be more effective to identify these co-occurring substance use tendencies or disorders in order to advocate for the most appropriate regimens. It is recommended that assessment and treatment protocols for such patients must also seek to identify co-existing SUDs and MDs.

Mental health nursing trainees must be adequately exposed to the management of co-occurring MDs and SUDs since comorbid disorders are common phenomena in the psychiatric hospitals. Further studies on comorbidity of SUD and MD studies may also focus on correlational associations between the two. Also, research on best management practices for SUD and MD in nursing practice is necessary.

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