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Demographic and clinical profiles of admitted psychiatric patients of the East London Mental Health Unit in the Eastern Cape, South Africa

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Abstract

Integration of psychiatric care at the Primary Health Care (PHC) could be an important strategy towards addressing the shortages of in-patient mental health care services in South Africa. This study describes the profiles of admitted psychiatric patients at the East London Mental Health Unit (ELMHU) of the Eastern Cape from January 2016 to December 2016.

In this retrospective cross-sectional study, an audit of medical records of all psychiatric in-patients managed at the ELMHU during the study period was undertaken. Simple descriptive and inferential statistics were used to describe the profiles and examine the associations with the common psychiatric conditions.

Of the participants with complete data (n = 186), the majority were males (n = 108); single (72.6%) and had secondary education (45.7%). The majority of in-patients were psychotic (38%), violent (31%), manic (16%) or suicidal (9.2%) at the time of admission. Patients who were 35 years and above, resided in urban areas, and presented with suicidal and depressive symptoms were more likely to be admitted voluntarily. Schizophrenia (31.6%), cannabis-related psychiatric disorders (31.6%), bipolar Type-1 disorder (21.9%) and alcohol related disorders (15.5%) were the main reasons for admission. There was a significant association between demographic characteristics and the common psychiatric disorders of the patients.

Schizophrenia, bipolar 1 disorder, cannabis-related disorders and alcohol-related disorders are the predominant disorders leading to in- patient mental health care services being utilized in the study setting. Findings might inform training of health care workers at the PHCs with a view to integrating mental health care services in the Eastern Cape.

Abbreviations: BCM = Buffalo City Municipality, CMH = Cecilia Makiwane Hospital, DSM-5 = Diagnostic and Statistical Manual for mental disorders 5th edition, EC = Eastern Cape, ELMHU = East London Mental Health Unit, ICD-10 = International Classification of Diseases 10th Revision, MHCU = Mental Health Care Unit, NHI = National Health Insurance, OPD = Outpatients Department, PHC = Primary Health Care, SD =Standard Deviation, SMI = Serious Mental Illness, SPSS = Statistical Package for Social Sciences, WBPHCOTS = Ward-based Primary Health Care Outreach Teams.

Keywords: bipolar-1 disorders, cannabis-related disorders, in-patient mental healthcare services, schizophrenia, South Africa

1. Introduction

Acute psychiatric illness, especially with aggressive behavior, often leads to complex costly care, and usually hospital admission.[1,2] Janse van Rensburg and Thomas, et al reported that the commonest psychiatric diagnoses in their psychiatric in-patient studies were schizophrenia and other psychotic disorders, substance-related disorders and bipolar disorders.[3,4] Mental healthcare users (MHCUs) with these severe conditions often need involuntary hospital admission with involvement of police and emergency services.[5]

However, there are shortages of psychiatric in-patient facilities in South Africa, especially in the Eastern Cape Province (EC).[6] As such, the integration of mental health care into Primary Health Care (PHC) services is an important strategy and has the potential to lessen the high demand for in-patient mental health care services. Implementation of the integration of mental healthcare into PHC has many challenges in South Africa and many other African countries.[7,8] Marangu, Sands and Rolley propose capacity building of PHC level clinicians towards successful PHC integration of mental healthcare services.[9]

Epidemiological studies detailing the demographic and clinical profile of in-patient MHCUs could inform the effective integration of mental health care into PHC services in Buffalo

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City Municipality (BCM) of EC. In addition, such data could inform the PHC re-engineering and implementation of the National Health Insurance (NHI) Scheme in BCM.[10] The present study provides the demographic and clinical profiles of the admitted MHCUs at the East London Mental Health Unit (ELMHU), EC. ELMHU provides both in-patient and out-patient mental health care services to about two million inhabitants of Buffalo City and Amathole districts in the EC.[11]

2. Methods

In this retrospective cross-sectional study, an audit of medical records of all psychiatric inpatients managed between 1st January 2016 and 31st December 2016 at the ELMHU during the study period was undertaken. Data were extracted from doctors' registers and patients' medical records. Each doctor documents all the details of patients seen per day, by recording the patient's name, medical record filing number, age, sex, old or new patient, International Classification of Diseases, 10th Revision (ICD-10) diagnostic code, residential area and outcome (for admission or out-patient care). A master list was generated by compiling the details of eligible medical records of patients that were admitted over the study period. Eligible medical records were retrieved from the hospital filing system using the Delta-9 program (Fig. 1).

A structured data collection tool was used for extracting relevant data from the medical records. The tool consists of the following three main categories: socio-demographic data (age, gender, marital status, educational level and employment status), geographical area (place and type of residence) and clinical characteristics (referral source, predominant presenting symptom pattern, admission status and diagnosis) of participants. Violence was chosen as one of the variables to be captured under predominant symptom pattern. Violence is aggression perpetrated with the goal of inducing extreme harm, whereas aggression is defined as purposeful behavior directed at others with the intent of causing harm.[12] The Diagnostic and Statistical Manual for mental disorders, 5th edition (DSM-5) was used in the documentation of each patient's diagnosis at ELMHU, hence, it is used in this study. The data instrument was piloted with 20 medical records. The tool was adjusted based on the pilot study findings and feedback from fellow clinicians in line with the objectives of the study.

2.1. Ethical approval

The Walter Sisulu University Ethics Committee granted approval for the study (Protocol number 082/2017). The EC Department of Health, Cecilia Makiwane Hospital Chief Executive Officer, as well as Clinical Unit Head of ELMHU all granted the researchers permission to implement the study protocol. No patient identifiers (names and hospital numbers) were captured from the medical records. A unique identification code was assigned to each medical record to prevent double-capturing of patient data.

2.2. Data analysis

Data were coded and captured into Microsoft Excel and later transferred to the Statistical Package for Social Sciences (SPSS version 24, Chicago, IL). Categorical variables were summarized using descriptive statistics. Pearson chi-square statistics were used to examine the relationship between demographic characteristics and diagnosis at presentation. A P value less than .05 was considered to be statistically significant.

3. Results

Out of the 186 participants, males were in the majority (n = 108) compared with 78 females. The average age of admitted patients was years (Standard Deviation = 12.7); male 33.8 years (SD = 12.4) and female 37.1 years (SD = 12.9). The majority of the in-patients were single (72.6%); had secondary education (45.7%) and were unemployed (85.5%) (Table 1).

3.1. Clinical profile of admitted patients

Figure 2 presents the symptom patterns of admitted patients. The majority of patients were psychotic (38%), violent (31%); manic (16%), and suicidal (9.2%) at the time of admission, with significant sex difference. Males (40.7%) were significantly more likely to be violent compared to females (18.7%) ($P < .001$). In contrast, females (17%) were significantly more likely to be suicidal compared to males (3.7%). Also, compared to males (11.1%), females (24.0%) were significantly more likely to be manic.

Admitted patients who were psychotic at presentation were mostly 35 years and below (59%), while violent behavior peaked in the age range of 21 to 25 years. Admitted patients who presented with manic behavior were mostly over the age of 30 years (70%). The majority of patients presenting with violent behavior (79.7%), psychotic symptoms (70%) and manic symptoms (73.3%) were single. The majority of patients presenting with violent behavior (81.4%), psychotic symptoms (85.7%) and manic symptoms (96.7%) were unemployed. Due to poor documentation, a large number of admitted patients had

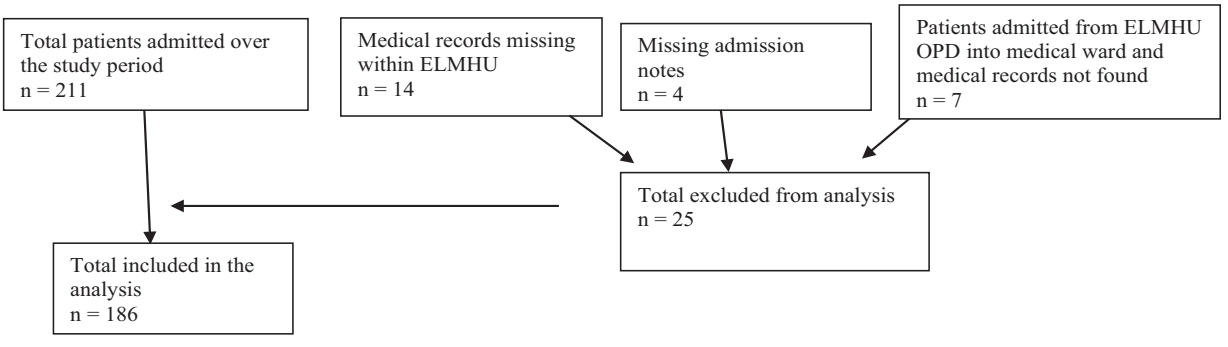

Figure 1. The process of record selection for analysis. ELMHU = East London Mental Health Unit, OPD = Out-patient Department.

Table 1

Demographic characteristics of participants by sex.

	All participants (n = 186)	Male (n = 108)	Female (n = 78)
Age (years)			
16–20	23 (12.4)	17 (15.7)	6 (7.7)
21–25	32 (17.2)	21 (19.4)	11 (7.7)
26–30	24 (12.9)	15 (13.9)	9 (11.5)
31–35	28 (15.1)	13 (12.0)	15 (19.2)
36–40	19 (10.2)	10 (9.3)	9 (11.5)
41–45	16 (8.6)	5 (4.6)	11 (14.1)
46–50	14 (7.5)	11 (10.2)	3 (3.8)
Above 50	30 (16.1)	16 (14.8)	14 (17.9)
Marital status			
Single	135 (72.6)	85 (78.7)	50 (64.1)
Married	24 (12.9)	8 (7.4)	16 (20.5)
Divorced	4 (2.2)	0 (0.0)	4 (5.1)
Widowed	4 (2.2)	1 (0.9)	3 (3.8)
Others	2 (1.1)	2 (1.9)	0 (0.0)
Undefined	17 (9.1)	12 (11.1)	5 (6.4)
Education level			
Primary	17 (9.1)	9 (8.3)	8 (10.3)
Secondary	85 (45.7)	55 (50.9)	30 (38.5)
Tertiary	29 (15.6)	11 (10.2)	18 (23.1)
Undefined	55 (29.6)	33 (30.6)	22 (28.2)
Employment status			
Employed	19 (10.2)	10 (9.3)	9 (11.5)
Unemployed	159 (85.5)	91 (84.3)	68 (87.2)
Undefined	8 (0.5)	7 (6.5)	1 (1.3)
Residence type			
Urban	42 (23.0)	18 (17.1)	24 (30.8)
Semi-urban	99 (54.1)	56 (53.3)	43 (55.1)
Rural	42 (23.0)	31 (29.5)	11 (14.1)
Admission status			
Voluntary	6 (3.2)	0 (0.0)	6 (7.7)
Involuntary	78 (41.9)	53 (49.1)	25 (32.1)
Undefined	102 (54.8)	55 (50.9)	47 (60.3)

undefined educational status. Admission status was poorly documented for most of the patients. All the patients with voluntarily admissions were females and were 35 years and older. These voluntarily in-patients were significantly from urban areas, and they presented with suicidal and depressive symptoms.

As shown in Figure 3, the main referral source for admitted patients was the ELMHU's outpatient clinic (58,4%), followed by referring hospitals (11,9%), other CMH clinical units mainly internal medicine (8,6%), followed by psychologists (6,5%). PHC and General Practitioners' referrals accounted for 4,9% and 4,3%, respectively. The participants referred from ELMHU's out-patient clinic were mostly from semi-urban (67.6%) and urban (15.7%) residential areas. Those referred for admission from other hospitals were more likely to reside in rural (42.9%) and urban (42.9%) residential areas. Of those from rural areas, 42.9% were from ELMHU's out-patient clinic, while 21.4% were referred from other hospitals. Of those from semi-urban areas, 73.7% were from ELMHU's out-patient clinic.

The findings on admission diagnosis are presented in Table 2. Schizophrenia (31.6%), cannabis-related psychiatric disorders (31.6%), bipolar Type 1 disorder (21.9%) and alcohol related disorders (15.5%) were the main admission diagnoses. Only a few patients were diagnosed with HIV-related disorders and a few were admitted with borderline personality disorder (4.3%).

In this study, younger patients were significantly more likely to be diagnosed with a cannabis related disorder. In contrast, older patients were significantly more likely to be diagnosed with bipolar disorders. Schizophrenia diagnosis increased with increasing age, but the relationship was not statistically significant. The age group less than 21 had the highest rate of alcohol related diagnosis; however, the relationship was not statistically significant. Sex was significantly associated with cannabis-related disorders, bipolar disorder and schizophrenia. Male sex was significantly associated with Schizophrenia and cannabis-related disorders. In contrast, female sex was significantly associated with bipolar disorder. Also, unemployment was significantly associated with schizophrenia. Single status was statistically significantly associated with cannabis-related disorders.

4. Discussion

The study sought to gain an understanding of the profiles of patients admitted to the in-patient psychiatric services of the ELMHU at Cecilia Makiwane Hospital in the EC. This information will be crucial for the planning of decentralized PHC-based mental health care services in the Amathole and Buffalo City districts of the province. Hospitalization can be decreased in settings where there is adequate community-based care, including home visits, health screening and treatment adherence at PHC-level, close to where people live.[13] The adequate provision of decentralized mental health care services to all South Africans is in keeping with the Bill of Rights enshrined in Chapter 2 of the Constitution of the Republic of South Africa (1996) as well as The National Mental Health Policy Framework and Strategic Plan 2013 to 2020.[14,15] The implementation of these policies and legislated principles need to be guided by accurate data obtained from mental healthcare facilities across the country.

The current study found that a high proportion of in-patients were males (57.2%). Previous similar studies documented a similar male predominance in similar settings in Gauteng and the Western Cape Provinces of South Africa.[3,4] Contrastingly, females tended to dominate most of the other healthcare services (chronic care clinics, pediatric clinics, antenatal care and maternity services) in the study setting as well as in the rest of South Africa. Male predominance in this study could be attributed to a high rate of substance abuse amongst males, which is a major precipitant of psychiatric illness.[16,17] A study by Thomas, Cloete, Kidd and Thomas, Cloete, Kidd and Lategan[4] support this assertion; they found significantly higher proportions of substance-induced psychotic disorders and substance use disorders among male patients than among female patients admitted for psychiatric care. Another plausible explanation could be the fact that men in the study setting tended to present late for care, with severe and aggressive symptoms requiring in-patient services.

The current study also found that the majority of admitted patients were single, had secondary education and were unemployed. This finding is consistent with previous studies.[18,19] Van Zon, Reijneveld, De Leon and Bültmann suggest that low education and unemployment worsen psychiatric illnesses.[20] The authors described a vicious cycle of low education, unemployment and psychiatric illness. Also, psychiatric illnesses often lead to poor school performance, dropout and unemployment. Butterworth, Leach, Pirkis and Kelaher found that being mentally ill predicted subsequent unemployment.[21]

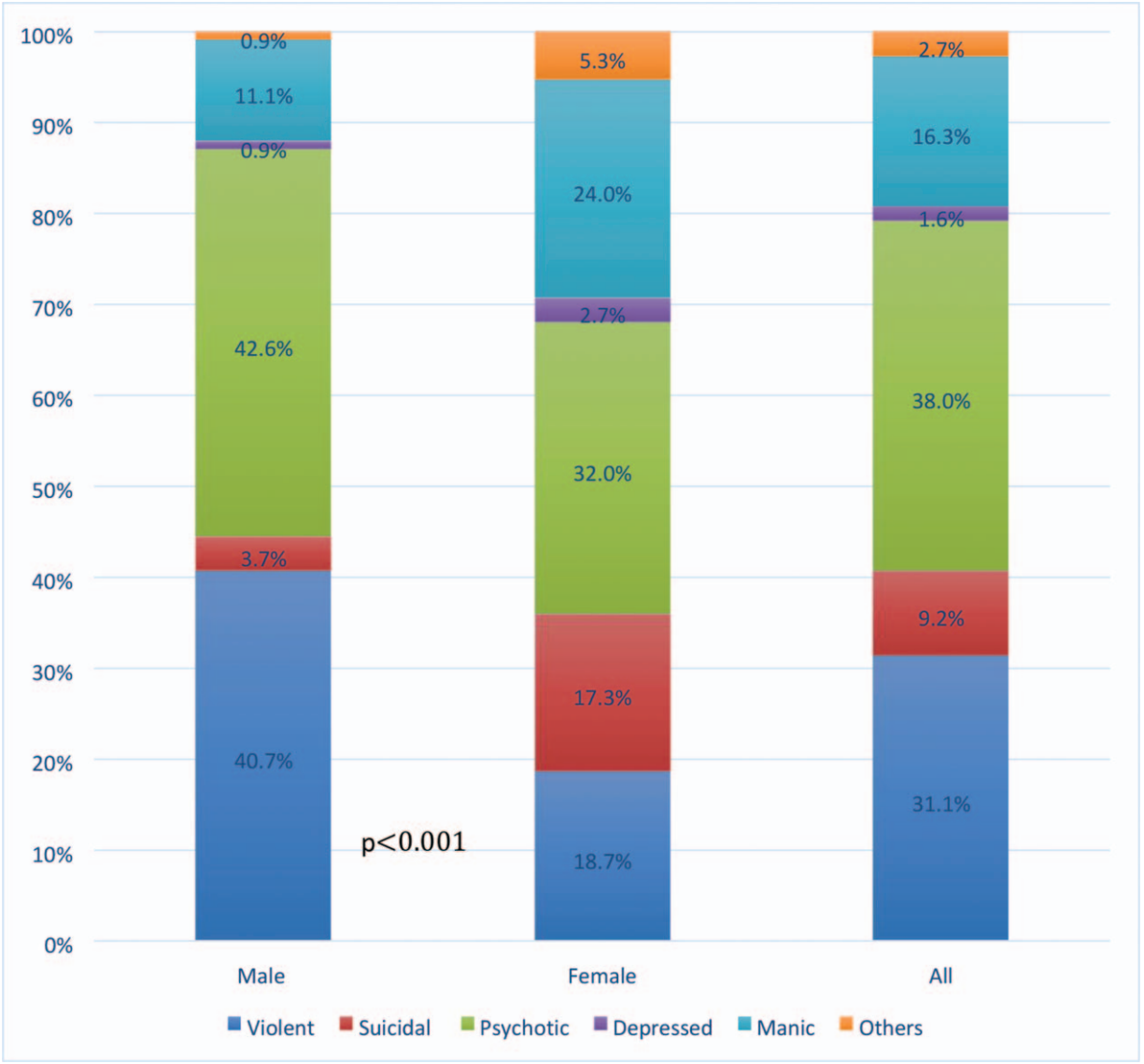

Figure 2. Presenting symptom patterns of admitted patients.

The study shows that the average age of admitted patients is 35.2 years. This result is similar to findings from previous South African studies.[4,22] According to Sadock, Sadock, Ruiz and Kaplan, psychiatric disorders often have a course that begins with prodromal (or sub-threshold) symptoms or minimal dysfunction before the onset of a clinical disorder.[23] The findings highlight the need for effective community-based prevention and treatment programs, as well as innovative programs to assist MHCUs with appropriate social assistance and support. The importance of mental health in the design of health and welfare policies and programs on the one hand, and the role of health and welfare in the design of mental health programs on the other, cannot be overstated.

The majority of admitted patients had psychotic, violent, manic and suicidal symptoms at the time of admission. A previous study by Thomas, Cloete, Kidd, and Lategan reported a predominance of psychotic features in their in-patients.[4] In the current study, the majority of patients with violent behavior, psychotic symptoms and manic presentation were single and unemployed. Violence has been the most studied of the presenting symptoms in acute psychiatric illnesses. Ose et al found that the risk of violence in psychiatric patients was higher in males, the unemployed and those with lower education.[24] Substance use in mentally ill patients significantly increases the risk of violent behaviors and crime; this association has implications for forensic psychiatry practice and medical ethics.[25] Mentally ill individuals who demonstrate violent behavior present serious dangers to significant others, self or both. As such, in-patient psychiatric services are best suited for providing necessary care to such patients. On the other hand, in general psychiatry settings, the majority of mentally ill individuals are non-violent, and are vulnerable to violence by others.

In this study, 6 women were admitted voluntarily. They were mostly suicidal at presentation and resided in urban areas. It is plausible that the decision to check into a psychiatric facility may have been influenced by the urban setting with its good access to

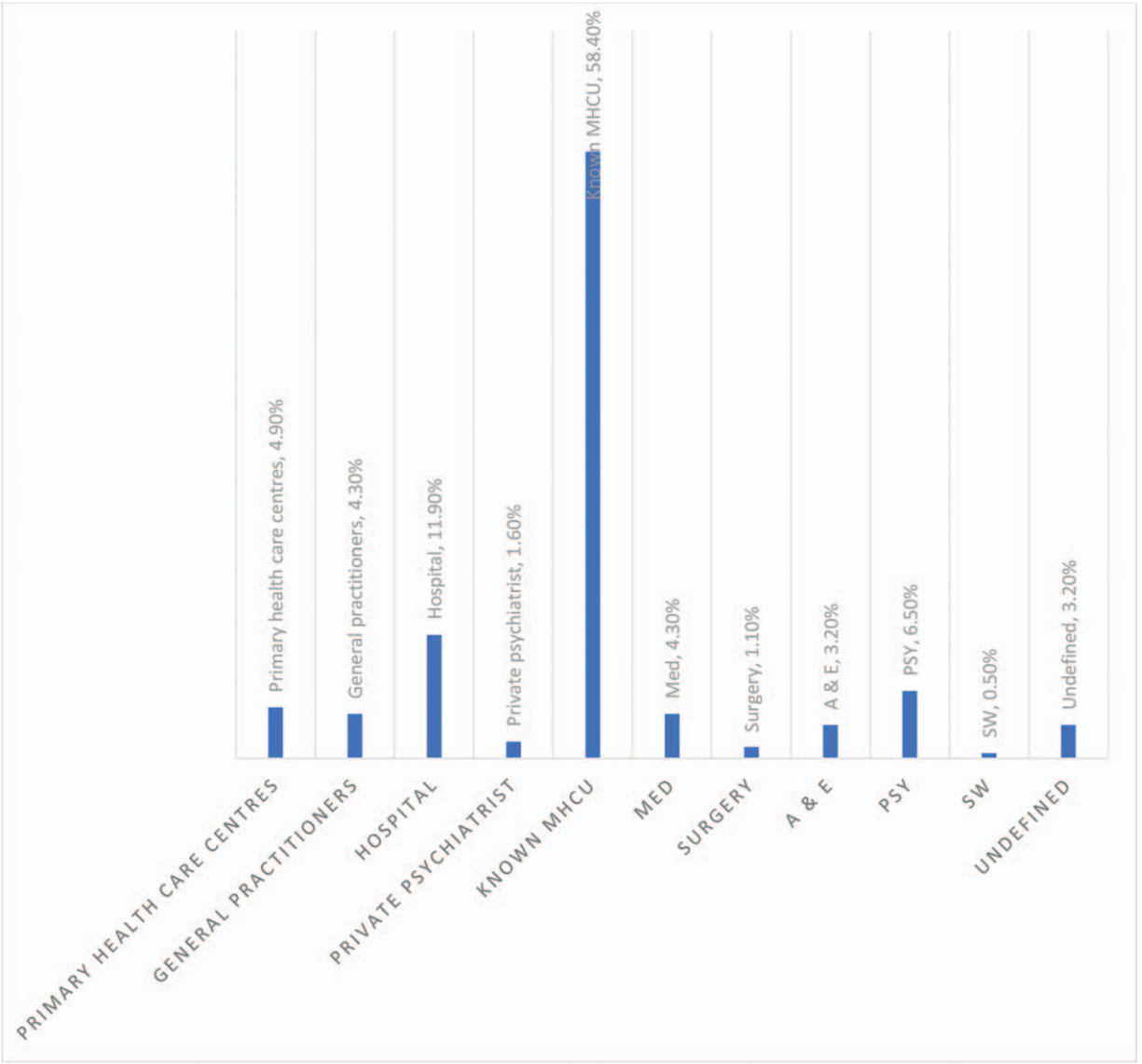

Figure 3. Referral sources of admitted patients.

health care; the so-called 'urban advantage'.[26] Better access to mental healthcare includes adequate psycho-education of patient and family. It also involves early detection of symptoms, which can facilitate early presentation and, when indicated, voluntarily admission based on intact capacity to consent. Poor social support, poor functional status, poor treatment adherence, previous involuntary admission, urban residence, and 30 to 49 years age group are all risk factors for involuntary psychiatric admission.[27] The majority of these factors are modifiable, and with proper social and health planning, involuntary psychiatric admissions can be decreased.

The main referral source for admitted psychiatric patients was the ELMHU's out-patient clinic. The fact that PHC facilities and General Practitioners were not the main referral sources indicates poor adherence to referral pathways. Le Roux and Couper discuss the important role that district hospitals can play in coordinating PHC services and referral pathways.[28] However, a lack of district hospitals in BCM suggests that the ELMHU provides both district and regional level mental health services for the region. It, therefore, is imperative that a district hospital be established at BCM to better coordinate the mental health care services at PHC level in the district.

Schizophrenia, cannabis-related psychiatric disorders, bipolar 1 disorders and alcohol-related disorders were the main admission diagnoses. This finding is not surprising as these conditions tend to present at the hospital with violent, psychotic and manic features, thus necessitating admission into in-patient mental health care services. These findings are similar to those of Thomas, Cloete, Kidd and Lategan, who found that psychotic disorders contributed the most to patients' admission, followed by substance use disorders and mood disorders.[4] Schizophrenia and bipolar Type 1 disorder fall under the category of serious mental illnesses (SMI), while cannabis and alcohol can lead to serious behavioral and other psychiatric symptoms.[23]

This study found a significant association between demographic characteristics and some admission diagnoses. Male sex

Table 2

Admission diagnosis of participants.

Diagnosis	Frequency	Percent
Bipolar 1 (psychotic features)	41	21.9
Bipolar 1 (severe)	4	2.1
Bipolar 2	1	0.5
Schizophrenia	59	31.6
Schizophreniform	3	1.6
Schizoaffective (bipolar)	3	(1.6)
Brief Psychotic episode	2	1.1
Psychotic due to AMC	8	4.3
HIV	9	4.8
Epilepsy	6	3.2
TBI	1	0.5
Other AMC	1	0.5
HAND	3	1.6
Other Dementia	1	0.5
Alcohol	29	15.5
Cannabis	59	31.6
Cannabis + other substance	12	6.4
Opioid	6	3.2
Sedative	9	4.8
Stimulant	6	3.2
Depression	4	2.1
Borderline PD	8	4.3
ID	3	1.6
Anxiety	5	2.7
Eating disorder	2	1.1

AMC = Another Medical Condition, HAND = HIV Associated Neurocognitive Disorder, HIV = Human Immunodeficiency Virus, PD = Personality Disorder, TBI = Traumatic Brain Injury.

was significantly associated with cannabis-related disorders and schizophrenia. A similar finding in a European study was that males vastly outnumbered females in cannabis treatment programs.[29] A possible explanation, as suggested by Wagner and Anthony, is that males have easier access to cannabis and tend to initiate cannabis use earlier than women.[30] Male gender has been found to be an independent risk factor for schizophrenia.[31] In the current study unemployment was significantly associated with schizophrenia. Unemployment is common among psychotic patients.[32] This could be due to the severe impairments caused by severe psychotic disorders like schizophrenia, with resulting inability to compete in the labor market. This could be associated with unemployment being a stressor that can precipitate an index episode of schizophrenia and other mental disorders in what has been termed 'the stress-diathesis' model.[23] Also, in this study, being single or divorced was associated with cannabis-related disorders. Blair and Menasco found a similar association.[33] They offered as possible explanations the issues of distress, depression and peer relationships that are associated with substance use in single or divorced people. These are plausible explanations in the current setting.

4.1. Strengths and limitations of the study

This is the first study from the region to shed light on the profiles of admitted psychiatric patients at the ELMHU. However, the limitations of the study should be noted. This study was conducted in a single psychiatric center in the Buffalo City Municipal Area, EC Province; therefore, findings may not be generalizable to other settings. Due to the retrospective study design, some medical records were not found, some notes were missing, and some data was incomplete, with poor documentation of admission status.

5. Conclusion

Schizophrenia, bipolar-1 disorders, cannabis-related disorders and alcohol-related disorders were the predominant disorders leading to in- patient mental health care services in the study setting. The in-patients were mostly admitted from the ELMHU which serves the whole region. The study found significant associations between male sex and cannabis- related disorders and schizophrenia; unemployment was associated with schizophrenia and being single or divorced was associated with cannabis- related disorders. The integration of mental health care services at the PHC level needs to be implemented to increase early recognition, diagnosis and referral of severe mental disorders to the ELMHU. The ward-based primary health care outreach team (WBPHCOT) should be trained to recognize the symptoms and signs of these severe mental health conditions at the community level, and thus fast-track referrals to the PHCs.

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