SUBSTANCE USE AMONG PEOPLE WITH MENTAL DISORDERS ATTENDING MENTAL HEALTH CARE CENTRE, WINDHOEK CENTRAL HOSPITAL

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ABSTRACT

Studies from other parts of the world showed high rates of substance use among people with severe mental illness. A cross-sectional survey of 385 outpatients attending the Mental Health Care Centre at the Windhoek Central Hospital was conducted. It aimed to determine the prevalence of substances use and the type of substance abused by patients. About thirty-two percent of participants used alcohol, 21% used nicotine and 9% used illicit drugs. The use of substances was associated with male gender and young age. There were significant associations between alcohol use and psychiatric conditions, but not between psychiatric conditions and the use of nicotine or illicit drugs. Comorbid substance use and mental illness point to the need for a comprehensive approach that identifies, evaluates, and simultaneously treats both disorders.

Keywords: substance use, psychiatric conditions, comorbid condition

INTRODUCTION

There is a reciprocal connection between mental illness and substance abuse. People who abuse alcohol or other drugs tend to develop mental illnesses, and people with certain mental conditions tend to develop substance abuse problems. The most common issue connecting mental illness and substance abuse is the intention of patients to medicate the mental health symptoms that they find disruptive or uncomfortable by using alcohol and drugs. (Mental Health Care, 2012).

Alcohol can be used as a form of coping for severe mental illness. It can temporarily alleviate feelings of anxiety and depression, and people often use it in an attempt to cheer themselves up or sometimes help with sleep (Netdoctor, 2015). Alcohol consumption can make existing mental health problems worse. Evidence shows that alcohol consumption can be a contributing factor to some mental health problems, such as depression (Peltzer,

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2015; Rotheram-Borus, 2015). In addition to the direct pharmacological effects of alcohol on brain function, psychosocial stressors that commonly occur in patients who abuse alcohol, such as legal, financial, or interpersonal problems may indirectly contribute to ongoing alcohol-related symptoms, such as sadness, despair, and anxiety (Anthenelli, 1997; Anthenelli et al., 1993).

The prevalence of smoking in people with a severe mental illness is about three times the general population (Royal College of Physicians, 2013). Williams, Steinberg, Griffiths and Cooperman, (2013) reported that people with mental illness have higher smoking rates, higher levels of nicotine dependence, lower cessation rates and a disproportionate health and financial burden from smoking compared with the general population. People with mental illness who smoke are far more likely to die as a consequence of smoking than from their psychiatric condition **(**Williams, et al., 2013**).** Smoking is also a predictor of suicide even after controlling for mental illness, and the risk falls after cessation. (Yaworski, Robinson, Sareen & Bolton, 2011).

The prevalence of cannabis use is twice as high among people with mental disorders compared to the general population (Green, Young & Kavanagh, 2005). Studies show that the use of cannabis can trigger psychoses and lead to persistence of psychotic symptoms (Kuepper, et al., 2013; Semple, et al., 2005).

Alcohol and drug misuse and abuse are among the most significant health concerns that face Namibia today. Consumption of alcohol is widespread in Namibia. Data from the World Health Organization Noncommunicable Disease (WHO NCDs) Country Profiles indicate that Namibia has one of the highest average total per capita alcohol consumption of 10.8 L for both men and women in the region (World Health Organization, 2018). Adverse effects of alcohol consumption found in the Namibian context include higher rates of violence, arguments, crime, health and financial problems (Ministry of Health and Social Services, 2013). The 2018 NCDs country profiles indicate that Namibia has a high prevalence of tobacco smoking (20% average for both men and women; 30% for men and 9% for women). There is limited data on the prevalence of substance use among the mentally ill in Namibia. Therefore, the objective of the study was to identify the prevalence of substance use among the patients attending the Mental Health Care Centre (MHCC), explore the association of mental conditions and substance use, and factors associated with the use of substances.

METHOD

Study Design, Setting, and Participants

This cross-sectional study was conducted between May and December 2017 at the outpatient of MHCC, Windhoek Central Hospital. The MHCC is a referral and teaching health facility. The study population was service users with mental illness attending outpatient service of the MHCC. All patients attending the MHCC are registered at the outpatient of that facility. Inclusion criteria were adult patients attending the outpatient of MHCC, aged 18 years and above, and those who could independently provide informed consent to participate in the study.

Material

The Alcohol Use Disorders Identification Test (AUDIT) that was designed by
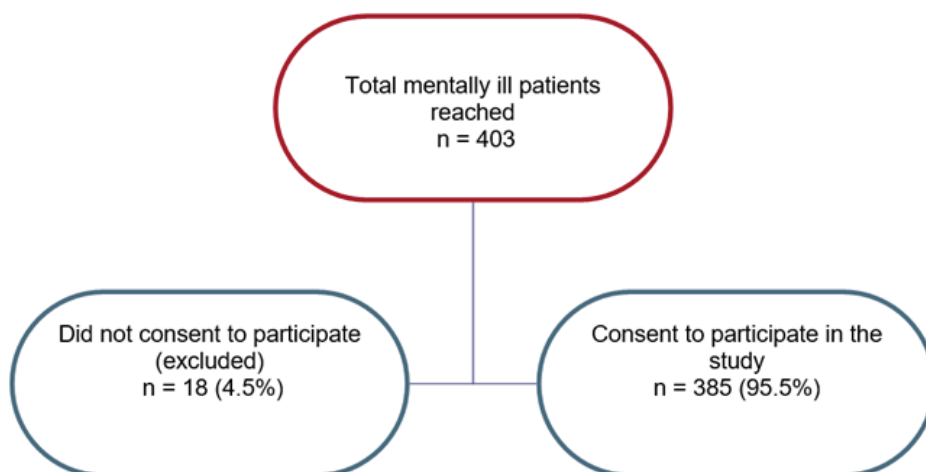
Figure 1. Number of study participants

WHO (World Health Organization, 2001) to screen for hazardous and harmful drinking, was administered to all participants to assess alcohol consumption, drinking behaviours, and alcohol-related problems. The WHO guidelines for the AUDIT (Babor, Higgins-Biddle, Saunders,& Monteiro, 2001) specify four "zones" (shown in Table 1) of scores that indicate increasing levels of alcohol-related risk.

The Fagerstrom Test for Nicotine Dependence (FTND) was used to evaluate the quantity of cigarette consumption, the compulsion to use, and dependence (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991). The dependence scores are *very low* 0-2; *low* 3-4; *moderate* 5; *very high* 8-10. The higher the total Fagerström score, the more intense is the patient's physical dependence on nicotine.

Illicit drugs use was determined during an interview on health behaviours. Patients were asked whether they used cannabis, mandrax, cocaine, heroin, and other illegal drugs during the last three months, and how much they used per week.

Procedure

A systematic random sampling method was used. Every fourth patient was given a number to take part in the study. In cases where the fourth patient was a child or had no capacity to give consent, the subsequent patient was assessed.

Medical officers at MHCC referred patients to participate in the study after the

Table 1. Zones of alcohol risk levels

Score		Zone	Risk level
0-7	Low risk	Zone I	Abstinence/lower risk drinking
8-15	Medium risk	Zone II	Hazardous use
16-19	High risk	Zone III	Harmful use
20- 40		Zone IV	Possible dependence

Adapted from Babor et al., 2001

routine assessment and management. Patients were reviewed for inclusion criteria; those who did not meet the requirements were thanked and excluded from the study. For those who were eligible and willing to participate in the study, explanations about the study were made, and informed consent forms were signed. An explanation was provided to all participants that their participation was entirely voluntary. Participants were advised that there would be no material gain from the study, and they may withdraw from the study at any time in the course of the interview. Participants were further assured that refusal to participate would not in any way affect their health services/benefits to which they are entitled.

Ethics

Approval to carry out the study was obtained from the Ethics and Research Committee from the Ministry of Health and Social Services, Windhoek, Namibia. Authorisation of patients' participation was also sought from the institution's head. Once the study procedures had been explained, all participants provided their written consent to participate. The patients who did not consent to participate were excluded. Moreover, to ensure patient confidentiality, serial numbers were assigned to patients to replace their names.

RESULTS

Data Analysis and Processing

The data were analysed using the IBM SPSS Statistics version 23. The dataset was coded before data entry and then checked for errors and outliers. Descriptive summary statistics in the form of measures of centrality and dispersion, frequency distributions, and charts were used to establish patterns of alcohol and drug use in patients with mental disorders attending MHCC.

Cross tabulations and chi-square tests of association were conducted to establish whether significant associations existed between the following variable pairs at 5% level: Demographic data and psychiatric conditions versus smoking/alcohol/illicit drugs.

Characteristics of the Study Population

Table 2 shows the clinical and demographic characteristics of the participants in association with the use of substances. Of the 385 participants, 52.2% were males, and 47.8% were females. The mean age at enrolment was 37.14 years and a standard deviation of 10.44 years. Forty-eight percent of the participants were middle-aged, 67.8% had secondary education, and 79% were single. About half of the participants were unemployed, and 60% were of a low socio-economic status.

Out of the total participants, 122 (31.7%) used alcohol, 80 (20.8% smoked tobacco, and 35 (9.1%) used illicit drugs. Alcohol use was common among males 42.7%, youth 37.2%, and those with depressive disorders 43.9%. Of those who used alcohol, 75.2% were in zone I, 13.2% were in zone II, 3.4% were in zone III, and 7.5% were in zone IV of alcohol risk levels. About 24% of the participants used alcohol harmfully/hazardously or were possibly dependent on alcohol. There was a significant association between the patient's psychiatric condition and alcohol use (χ^2=20.450, p=0.002), but there was no significant association between the patient's psychiatric condition and risk level of alcohol.

Table 2. Association between demographic and clinic Characteristics of participants and use of substances

Demographic and clinical Characteristics	Entire Sample	Substance use among participants		
		Alcohol	*Tobacco*	*Illicit drugs*
Sex				
Female	184(47.8%)	36 (19.6%)	18(9.8%)	2 (1.1%)
Male	201(52.2%)	86(42.7%)	62 (30.8%)	33 (16.4%)
P-value		**<0.001**	**<0001**	**<0.001**
Age group in years				
Youth (18-35)	180(46.8%)	67(37.2%)	35(19.4%)	23(12.8%)
Middle age (36-55)	185(48.0%)	53(28.6%)	38 (20.5%)	12(6.5%)
Older people (56 and above)	20(5.2%)	2(10.0%)	7 (35.0%)	0(0.0%)
P-value		= **0.012**	=0.266	**=0.038**
Marital Status				
Single	304(79%)	100 (32.9%)	84(27.6%)	33 (10.5%)
Married	58(15.1%)	16(27.6%)	10 (17.2%)	2 (3.4%)
Separated	13(3.4%)	6 (46.1%)	4(30.8%)	0(0.0%)
Widowed	10(2.6%)	0 (0.0%)	2(20.0%)	0(0.0%)
P-value		=0.094	=0.739	<0.125
Education				
None	7(1.8%)	5(71.4%)	3 (42.8%)	3(42.8%)
Primary	58(15.1%)	15 (25.9%)	12(20.7%)	0(0.0%)
Secondary	261(67.8%)	80 (30.6%)	57 (21.8%)	29 (11.1%)
Tertiary	56(14.5%)	22(39.3%)	11(19.6%)	6(10.7%)
P-value		=0.415	=0.574	=0.047
Occupation				
Student	28(7.3%)	9 (32.1%)	1(3.6%)	2(7.1%)
Self-employed	25(6.5%)	9 (36.0%)	8 (32.0%)	3(12.0%)
Employed	117(30.4%)	42 (35.9%)	17 (14.5%)	9 (7.7%)
Unemployed	198(51.4%)	61(30.8%)	50 (26.5%)	21(10.6%)
Other	16(4.2%)	1(6.2%)	4(25.0%)	0 (0.0%)
P-value		=0.070	**=0.011**	=0.631
Socio-economic status				
Low (Never employed)	230(59.7%)	69 (30.0%)	55 (23.9%)	24 (10.4%)
Medium (other employment)	127(33.0%)	43 (33.8%)	21(16.5%)	9 (7.8%)
High(White collar job)	22(5.7%)	10 (45.4%)	4(18.1%)	2(9.0%)
P-value		<0.641	=0.186	<0.584
Psychiatric conditions				
Schizophrenia Spectrum and Other Psychotic Disorders	210(54.5%)	68 (32.4%)	45 (21.4%)	24 (11.4%)
Bipolar and Related Disorders	68(17.7%)	12 (17.6%)	13(19.1%)	2(2.9%
Depressive Disorder	86(22.3%)	36 (43.9%)	18 (21.9%)	7 (8.5%)
Others	21(5.5%)	4(19.0%)	2(9.5%)	2(9.5%
P-value		**=0.002**	=0.073	=0.237

The percentage distribution of patients according to the FTND was Very low (7.8 %), Low (9.1%); Moderate (1.8%); High (1.3%); Very high (0.8%). There was no significant association between the participants' psychiatric condition and tobacco use (χ^2 = 11536, P-value = 0.073). Among those who used illicit drugs, 30 (85.7%) used cannabis, while 5 (14.3%) used cocaine. The following substance-induced conditions were identified: Alcohol-Induced Psychotic Disorder (6.5%), Alcohol-Induced Depressive Disorder (1.8%), and Cannabis Induced Psychotic Disorder (1.8%).

Factors Associated with Substance Use

The gender of the patient was significantly associated with smoking (χ^2=25.151, p<0.001), alcohol drinking (χ^2=21.190, p<0.001) and use of illicit drugs (χ^2=25.813, p<0.001). Even though there was no significant association between the age of the patient and smoking, there was a significant association between the age of the patient and their alcohol or illicit drug use (χ^2=8.785, p=0.012, χ^2=6.516, p=0.038 respectively). The marital and socio-economic status of the patient did not significantly influence smoking, alcohol or illicit drug use. The level of education of the patient only influenced the use of illicit drugs (χ^2=7.968, p=0.047). There was a significant association between the occupation of the patient and their smoking status (χ^2=13.139, p=0.011). Alcohol use was significantly associated with tobacco use (χ^2 =19.693, p<0.001). The highest percentage of alcohol users was among those who use tobacco. However, there was no significant association between alcohol use and cannabis use (χ^2=4.180, p=0.382).

Regression Analysis of the Effect of Demographics and Type of Psychiatric Condition on Substance Use

Table 3 shows the regression results of the effect of demographics and type of psychiatric condition on alcohol use. Female patients (OR=0.246, 95% CI 0.142-0.424, p<0.001) were less likely to drink alcohol compared to their male counterparts. Younger patients (18-35 years) (OR=3.240, 95% CI 1.104-9.504, p=0.032) were more likely to drink alcohol compared to older people (aged 55 years and above). The level of education, occupation or their marital status did not significantly influence alcohol use.

Regression results of the effect of demographics and type of psychiatric condition on tobacco use are shown in Table 4. Female patients (OR=0.159, 95% CI 0.082-0.308, p<0.001) were less likely to use tobacco compared to their male counterparts. The youth (18-35) (OR=0.217, 95% CI 0.076-0.618, p=0.004) and middle-aged patients (OR=0.336, 95% CI 0.129-0.879, p=.0.026) were less likely to use tobacco compared to older people (aged 55 and above). The type of psychiatric condition, socio-economic status, level of education, occupation or the marital status of the patient, did not significantly affect tobacco use.

Regression results of the effect of demographics and type of psychiatric condition on illicit drug showed that female patients (OR=0.036, 95% CI 0.008-0.168, p<0.001) were less likely to use illicit drugs compared to their male counterparts. Illicit drug use was not significantly affected by socio-economic status, age group, psychiatric condition, level of education, marital status or occupation of the patient.

Table 3. Logistic regression of the effect of demographics and type of psychiatric condition on alcohol use

Risk factors	p-value	Odds Ratio (OR)	95% Confidence Interval for Odds Ratio	
			Lower	Upper
Sex				
Female	**<0.001**	0.246	0.142	0.424
Male (Ref)		1.000		
Socio-economic Status				
Low (Never Employed)	0.867	0.873	0.179	4.256
Medium (Other Employment	**0.015**	0.285	0.103	0.786
High (White Collar Job) (Ref)		1.000		
Age Group				
Youth (18-35)	**0.032**	3.240	1.104	9.504
Middle Aged (36-55)	0.099	2.329	0.853	6.354
Older People (56 and Above) (Ref)		1.000		
Education				
Primary or No Formal Education	0.665	0.859	0.432	1.707
Secondary and Tertiary (Ref)		1.000		
Type of psychiatric condition				
Schizophrenia spectrum and other psychotic disorders	0.337	0.633	0.249	1.611
Bipolar and related disorders	**0.040**	0.330	0.115	0.950
Depressive Disorders	0.272	1.701	0.659	4.391
Others (Ref)		1.000		
Occupation				
Unemployed, Students and Others	0.142	0.358	0.091	1.412
Employed (Ref)		1.000		
Marital Status				
Single, Separated or Widowed	0.319	1.425	0.710	2.859
Married (Ref)		1.000		

DISCUSSION

The main aim of the study was to identify the prevalence of substance use among the service users at MHCC of the Windhoek Central Hospital. The findings show that 31.7% of the participants use alcohol, 21% use nicotine and 9% use illicit drugs. Substance use was higher among people with mental illness compared to the general population where 27.7% of Namibians aged 15 years and above reported to consume alcohol (Ministry of Health and Social Services, 2013), and 20.0% smoked tobacco, (World Health Organization, 2018). The use of illicit drugs was about three times high compared to the general population, where 2.6% used cannabis and 0.4% used mandrax (Government of the Republic of Namibia 2002).

The results of this study concur with findings of studies from other parts of Africa (Okpataku, et al., 2014, Saban, et al., 2010) that revealed use of substances, particularly alcohol and cannabis,

Table 4. Logistic regression of the effect of demographics and type of psychiatric condition on tobacco use

Risk factors	p-value	Odds Ratio	95% Confidence Interval for Odds Ratio	
			Lower	Upper
Sex				
Female	**<0.001**	0.159	0.082	0.308
Male (Ref)		1.000		
Socio-economic Status				
Low (Never Employed)	0.100	4.637	0.746	28.831
Medium (Other Employment	0.999	0.999	0.285	3.496
High (White Collar Job) (Ref)		1.000		
Age Group				
Youth (18-35)	**0.004**	0.217	0.076	0.618
Middle Aged (36-55)	**0.026**	0.336	0.129	0.879
Older People (56 and Above) (Ref)		1.000		
Education				
Primary or No Formal Education	0.071	0.470	0.207	1.068
Secondary and Tertiary (Ref)		1.000		
Type of psychiatric condition				
Schizophrenia spectrum and other psychotic disorders	0.365	0.593	0.192	1.836
Bipolar and related disorders	0.983	1.013	0.306	3.350
Depressive Disorders	0.701	1.250	0.400	3.905
Others (Ref)		1.000		
Occupation				
Unemployed, Students and Others	0.409	0.535	0.121	2.366
Employed (Ref)		1.000		
Marital Status				
Single, Separated or Widowed	0.346	1.481	0.654	3.355
Married (Ref)		1.000		

among persons with severe mental illness to be higher than the general population. Studies attribute the high prevalence of substance use among people with mental illness to self-medication (Mental Health Care, 2012). At times when a person is suffering from a mental health disorder, they are unaware that the condition exists. They may experience feelings of anger, hopelessness, depression, or impulsiveness. Because of this, they find themselves at times turning to unhealthy behaviours such as the use of substances in an attempt to numb their psychological suffering.

Although alcohol and drugs may temporarily numb the symptoms that the user is experiencing, self-medicating can lead to severe problems. This can cause those suffering to consume large quantities of alcohol or drugs and may eventually develop an addiction. About 17% of the participants consumed alcohol either hazardously or harmfully, and 7.5% were dependent on alcohol.

The study by Dickerson et al., 2013, found 64% of people with schizophrenia to be smokers. In this study, 22% of participants with depression and 21.4% of participants with schizophrenia smoked. Although the findings show that most of those who use nicotine were in the very low or low level of usage, about 4% were in the moderate to high level of usage. Smoking has a powerful negative impact on population health. In Namibia, smoking is a known risk factor for cardiovascular disease; it causes lung cancer and other forms of cancer and contributes to the severity of pneumonia, emphysema, and chronic bronchitis (Ministry of Health and Social Services, 2013). It may also have an impact on individuals who are exposed to second-hand smoke.

Drugs and alcohol often do little to address the underlying mental health symptoms and ultimately create an entirely new batch of problems for the patient while also increasing the severity of the initial mental health symptoms. A study by Rush et al., 2008 found about 20% of people with a mental illness to have a co-occurring substance use problem, and 15% of people with a substance use problem to have a co-occurring mental illness. Among the participants in this study, 11.7% had a diagnosis of a substance-induced disorder. This supports the fact that substance use is a risk factor to develop mental illness. The co-occurrence of mental illness and substance use is a management problem of both disorders. It had been found to be associated with poor medication adherence, increased psychiatric admission, and poor treatment outcome (Hunt, Bergen, Bashir. 2002).

Sex is one of the factors that place individuals at risk of substance use. The results obtained concur with findings by Pearson, Janz and Ali (2013) that males were more likely than females to use substances. In this study, 42.7% of men use alcohol, compared to 19.6% of females, and 16.4% of males used illicit drugs, while only 1% of females used illicit drugs. These differences could be due to the conventional norms of male socialisation concerning alcohol use and smoking. The Namibian demographic and health survey also showed that males were twice more likely to use alcohol compared to females: 50% versus 25% (Ministry of Health and Social Services, 2013).

Although socio-economic status (SES) is the other factor reported influencing a person's substance use (Charitonidi, et al., 2016; Patrick et al., 2012), this study did not find the influence of socio-economic status on substance use. Future studies are needed to fully explore the underlying mechanisms of the relationship between SES and substance use.

The study has its limitations that should be considered in interpreting the findings. First, study participants were included based on their capacities, and willingness to participate, which could contribute to a potential reporting bias. Secondly, the participants were recruited at one health institution only, which could also represent another potential bias. Although the results are not broadly generalisable, the study results do have relevance and give insight on the use of substances among the mentally ill, attending the Windhoek Central Hospital.

In conclusion, the use of alcohol, cannabis and tobacco was common among patients with mental illness. This points to the need for an integrated approach to the identification, evaluation, and simultaneous treatment of both psychiatric and substance use disorders.

COMPETING INTERESTS

The author declares no competing interests.

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