



ORIGINAL ARTICLE

Prevalence of Alcohol, Tobacco and Illicit Narcotic Substances Usage and Associated Factors among Patients Attending Mental Health Clinics Conducted by a Group of Hospitals in Sri Lanka

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Abstract

Background: Consumption of alcohol, tobacco and illicit narcotics affects the quality of life among mental health patients. The objective of this study was to describe prevalence of alcohol, tobacco and illicit narcotic substances usage and associated factors among patients attending mental health clinics.

Methods: A descriptive cross sectional study was carried out in mental health clinics from July to November in 2013. All mental health patients who had registered and followed up ≥ 1 year were the study population. Using systematic sampling, 404 patients were recruited. A pre-tested interviewer administered questionnaire was used. Results were expressed as prevalence and 95% confidence interval (CI). Chi-squared test was applied for assessing the associations.

Results: Life time prevalence of usage of alcohol, tobacco and illicit narcotic were 53.7%, (95% CI = 48.8-58.6), 24.3%, (95% CI = 20.1-28.5) and 5.9%, (95% CI = 3.6-8.2) respectively. Current usage of alcohol, tobacco and illicit narcotic were 42.6% (95% CI = 38.2-47), 15.3% (95% CI = 11.8-18.8) and 2.7% (95% CI = 1.1-4.3) respectively. Statistically significant relationships were found between male patients and current usage of alcohol, tobacco and illicit narcotic substances. Patients with monthly income > LKR 5000 had a significant relationship with current usage of alcohol and tobacco. Current alcohol usage of patients was significantly associated with the alcohol consumption of the caregivers.

There are no statistically significant relationships between the number of clinic attendance ≤ 8 during last 12 months and age, marital status, education level, consumption of alcohol, tobacco or illicit narcotics usage of the patients or family members, monthly income, and distance between clinic and residence.

Conclusion: Alcohol usage was higher among mental health patients. Being a male patient, alcohol consumption of caregiver and high family income were associated with alcohol usage of patients. Usage of those substances did not significantly affect the clinic attendance.

Keywords

Alcohol, Illicit narcotics, Mental disorders, Substance usage, Tobacco

Introduction

There has been a rapid increase in the prevalence of mental health disorders worldwide. One out of ten among the world population suffers from mental health problems [1]. An important aspect is that most mental health disorders cannot be cured completely, but can be effectively treated to help manage the symptoms. Due to poverty, poor family support and social stigma, psychiatric patients are one of the most affected groups of a community.

There is a strong relationship among alcohol, tobacco and illicit drug usage and mental disorders [2-4]. Psychiatric patients with substance use issues are more prone to violence related problems [5]. It also generates many problems to caregivers and family members. This causes loss of their money, time and reputation, resulting in poor care and poor family support from caregivers. Alcohol primarily affects the central nervous system and interferes with the communication pathways



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in the brain and affects its function. These disruptions can alter mood and behaviour, and make it harder to think clearly [6]. Smoking habits of psychiatric patients increases the harmful effects of tobacco including the increase of non-communicable diseases and causes a financial burden to the family. Psychiatric patients who smoke are at higher risk of getting addicted to other substances [7]. Substance abuse (especially cannabis) among hospitalized psychiatric patients is identified as a growing problem in the world [8]. Substance abuse among psychiatric patients who follow out-patients' clinics are several times higher than inward patients, because they have ample opportunities to gain narcotics than inward patients. The patients with mental disorders are used to alcohol, tobacco or narcotic drugs more than the general population [9,10] which may affect clinic visits and compliance.

A substantial number of patients are admitted each year to the government health units in Sri Lanka for behavioural and mental disorders. Of them 17.47% were related to the use of alcohol and 3.6% due to other psychoactive substance use [11]. Different types of narcotics such as Cannabis, Heroin, Opium, Cocaine and Methamphetamine are available in Sri Lanka. In the past two decades a rapidly increasing trend is seen in the number of prisoners convicted for offences related to narcotic drugs [12]. Prevalence of alcohol, tobacco and illicit drug usage among mentally ill patients are not available in Sri Lanka. Therefore, the objective was to determine the prevalence of alcohol, tobacco and illicit narcotic substances usage and associated factors among mentally ill patients attending mental health clinics conducted by the Base Hospital Marawila, Sri Lanka.

Material and Methods

This was a descriptive cross sectional study conducted in the mental health clinics in the district of Puttalam of North Central province from July 2013 to November 2013. The study setting included three clinics which were Base hospital Marawila, District hospital Dankotuwa and Peripheral Unit Galmuruwa. The study population consisted of all the patients who had registered and followed up at least one year in mental health clinics. The exclusion criteria were substance and drug induced psychotic patients (as diagnosed by the consultant psychiatrist) and mental health patients in acute stage/relapse of disease due to lack of their cooperation for data collection.

The sample size was calculated considering the percentage of alcohol, tobacco and substances usage among mental health patients as 50%, precision of 5% with 95% confidence level and non-response rate of 5%. Therefore, the calculated sample size was 404. Systematic random sampling was applied according to the probability proportional to the size

of the clinic population. Interviewer administered pre-tested questionnaire was used to collect data after obtaining informed written consent. The questionnaire was prepared in consultation with the specialists in psychiatry and public health. The patient's clinic records and admission book was used to extract the number of clinic attendance during the last 12 months of period. Two data collectors were trained for this purpose. Ethics clearance for this study was obtained from the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayawardenapura, Sri Lanka. Administrative clearance was obtained from the Regional Director of Health Services, Puttalam and respective Medical Officers in charge of each hospital.

Data were analysed using SPSS 16.0 software. Prevalence of alcohol, tobacco and illicit narcotic substances usage among mental health patients were calculated with their 95% confidence intervals (CI). Pearson chi square test was applied for assessing association between the factors and usage of alcohol, tobacco and illicit narcotic drugs. The p value of < 0.05 was considered as statistically significant.

Results

Four hundred and four patients who attended the outreach clinics conducted by the Mental Health Unit of Base Hospital Marawila were invited to participate and all patients responded. The mean age of the sample was 47.0 (SD = 14.3) years where minimum age was 18 years and maximum age was 83 years. Majority of mental health patients were females (60.4%, n = 244), Sinhalese (95.8%, n = 387) and Roman Catholics (54%, n = 218). Majority of mental health patients had studied year six to year eleven (50.1%, n = 213). Participants who were educated up to year eleven were 77.7% (n = 324). Eighty (23.3%) had passed GCE O/L and above. Only 2% (n = 08) had achieved higher education. Among mental health patients 38.6% (n = 156) maintained a job during the last 12 months period. But one fourth of them (25.74%, n = 104) had a regular income and a majority had lower income. The average distance between residence and the clinic was 4.5 km. By ethnicity 42.9% (n = 166) of Sinhalese and 46.9% (n = 6) of Tamils were currently using alcohol respectively and 15% (n = 58) of Sinhalese and 30.8% (n = 4) Tamils were current uses of tobacco.

The prevalence of current alcohol usage among mental health patients were 42.6% and which was 34.4% (n = 84) among females and 55% (n = 88) among males and the difference was statistically significant (p < 0.001). Prevalence of current tobacco usage among mental health patients were 15.3% and 35% (n = 56) among males and 2.5% (n = 6) among females and the difference was statistically significant (p < 0.001). Prevalence of current narcotic drugs usage among mental health patients were 2.7% which was zero among females and 6.9% (n = 11) among males and

Table 1: Prevalence of current and lifetime usage of alcohol, tobacco and illicit narcotic substances among mental health patients.

	Number	Prevalence	95% confidence interval
Current alcohol usage	172	42.6	38.0 - 48.0
Life time alcohol usage	217	53.7	49.0 - 59.0
Current tobacco usage	62	15.3	12.0 - 19.0
Life time tobacco usage	98	24.3	20.0 - 28.0
Current narcotics usage	11	2.7	1.4 - 4.8
Life time narcotics usage	24	5.9	3.6 - 8.2

Table 2: Association between selected variables and current alcohol usage among Patients attending mental health clinics.

Variables		Current alcohol consumption		Chi-square value, P value
		Yes	No	
Education Level	Up to year 5	39 (35.1%)	72 (64.9%)	3.5, P = 0.06
	Above Year 5	133 (45.4%)	160 (54.6%)	
Monthly income (Rupees)	Up to 5000	85 (38.1%)	138 (61.9%)	4.0, p < 0.05
	More than 5000	87 (48.1%)	94 (51.9%)	
Ethnicity	Sinhala	166 (42.9%)	221 (57.1%)	0.38 p = 0.53
	Others*	6 (35.3%)	11 (64.7%)	
Live	with Spouse	95 (51.6%)	89 (48.4%)	11.3, P < 0.001
	without spouse	77 (35%)	143 (65%)	
Sex	Male	88 (55%)	72 (45%)	16.7 P < 0.001
	Female	84 (34.4%)	160 (65.6%)	
Current alcohol consumption of Caregivers/family members	Yes	104 (52.8%)	93 (47.2%)	16.49, p < 0.001
	No	68 (32.9%)	139 (67.1%)	

*: Tamils and Muslims.

Table 3: Association between selected variables and current tobacco usage among Patients attending mental health clinics.

Variables		Current Tobacco usage		Chi-square value, P value
		Yes	No	
Education Level	Up to year 5	17 (15.3%)	94 (84.7%)	0.001, P = 0.99
	Above Year 5	45 (15.4%)	248 (84.6%)	
Monthly income (Rupees)	Up to 5000	22 (9.9%)	201 (90.1%)	11.5, p < 0.001
	More than 5000	40 (22.1%)	141 (77.9%)	
Ethnicity	Sinhala	58 (15%)	329 (85%)	0.37, p = 0.54
	Others*	4 (23.5%)	13 (76.5%)	
Live	with Spouse	34 (18.5%)	150 (81.5%)	2.5, P = 0.11
	without spouse	28 (12.7%)	192 (87.3%)	
Sex	Male	56 (35%)	104 (65%)	78.0, P < 0.001
	Female	6 (2.5%)	238 (97.5%)	
Tobacco use of Caregivers/family members	Yes	20 (20.2%)	79 (79.8%)	2.38, p = 0.12
	No	42 (13.8%)	263 (86.2%)	

*: Tamils and Muslims.

Table 4: Association between selected variables and current illicit narcotic usage among Patients attending mental health clinics.

Variables		Current illicit narcotic usage		Chi-square value, P value
		Yes	No	
Education Level	Up to year 5	05 (4.5%)	106 (95.5%)	1.83, P = 0.18
	Above Year 5	06 (2.0%)	287 (98.0%)	
Monthly income (Rupees)	Up to 5000	05 (2.2%)	218 (93.0%)	0.43, p < 0.51
	More than 5000	06 (3.3%)	175 (96.7%)	
Ethnicity	Sinhala	10 (2.6%)	377 (97.4%)	0.67, p = 0.41
	Others*	1 (5.9%)	16 (94.1%)	
Live	with Spouse	03 (1.6%)	181 (98.4%)	1.52, P = 0.78
	without spouse	08 (3.6%)	212 (96.4%)	
Sex	Male	11 (6.9%)	149 (93%)	16.7, P < 0.001
	Female	0 (0.0%)	244 (100.0%)	
Illicit narcotic usage of Caregivers/family members	Yes	00 (0.0%)	06 (100.0%)	0.17, p = 0.68
	No	11 (2.7%)	393 (97.3%)	

*: Tamils and Muslims.

the difference was statistically significant ($p < 0.001$). Life time prevalence of usage of alcohol, tobacco and narcotic drugs were 53.7%, 24.3% and 5.9% among mental health patients (Table 1).

Being a male patient, a higher monthly income, those who live with spouse and consumption of alcohol of a caregiver or a family member were significantly associated with current alcohol usage among the patients (Table 2). Higher monthly income was significant associated with current tobacco usage among mental health patients (Table 3). Being a male patient was significantly associated with current illicit narcotic usage (Table 4).

More than 78% ($n = 317$) of patients reported $> 75\%$ (8 out of 12) of clinic attendance during the previous year. Number of clinic attendance up to 8 during the last 12 months was not statistically associated with the selected variables except sex. Male patients attended more clinic visits compared to females (Table 5).

Discussion

We found that among the mental health patients 42.6% were current users of alcohol, 15.3% currently used tobacco and 2.7% currently used narcotics. According to an African study current prevalence of alcohol usage was 59%, tobacco 39% and narcotics 31% among psychiatric patients [13]. Another study reported that hazardous levels of alcohol usage among

psychiatric outpatients was high (28.4%), particularly among young females (46.6%) [7]. A Brazilian study reported that prevalence of current smoking was 52.7% among psychiatric patients which was higher than the general population [14]. A Norwegian study reported that a significantly larger proportion of adolescents with psychiatric disorders compared to the general population were current smokers (20.3% vs. 13.2%) and had tried illicit drugs (12.9% vs. 3.8%) [9]. In contrast, fewer adolescents with psychiatric disorders reported currently using alcohol (45.9% vs. 54.4%) than the comparable general population [9]. Another multi-ethnic study revealed that individuals with severe psychotic disorders have increased risks for smoking, heavy alcohol use and heavy marijuana use relative to the general population [10]. According to our study life time prevalence of usage of alcohol and tobacco were 53.7% and 24.3% respectively. One study reported that lifetime prevalence of alcohol use disorders among severe mental illness inpatients in Taiwan was 9.8% [15]. Another study reported that the life time prevalence of smoking was 59% among psychiatric patients [16].

Current alcohol usage among male patients was 55% and 34.4% among females in the present study. The findings are consistent with a study in Norway [9]. Prevalence of current alcohol users were 39.6% among males and 2.4% among females in the general

Table 5: Association between selected variables and clinic attendance among mental health patients.

Variables		Number of Clinic Attendance during last 12 months		Chi-square value P value
		Up to 8	9 to 12	
Current alcohol usage	Yes	36 (20.9%)	136 (79.1%)	0.065, P = 0.80
	No	51 (22.0%)	181 (88.0%)	
Current tobacco usage	Yes	18 (29%)	44 (71%)	2.44, p = 0.12
	No	69 (20.2%)	273 (79.8%)	
Current Illicit narcotic usage	Yes	5 (45.5%)	6 (54.5%)	3.83 P = 0.05
	No	82 (20.9%)	311 (79.1%)	
Current alcohol consumption of Caregiver/family members	Yes	39 (19.8%)	158 (80.2%)	0.69, p = 0.41
	No	48 (23.2%)	159 (76.8%)	
Current Tobacco usage of care giver/family members	Yes	25 (25.3%)	74 (74.5%)	1.07 P = 0.33
	No	62 (20.3%)	243 (79.7%)	
Current Illicit narcotic usage of care giver/family members**	Yes	03 (50.0%)	03 (50.0%)	1.46 p = 0.23
	No	84 (21.1%)	314 (78.9%)	
Distance from residence to the clinic	Up to 5 km	46 (19.1%)	195 (80.9%)	2.12, P = 0.15
	Above 5 km	41 (25.2%)	122 (74.8%)	
Age (Years)	Up to 57	57 (20.2%)	225 (79.8%)	0.96, P = 0.33
	Above 57	30 (24.6%)	92 (75.4%)	
Education Level	Up to year 5	24 (21.6%)	87 (78.4%)	0.0007, P = 0.98
	Above Year 5	63 (21.5%)	230 (78.5%)	
Monthly income (Rupees)	Up to 5000	56 (25.1%)	167 (74.9%)	3.77, p = 0.052
	More than 5000	31 (17.1%)	150 (82.9%)	
Ethnicity	Sinhala	166 (42.9%)	221 (57.1%)	0.38 p = 0.53
	Others*	6 (35.3%)	11 (64.7%)	
Live	with Spouse	37 (20.1%)	147 (79.9%)	0.40, P = 0.52
	without spouse	50 (22.7%)	170 (77.3%)	
Sex	Male	88 (55%)	72 (45%)	16.7 P < 0.001
	Female	84 (34.4%)	160 (65.6%)	

*: Tamils and Muslims, **: Fisher's Exact Test.

population in Sri Lanka [17] which indicates that current alcohol usage is higher among mentally ill patients. Current usage of tobacco among males was 35% and 2.5% among females in our study. The current smoking prevalence in the general population was 39% and 2.6% among adult males and females respectively [18] which were slightly higher than our findings. Current illicit narcotic usage among males was 6.9% and no one used narcotics among females in our study. One Sri Lankan study [19] reported that cannabis use disorders among psychiatric patients were 11.7% which was higher than findings of the present study. This may be due to the differences in the study populations. A Canadian study reported that drug and alcohol abuse among patients with severe mental disorders were higher among males than females [20]. In contrast a Norwegian study reported that alcohol users, smokers and drug users were higher among the adolescence female psychiatric patients than males [9].

We found that being a male patient, a higher monthly income, those who live with spouse and consumption of alcohol of a caregiver or a family member had a significant association with current alcohol usage of the patient. An Ethiopian study too revealed that being a male patient was more likely to have alcohol use disorders [21]. We also found that higher monthly income was significantly associated with the current tobacco usage among mental health patients and being a male patient was significantly associated with current illicit narcotic usage. One Brazilian study reported that living with a steady partner and satisfaction with financial situation were associated with lower risk of alcohol, cigarette and illicit drug usage among psychiatric patients [22]. Another study reported that these comorbid substance use were more likely if the patients are male, have a lower educational level and are unemployed [19].

We could not find any statistically significant relationships between the frequency of clinic attendance and alcohol or tobacco or substances usage among mental health patients. However, higher proportion of patients who used narcotic drugs attended < 8 clinic visits compared to non-users. One study [23] reported that higher educational level and being married were associated with a lower dropout rate of clinic visits among psychiatric patients in Japan. We could not find a statistically significant difference between income and frequency of clinic visits. Two studies [24,25] reported that there was no association between income and clinics attendance. However, those who had lower income level on our sample attended less clinic visits.

Most of the patients are from low socio-economic strata, since the affluent seek medication from the private sector. Patients who seek treatment in government hospitals are suffering from moderate to severe form of psychiatric disorders while the patients with mild psychiatric disorders may have sought to alternate treatment. Although we do not think that

it will affect the generalisability of the findings as the study covered the all government mental health clinics in the district.

Limitations

We have not categorised the psychiatric disorders by diagnosis and assess the relationship between each diagnosis and substance usage since the sample size is smaller. This may be the reason for not finding any significant association between substance use and mental disorders. The cross sectional nature of this study is not appropriate to determine the direction of the association. These patients may have taken up substance before they develop psychiatric disorders or they may have used alcohol and narcotics to relieve the symptoms of the primary illness.

Patients may have not revealed the true status of narcotic use though they were informed that individual data would not be exposed to a third party. This may lead to underestimation of the association. We have failed to measure the substance abuse among psychiatric patients since we have gathered data only on substance use.

Declarations

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Ethics approval and consent to participate

The Ethics Review Committee of the Sri Lanka Medical Association granted ethical clearance. Informed written consent was obtained from parents and the school children prior to data collection. Permissions were obtained from the Provincial Director of the Western Province, the District and Zonal Directors of Education, School Principals of the District and Deputy Provincial Director of Health Services, Kalutara District.

Competing interest

“The authors declare that they have no competing interests” in this section.

Authors' contributions

CA participated in the design of the study, performed the statistical analysis, interpreted the data and drafted the first version of the manuscript. HB participated in the design of the study, coordinated data collection, performed the statistical analysis and helped to draft the manuscript.

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