

Tobacco Use, Dependence And Psychiatric Co-Morbidities Among Patients Admitted In Psychiatry ward.

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Abstract

Introduction: Nicotine dependent individuals among the tobacco users are in greater risk of having tobacco related disease and psychiatric co-morbidities. There is little information about the tobacco use and nicotine dependence among psychiatric patients in developing countries including Nepal. This study was done to estimate the prevalence of tobacco use, the level of nicotine dependence among the users and the psychiatric disorder specific prevalence among tobacco users admitted in psychiatry ward.

Material And Method: A cross-sectional study was conducted in In-patient setting of Department of Psychiatry, BPKIHS. Ninety cases (size) were enrolled. The Fagerström Test for Nicotine Dependence (FTND) was applied to assess the level of nicotine dependence and the Mini International Neuropsychiatric Interview (M.I.N.I.) for diagnosis of Psychiatric disorders.

Results: The prevalence of tobacco use was 62.2%. Tobacco use was more common among males (p value < 0.05). Smokeless form was the commonest form of tobacco. Majority of tobacco users had moderate nicotine dependence and had started the use in adolescence and in their 20s. Psychotic disorders were the most common diagnosis among the admitted patients.

Conclusion: Tobacco use is common in patients with psychiatric disorders. Nicotine dependence should be looked into for holistic management. Treatment approaches should be tailored in tobacco users with comorbid psychiatric disorders, as this specific population has high prevalence of tobacco use and higher nicotine dependence.

Keywords: Tobacco, Psychiatric Co-morbidity, Nicotine Dependence

INTRODUCTION

Nicotine present in tobacco products is the key chemical compound which is highly addictive. Assessing nicotine dependence is of utmost importance in tobacco users. Dependent smokers are reported to have greater functional impairment than nondependent smokers, it is possible that nicotine dependence confers greater risk of short-term and long-term adverse health outcomes than smoking alone.¹ There seems always a need of

assessment of psychiatric disorders in nicotine dependent individuals as psychiatric co-morbidity is one of the factors associated with a poorer outcome in treatment of such individuals. It is seen that nicotine dependence and smoking are two to three times more common in individuals with psychiatric and other substance use disorders than in the general population.² Conversely, the high rates of psychiatric disorders amongst smokers are common throughout the world.³ Heavy smokers

have more severe psychiatric symptoms and poorer overall general well-being.⁴ Little is known about the prevalence of tobacco use, nicotine dependence among tobacco users and co-occurrence of nicotine dependence and psychiatric disorder in developing countries including Nepal. Therefore, this study was carried out to estimate the prevalence of tobacco users in admitted patients in psychiatric facility and the level of nicotine dependence among users. We also aim to estimate the psychiatric disorder specific prevalence among tobacco users.

MATERIAL AND METHOD

This is a cross-sectional study conducted in the inpatient psychiatric ward of BPKIHS, Dharan. This study was conducted over the duration of one year from March 2014 to February 2015. This study was approved by the Ethical Review Board of Research Committee of B. P. Koirala Institute of Health Sciences, one of the authorized institutions of Nepal Health Research Council, Kathmandu.

Sample size and study population

Keeping the estimated prevalence 55% of tobacco users in hospital setting with β error at 0.2, sample size came out to be 82. Additional 10% subjects were taken for better representation which makes 90. All consecutive patients admitted in ward who gave informed consent were enrolled. Those who were unwilling or unable to give informed consent and participate in the research were excluded. Acutely ill patients were enrolled only after they improved from the acute phase of illness.

Instruments

A Semi-structured proforma including information about socio-demographic and clinical variables was used for all the consecutive patients who were admitted. Fagerström Test for Nicotine Dependence/ Fagerström Test for Nicotine Dependence-Smokeless Tobacco (FTND-ST) was applied those who consumed any form of tobacco. This test consists of total score of 10, and classified with 1-2 = low dependence, 3-4 = low to moderate dependence, 5-7 = moderate dependence, 8+ = high dependence. Nepali translation of Mini International Neuropsychiatric Interview (M.I.N.I.) English Version 6.0.0 was used for the psychiatric diagnoses. The collected data were entered in Microsoft Excel, tabulated and analyzed using SPSS latest version. Statistical analysis was done using parametric and non-parametric statistical techniques for measures of central tendency,

standard deviation, and other tests of significance as appropriate.

RESULT

Table 1: Distribution of Socio-Demographic Characteristics

Characteristics	Category	Inpatient Frequency N (%)
Age	15- 25 years	22 (24.4)
	26- 35 years	25 (27.8)
	36- 45 years	30 (33.3)
	46 years & above	13 (14.4)
Sex	Male	57 (63.3)
	Female	33 (36.7)
Address	Terai	76 (84.4)
	Hilly	14 (15.6)
Marital Status	Married	65 (72.2)
	Unmarried/ Separated/ Widow	25 (27.8)
	Religion	Hindu
Religion	Kirat	19 (21.1)
	Buddhist/ Christian/ Muslim	11 (12.2)
	Caste	Brahmin and Chhetri
Janajati		37 (41.1)
Madhesi/ Dalit and others		16(17.8)
Education		Illiterate and under SLC
	SLC and above	26 (28.9)
Occupation	Housewife	19 (21.1)
	Business/ Service	15 (16.7)
	Farmers/ Others	28 (31.1)
	Unemployed	28 (31.1)
Type of Family	Nuclear	60 (66.7)
	Joint	30 (33.3)

More participants in our study were from age group 36-45 years, with higher participation from male gender. Married persons with Hindu religion were majority of participants. Most people were illiterate or had under SLC education. People from nuclear family had higher presentation.

Prevalence of tobacco users among the patients was 62.2%. Among them, the prevalence of tobacco users was found to be highest in 46 and above age groups [(76.9%)]

Table 2: Distribution of Tobacco users according to age group

Age group	Tobacco use		Total N (%)	p values
	Present N (%)	Absent N (%)		
15- 25 years	12 (54.5%)	10 (45.5%)	22 (100%)	0.606
26- 35 years	16 (64.0%)	9 (36.0%)	25 (100%)	
36- 45 years	18 (60.0%)	12 (40.0%)	30 (100%)	
46 years & above	10 (76.9%)	3 (23.1%)	13 (100%)	
Total	56 (62.2%)	34 (37.8%)	90 (100%)	

Table 3 : Distribution of Tobacco Users according to sex

Settings and Sex	Tobacco use		Total N (%)	p values
	Present N (%)	Absent N (%)		
Inpatient				<0.001
Male	46 (80.7%)	11 (19.3%)	57 (100%)	
Female	10 (30.3%)	23 (69.7%)	33 (100%)	
Total	56 (62.2%)	34 (37.8%)	90 (100%)	

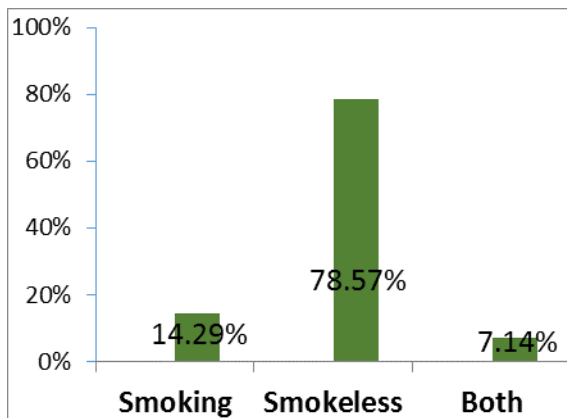


Fig 1: Distribution of tobacco users according to form of tobacco

Use of smokeless form of tobacco such as *khaini* was higher compared to smoking or both form of tobacco, among tobacco users. Most of the tobacco users had moderate dependence of nicotine assessed by Fagerstorm Test for Nicotine Dependence. Among 56 tobacco users, Psychotic disorder was the most common diagnosis, followed by manic and hypomanic episodes and Alcohol dependence. Diagnosis of Obsessive-compulsive disorder was present in 1.8% of tobacco users.

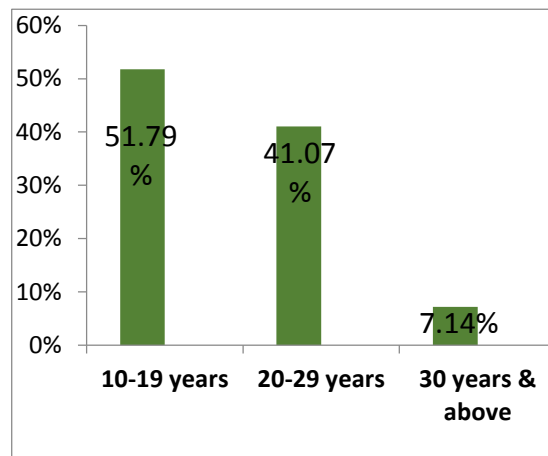


Fig 2: Distribution of tobacco users according to their age at first use

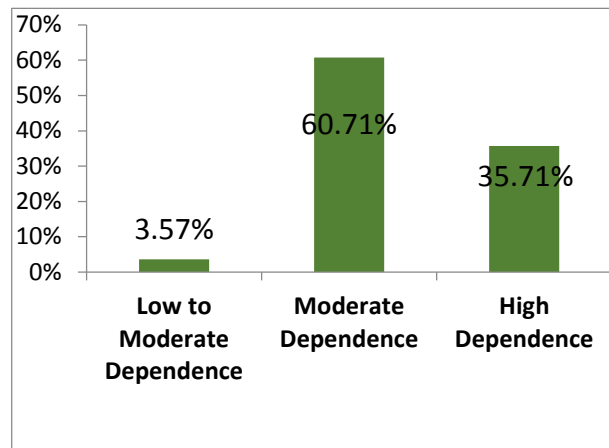


Fig 3: Distribution of Tobacco users according to their level of nicotine dependence

Table 4 : Distribution of Psychiatric Disorders among Tobacco Users

Diagnosis	Tobacco use		Total
	Present	Absent	
Major Depressive Episode	4 (7.1%)	11 (32.4%)	15
Manic and Hypomanic episodes	18 (32.1%)	16 (47.1%)	34
Psychotic Disorder	19 (33.9%)	7 (20.6%)	26
Panic Disorder	0 (0.0%)	1 (2.9%)	1
Alcohol Dependence	17 (30.4%)	3 (8.8%)	20
Non-Alcohol Psychoactive Substance Use Disorder	5 (8.9%)	0 (0.0%)	5
Seizure Disorder	5 (8.9%)	4 (11.8%)	9
Suicidality	5 (8.9%)	0 (0.0%)	5
Obsessive-Compulsive Disorder	1 (1.8%)	1 (2.9%)	2
Total	56	34	90

DISCUSSION:

Our study showed the prevalence of tobacco use to be significantly high (62.2%) in admitted patients. Fifty six patients consumed one or other forms of tobacco. More participants were from the age group of (36-45) years, but the tobacco use was more prevalent in those who were 46 years and above (76.9%). Gender wise, out of 57 male patients, 46 (80.7%) males consumed tobacco and 10 (30.3%) females consumed tobacco. Majority of females (69.7%) did not consume tobacco. This was found to be statistically significant ($p < 0.05$). A study done in an In-patient setting in Iran showed the prevalence of smoking was 70%. Seventy eight percent of males consumed tobacco which was higher compared to females (36.2%).⁵ Our finding is similar in this regard. Another study in NIHMANS, in an in-patient psychiatric facility showed that prevalence of overall tobacco use was 36%. Majority of tobacco users (88%) were 39 years and above. Prevalence of tobacco use was found to be 53% in

male patients compared to 9% in females.⁶ McClave et al⁷ had also found that prevalence of smoking was significantly higher in persons having mental illness similar to those admitted in our wards which can range from 40% to 85%. Our study showed 78.57% of tobacco users were consuming smokeless form of tobacco, 14.29% were smoking and 7.14% were taking both forms of tobacco. Chandra et al⁶ study showed the prevalence of smokeless form such as chewing form was among 9% of patients and smoking was observed in 7% (including cigarettes and beedis); whereas 4% consumed both forms of tobacco. Smokeless tobacco, being easy in access and use in day to day life, may be more widely used than smoking in our setting. Smoking form, on the other hand, may be easily noticeable and many consider it as more dangerous form than smokeless form.

Majority of tobacco users in present study had moderate nicotine dependence (60.71%), followed by high/ severe nicotine dependence (35.71%). Only few (3.5%) had a low dependence on nicotine. It implies the fact that psychiatric patients, who are in their active illness phase, are moderately to highly dependent on nicotine. This finding is consistent with a study by Chandra PS et al where 65% of all tobacco users admitted for their psychiatric illness reported of moderate to severe nicotine dependence.⁶ Another study in western country reported that the associations between nicotine dependence and specific Axis I and II disorders were all strong and statistically significant.⁸ Out of 56 tobacco users, highest prevalence of psychotic disorder (33.3%) was observed. It includes schizophrenia, acute and transient psychotic disorder and unspecified non-organic psychosis, organic psychosis etc. Second most common diagnosis was manic and hypomanic episodes (32.1%). Nearly one-third (17/20) of tobacco users received diagnosis of alcohol dependence. In-patient alcohol dependence study of the same department reported 70% prevalence of nicotine use/abuse.⁹ Chandra PS et al⁶ study showed that among in-patient tobacco users, most common primary diagnosis was mood disorder (47%) including both bipolar illness and major depressive disorder which was followed by psychotic disorder (39%) and Neurotic disorder (14%). As known, tobacco use is high among psychiatric patients compared to those without illness and conversely, some of the study has also shown that tobacco consumption may itself be risk

in development of psychiatric illness. Study of Weiser et al¹⁰ on male adolescents showed that smokers were found to have greater risk for later schizophrenia and number of cigarettes smoked was significantly associated with risk for schizophrenia. Similarly, risk of developing depressive symptoms was observed in Goodman et al study.¹¹ Tobacco users and nicotine dependent individuals also have high tendency to use other forms of substance, as nicotine/ tobacco is considered as the gateway drug.

Mean age of participants in this study was 35.59±12.38 years. Maximum case was from (36-45) years of age. This finding was consistent with study done in same setting by Shakya et al on alcohol dependent patients⁹ where the greatest numbers of patients were from the age groups of (30-40) and (40-50) years. These findings of ours corresponds to the study done in National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, where mean age was 31.7 with Standard deviation of 9.9. Gender wise, our finding is consistent with hospital based study done in NIHMANS where out of 988 final samples, 60.02% were male patients and 39.97% were females.⁶ Most people were illiterate or had under SLC education. This shows that despite the lower level of education, people were more aware about their health and had visited Psychiatric facilities. From this, we can presume that stigma which is attached with mental illness is decreasing. However, less participation from higher level educated group also may reflect that this group may be more stigmatized in seeking help from psychiatric facility as it may have an impact on their social status and functioning. Nuclear family was twice in number compared to those from joint family (66.7% vs. 33.6%). This shows that in a nuclear family, when a dysfunction of a single person occurs, it can lead to disruption in whole family functioning. This might have resulted in coming early for medical attention.

There are certain limitations in present study. Though our study focused primarily on tobacco use and dependence and based upon our instruments, our effort was exclusively to obtain the related information, however, because of denial or minimization, underreporting in substance taking behavior may be possible. Chances of bias may occur as the questionnaire and tools utilized were entirely based upon subjective reporting. Because of the cross-sectional nature of the study, temporal

relation between the independent variables and tobacco use could not be established. Moreover, chronicity of psychiatric illness and effects of medication on tobacco use patterns were not assessed.

CONCLUSION:

The prevalence of tobacco use was significantly high. This shows there is high prevalence of tobacco use in people suffering from psychiatric illnesses. Further research that helps to understand the possible mechanism behind this association is required. Nicotine dependence should be routinely assessed in tobacco users as it may have implications in successful quitting. Treatment approaches should be tailored in tobacco users with comorbid psychiatric disorders, as this specific population has high prevalence of tobacco use and higher nicotine dependence.

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CONFLICT OF INTEREST: None

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