

Prevalence of Usage Nicotine and its Dependence among Patients with Depression

UNAIZA JAWAD¹, RIZWAN FAROOQ², MUHAMMAD SAEED KHAN³, FAHAD UL ZAIN⁴, MUHAMMAD SHOAB IRFAN⁵, MUAZZAM FUAAD⁶

¹Associate Professor Psychiatry & Behavioural Sciences, Rashid Latif Medical College, Lahore

²Assistant Professor Psychiatry & Behavioral Sciences, PGMI /AMC / LGH, Lahore Pakistan

³Consultant Psychiatrist, Alfalah Diagnostic Centre Azhar Medical Plaza, Timergara

⁴Assistant Professor Psychiatry, People's University of Medical & Health Sciences, Nawabshah

⁵Assistant Professor Psychiatry & Behavioural Sciences, Sialkot Medical College, Sialkot

⁶Assistant Professor Medicine Medical Department Rai Medical College, Sargodha

Corresponding author: Muhammad Saeed Khan, Email: msaeedkhan05@gmail.com, Cell: +92 317 5564033

ABSTRACT

Background: Smoking is common and people with mental disorders are no exception. Few studies have looked at the pervasiveness of usage of tobacco and dependence of nicotine in depressed patients in undeveloped states such as Pakistan. Therefore, in this study, the aim was to determine the prevalence of tobacco use, addiction of nicotine and the inspiration to quit smoking in major depressive disorder affected patients.

Study Design: A cross-sectional descriptive study.

Place and Duration: In the Department of Psychiatry and Behavioral Sciences, LGH Lahore, Pakistan and Psychiatry Alfalah diagnostic centre, Azhar Medical Plaza Timergara for the duration of six months from August 2021 to January 2022.

Methods: The study was held amongst patients with diagnosis of depression from the Department of Psychiatry (outpatient and inpatient). A semi-structured form was used to collect data using and for nicotine use; WHO STEPS tool was used. The Nicotine Dependence was assessed by Fagerstrom Test, Smokeless Tobacco by Modified Fagerstrom and Motivation Assessment were used: Willingness to Quit Ladder was pragmatic for users of nicotine. The data was analyzed and compiled using the SPSS version 20.0.

Results: The study comprised 110 subjects (mean age: 36.2 ± 9.80 years, 50 men and 60 women) diagnosed with Major Depressive Disorder (mean disease duration: 1.56 ± 2.21 years) were included. 60 of 110 patients (54.5%) used one type or numerous types of tobacco. The patients smoked only tobacco were (n = 38, 63.4%), smokeless tobacco was used by 14 subjects (23.3%) and 13.3% (n = 8) used smokeless and smoked tobacco both. The percentage of smokers of any type of tobacco is greater in men as compared to women (p = 0.029). Among who smokes (n = 38), about fifty percent were heavily addicted 24(63.2%), and 14 (36.8%) were moderately addicted. Almost all (92.8%) of the smoke-less category (n = 14) were highly addicted. Among the combined users, almost all (6/8 = 75%) were heavily addicted to nicotine. A comparatively insignificant proportion (23.3%) of users of nicotine were strongly agreed to stop using any tobacco type.

Conclusions: The usage of nicotine prevalence and dependence was supposed to be greater in individuals with depression. In low-resource environments such as Pakistan, the practice of translated and standardized tools of screening can be effectively cast-off to assess the nicotine usage burden in standard practice clinically.

Keywords: Nicotine, Depression, Tobacco and Nicotine dependence.

INTRODUCTION

Tobacco use is defined in several ways as an important community health issue internationally. Worldwide, 9.42 billion males and 1.75 billion females over the age of 15 still smoke¹⁻². There are no systematic studies assessing the tobacco usage burden and dependence of nicotine in Pakistan. In a 2013 study by the Pakistan Health Research Council (with the help of the WHO) ensuing the manual STEP Intelligent Surveillance Approach guidelines), the prevalence of smoking and tobacco smoking in Pakistan accounted for 30% of the total population³⁻⁴. In the 15-69 age group, the incidence was higher among men (48.1%) compared to women (14.1%)⁵⁻⁶. Research reports in the USA, Australia and Great Britain illustrated that smoking compared with the general population and found that it is 2-3 folds much common in persons with mental health conditions⁷. Depression is twofold communal in people who smokes as compared to those who do not smoke and 4-folds more communal in people who smoked heavily (Klungsoy, 2006 # 181). A recent study of smoking in young adults from the NESARC found that proportion of dependence of nicotine in depressed daily smokers, after controlling smoking levels, and across a continuum of daily smoking-related behavior found an increased risk of nicotine dependence⁸. This means that people diagnosed with depression in life showed higher rates of nicotine dependence, vacillating from 1-5 cigarettes/ day to more than one packet a day, at all levels of daily smoking, in comparison to those not having depression history⁹⁻¹⁰. In addition, compared with the general populace, severe mental illness people have a twenty five-year shorter expectancy of life, mainly due to smoking, obesity and a lack of medical care. Therefore, underdiagnosis and poor treatment of smoking worsen

the life quality. People with depression are inclined to consume tobacco in their lifetime¹¹. Such responses result in the progression of dependence to nicotine. These behaviours are associated with significant morbidity and mortality. For this reason, it is very important to assess dependence of nicotine in every psychiatric case¹². In spite of this considerable, few studies have looked at the pervasiveness of usage of tobacco and dependence of nicotine in depressed patients in undeveloped states such as Pakistan. Therefore, in this study, the aim was to determine the prevalence of tobacco use, addiction of nicotine and the inspiration to quit smoking in major depressive disorder affected patients.

METHOD

This cross-sectional study was taken place at the department of Psychiatry and Behavioral Sciences, LGH Lahore, Pakistan and Psychiatry Alfalah diagnostic centre, Azhar Medical Plaza Timergara for the duration of six months from August 2021 to January 2022. Conferring to the International Classification of Diseases - 10 (ICD-10); 110 patients identified with depression were included from the outpatient and inpatient department after institutional research committee approval. All participants have given informed consent before the start of the study. Inclusion criteria were: Patients who had given consent in written form and 18-59 years of age group with frequent nicotine use habits) ICD-10 Diagnosed with depression. The criteria of exclusion were as follows: subjects who refused to take part in study or failure to provide knowledgeable consent and patients having other psychiatric illness rather than depression. The sample size was 110 and collected with consecutive method of sampling. A semi-structured form was used to collect data using and for nicotine use;

WHO STEPS tool was used. The Nicotine Dependence was assessed by Fagerstrom Test, Smokeless Tobacco by Modified Fagerstrom and Motivation Assessment were used: Willingness to Quit Ladder was pragmatic for users of nicotine. It comprises of a Likert scale of 11-points. This is a single-pick visual analogue scale showing a ladder with stepwise increasing steps that have a higher level of willingness to quit. A semi structured and self-designed questionnaire was developed to attain the study population socio-demographic features. The greater the total score of Fagerstrom, the stronger patient's physical nicotine dependence. The modified version of FTND is the Modified Fagerstrom-Smokeless Tobacco for the evaluation of users who use smokeless tobacco and is evaluated similarly to FTND. The classification standards for the nicotine dependence scores were as follows: ≤ 4 score means dependence of low to moderate and ≥ 5 scores mean dependence of moderate to high type for both Modified Fagerstrom and Fagerstrom tests. The Fagerstrom test was applied to categorize addictions for mixed users. Statistical analysis Data analysis was performed with SPSS version 20.0. The non-normally distributed variables are articulated as range and median and normally as mean \pm SD. The comparison of the groups mean was done with unpaired t-test. To compare the frequency differences of relations between the variables and the nature of the criteria; chi-square test was applied. The Spearman's rank correlation coefficient was applied for variables correlation. $P < 0.05$ was taken statistically significant.

RESULT

The study comprised 110 subjects (mean age: 36.2 ± 9.80 years, 50 men and 60 women) diagnosed with Major Depressive Disorder (mean disease duration: 1.56 ± 2.21 years) were included. 60 of 110 patients (54.5%) used one type or numerous types of tobacco. The patients smoked only tobacco were ($n = 38$, 63.4%), smokeless tobacco was used by 14 subjects (23.3%) and 13.3% ($n = 8$) used smokeless and smoked tobacco both. The percentage of smokers of any type of tobacco is greater in men as compared to women ($p = 0.029$). (Table 1)

Table 1: Nicotine use prevalence conferring to gender

SN	Variable	Male (n=50)	Female (n=60)	p-value
1	Smoker	27	11	0.029
2	Smokeless Tobacco only	12	2	
3	Combined users	6	2	

Table 2: The dependence of Nicotine categorised conferring to Modified Fagerstrom or Fagerstrom test

Class	Smoker only (n = 38)	Smokeless only (n = 14)	Combined users (n = 8)
Low to Moderate	14	1	2
High	24	13	6

Table 3: Incidence distribution of scores attained in Valuation of Motivation: Willingness to Quit Ladder

Score	Frequency	Percentage
1	4	6.7
3	4	6.7
4	7	11.7
5	25	41.6
6	3	5
7	3	5
8	14	23.3
Total	60	100

Among who smokes ($n = 38$), about fifty percent were heavily addicted 24(63.2%), and 14 (36.8%) were moderately addicted. Almost all (92.8%) of the smoke-less category ($n = 14$) were highly addicted. Among the combined users, almost all (6/8 = 75%) were heavily addicted to nicotine.

A comparatively insignificant proportion (23.3%) of users of nicotine were strongly agreed to stop using any tobacco type. The median Quit Smoking Score (correspondingly with the maximum rate 41.6%) is 5, which ensures that user of nicotine frequently consider to quit smoking but have no plans to quit.

DISCUSSION

The frequency of usage of nicotine ($n = 60$, 54.5%) and dependence ($n = 43$, 71.6%) amongst users of tobacco pragmatic in this analysis which was comparable to the Aggarwal N et al (2018) study results¹³. 146 (56%) of 258 users of tobacco reported dependence of tobacco and 112 (44%) reported destructive practice. While dependence of tobacco was over fifty percent in psychotic (73%) and 60% in depressive disorders, damaging consumption was much communal in other disorders. 71.7% of 110 patients with depression were severely addicted to nicotine¹⁴⁻¹⁵. Vanable PA et al study in 2017; 2910 consecutively selected patients from OPD of 7 inpatient psychiatric hospitals in Syracuse, New York, understood the high proportion of smoking amongst psychiatric patients¹⁶⁻¹⁷. The subjects with schizoaffective disorders described the maximum percentage of smoking (68%), trailed by depression (60%) and schizophrenia (63%). Solitary 63.3% ($n = 38$) of the depressed patients in our study smoked tobacco, so these differences likely revealed different differences in income, culture, availability and distribution of products of tobacco¹⁸⁻¹⁹. Unlike developed countries, Pakistan has a strong family system even for people with mental illnesses. In this way, a family that restricts smoking reduces the practice of tobacco usage. The purchasing power of commercially processed products of tobacco was restricted by the low income of the patient. In 2016, Milani et al studied using FTND to understand a pattern of nicotine and smoking addiction in individuals with mental conditions hospitalised at Iran Razi Hospital for at least 2 days²⁰⁻²¹. The results showed that of a total of 70% of smokers (79% of males and 37% of females), 64.4% of smokers were highly addicted to nicotine. Smoking has therefore been found to be associated with male sexuality, old age, depression and hookah usage. Contrary to this research, the incidence of heavy smoking was greater in comparison to this study ($n = 43$, 71.6%). The difference may be due to a difference in the breakpoint. A cut-off points of > 4 FTND was used in our study. However, in this study an FTND score of > 3 was used for tobacco dependence²²⁻²³.

CONCLUSION

The prevalence of nicotine usage and addiction has been found to be high in depression. In low-resource environments such as Pakistan, the practice of translated and standardized tools of screening can be effectively cast-off to assess the nicotine usage burden in standard practice clinically. Early diagnosis of tobacco-related disorders helps to identify and quickly deal with the problem with simple tools of screening such as modified FTND for smokeless tobacco and FTND for smoked tobacco so that these methods can be used routinely in the analysis of patients with psychiatric disorders.

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