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An Exploratory Study on Frequency and Pattern of Nicotine Use in Male Schizophrenic Patients in a North Indian Outpatient Setting

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ABSTRACT

Objective: To study the frequency and pattern of tobacco use in male patients of schizophrenia in the OPD of a psychiatric hospital in Delhi, India.

Method: Sample was collected from the psychiatry out-patients over a period of nine months. Patients were assessed as per the structured Performa and assessment tools like Schedule for clinical assessment in neuropsychiatry (SCAN), Positive And Negative Syndrome Scale (PANSS) and Global Assessment Scale (GAS). Criteria of International Classification of Diseases (ICD) – 10th edition was used for making diagnosis. The data was analyzed by statistics software SPSS 20.0 version.

Results: Of the 70 patients constituting the study sample. More than 60% patients had consumed some substance (including tobacco) at some time in their life. Almost half of the patients had history of tobacco use with 40% percent (n=28) were diagnosed with tobacco dependence and 27% (n=19) had a history of other substance use which included alcohol, cannabis, opioid and benzodiazepines.

Conclusion: The overall substance use in our patients was found to be lower than what has been reported by earlier studies done in India and in the West. Tobacco (47.1%) was the commonest substance of abuse. Most schizophrenic patients who consumed tobacco had a dependence pattern of abuse

KEYWORDS: Schizophrenia, Substance use, tobacco use

Introduction

Substance abuse among patients with schizophrenia is an increasingly recognized problem. Patients of schizophrenia with concurrent substance abuse pose a burden on their families as well as to the society to a greater extent than either a patient of substance abuse or schizophrenia alone. The presence of substance abuse increases the medical, socio-occupational and legal complications in these patients. . Psychoactive substances can also interact with pharmacological agents used for the treatment of schizophrenia by directly counteracting their desired effects, by worsening their side-effects profile or by altering their pharmacokinetic properties.

The commonest substance of abuse in Schizophrenia is Tobacco. Tobacco dependence is three times higher in schizophrenic patients than general population [1-4]. Continuous interplay of genetic, environmental and physiological risk factors attribute to nicotine use in patients of schizophrenia [4-6]. Consumption of nicotine results in improvement in arousal, increase in attention and vigilance leading to better task performance which may be one of the important reasons for increased nicotine consumption in patients of schizophrenia [7-8]. The frequency and Pattern of nicotine use in patients of schizophrenia is one of the less researched areas in India [9-10]. The current study attempts to study the same.

Materials and methods

The study population comprised of male patients suffering from schizophrenia attending/seeking treatment at a Psychiatry out-patients clinic of Institute of Human Behaviour and Allied Sciences, Delhi. The patients underwent detailed clinical evaluation following which they were included in the study as per the selection criteria. Only Male patients between 18-60 years of age diagnosed as Schizophrenia by ICD-10(DCR) criteria at the OPD willing to give a written consent were included in the study (or family member in case patient was not capable of providing a valid consent). Patients with co-morbid severe medical illness and uncooperative patients were excluded from the study. The patient's clinical assessments were made more specific and accurate by use of assessment tools like Schedule for clinical assessment in neuropsychiatry (SCAN), Positive And Negative Syndrome Scale (PANSS) and Global Assessment Scale (GAS) [11 - 13]. Criteria of International Classification of Diseases (ICD) – 10th edition was used for making diagnosis. The data was analyzed by statistics software SPSS 20.0 version.

Result

As depicted in Table 1 of the 70 patients constituting the study sample, 45 (64.3%) patients had consumed some substance including Nicotine at some time in their life. Of these 40 (57.1%) patients were current users and 5 (7.2%) were past users. Table II shows that 33 patients (47.1%) were consuming tobacco and all were current users of whom more than 80% had tobacco dependence and the rest had tobacco use. Out of the sample of 70 patients, 15 patients (21.4%) had used substances other than nicotine (alcohol, cannabis, opioids and benzodiazepines). Tobacco dependence (n=28) patients were compared on various socio-demographic and clinical variables of Schizophrenia with the rest of the sample patients (n=70-28) and Chi square test was applied as a Test of Significance. P-value was significant only for the mode of onset of Schizophrenia in patients with Tobacco dependence (Chi square=8.396, df=2, p-value=0.015).

Table I: Frequency of substance use in patients of Schizophrenia (n=70)

Substance	Past	Current*
Any Substance Use(including Tobacco)	5(7.2%)	40(57.1%)
Tobacco Use	-	33(47.1%)
Any Substance use (except Tobacco)	11(15.7%)	15(21.4%)

* Current =Last 12 months

Table II: Pattern of substance use in substance- abusing schizophrenic patients (n=70)

Substance	Pattern of substance use	Past	Current
Tobacco	Use	-	5 (7.1%)
	Dependence	-	28 (40%)
Any Substance use (except Tobacco)	Use	8(11.4%)	11(15.7%)
	Harmful Use	2(2.8%)	-
	Dependence	1(1.4%)	4(5.7%)

Discussion

Indian studies on tobacco use in schizophrenia are lacking. In the general population of India, the overall prevalence of ever-use of any kind of tobacco products is in the range of 29.6% -34.6% [14]. 55.8% current

prevalence of Tobacco was reported in NHSDA [15]. Most studies report up to 70% Tobacco use in Schizophrenia [16]. Hence, our finding of 47.1% nicotine use in schizophrenia patients is similar or lower than that in previous studies in general population and in comparison to schizophrenia patients. It is difficult to comment why our study had less tobacco users in schizophrenia patients. No conclusive comment can be made as we did not have any comparison group and there is dearth of literature in India on Tobacco use in schizophrenia.

In our study, Tobacco use was highest at the onset of the disorder and the difference was statistically significant in comparison to other patients. Western studies have documented significantly higher frequencies of high nicotine dependence than controls even after controlling for gender and age in severe mentally ill patients [17]. Smoking may have a beneficial effect on either schizophrenic symptoms or anti-psychotic side-effects, but studies are hampered by the lack of control of confounding factors [18]. Most studies report patients of schizophrenia are addicted to nicotine at three times the rate of the general population and that schizophrenia doubles the risk of being a current smoker when compared with other severe mental illnesses [18]. In the same study, 78% of the schizophrenic patients were found to be current smokers versus 58% in other psychiatric illnesses, and was associated with decreased number of quitters and the finding was found to be consistent across countries [18]. In another study, the prevalence of heavy smoking (defined as consuming 20-30 cigarettes/day) among smokers with schizophrenia was 31% versus 11% in the general population [19].

Studies supporting the Self-medication Hypothesis are few and often report contradictory results [17]. In one study in a large sample of stable out-patients with schizophrenia, symptoms were assessed with the PANSS and numbers of hospitalizations were compared in 250 out-patients with DSM-1V schizophrenia classified into three categories: highly dependent smokers, mildly dependent smokers and non-smokers. High PANSS total scores and positive symptoms were less frequent in the mildly dependent smokers than in non-smokers or highly dependent smokers. The highly dependent smokers had the worst outcome. It was concluded the data did not support the self-medication hypothesis but rather suggested a complex interaction between nicotine dependence and schizophrenic symptoms [20].

In our study, we found tobacco as the most common substance to be abused in patients of schizophrenia. Most of the patients using tobacco had a dependence pattern of abuse. The reasons of frequent tobacco use in patients of schizophrenia, particularly in the context of India seems to be beyond biological and psychological factors as –

- Tobacco is easily available, accessible at an affordable price everywhere in India
- Social and cultural factors also attributes to its frequent use
- Stigma is not a hindering factor for tobacco use
- Differential public perception about the harmfulness of tobacco

Limitations of the Study -

- ❖ This is a hospital based study and the results cannot be generalized to the entire population.
- ❖ The sample size was small.
- ❖ Only male patients were included in the sample.
- ❖ The study was cross-sectional in nature. A longitudinal study design would have been appropriate to study the effects of Tobacco use on the course of the schizophrenic illness. Also, there is the issue of recall bias about onset and past use of substances.
- ❖ No biochemical tests to confirm the self-reported drug use was done which would have been ideal.

Conclusion

The overall substance use in our patients was found to be lower than what has been reported by earlier studies and this could be because our patients were living in a family unit, in which there is family supervision. This can also perhaps explain the better prognosis of schizophrenia with substance use in India. However, lower substance use should not lead to complacence; continual effort is needed to control substance use in schizophrenia patients. Tobacco was the commonest substance of abuse. Most schizophrenic patients who consumed tobacco had a dependence pattern of abuse. However, there is scarcity of extensive research in this domain and in future more studies are needed in India to explore different clinical implications related to tobacco use in schizophrenia.

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