CORRELATION OF READINESS TO CHANGE, INTENTION TO QUIT AND SEVERITY OF DEPENDENCE OF TOBACCO USE AMONG THE RELATIVES OF THE PATIENTS VISITING PSYCHIATRY OPD IN A TERTIARY CARE CENTRE- A CROSS-SECTIONAL STUDY

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Abstract-
Introduction- The WHO estimates that the tobacco epidemic is one of the greatest risks to global public health, killing more than 8 million people per year, including over 1.2 million fatalities from exposure to second-hand smoke. Therefore, the present study attempted to understand the pattern of tobacco use, nicotine dependence, and readiness to change behaviour among tobacco users attending a psychiatric outpatient Department.

Methods & Materials- Cross-Sectional Study was conducted among the relatives of the patient attending Psychiatry OPD, which belongs to the Tertiary care Hospital, Pune. This study purposively (Non-Probability Random sampling) recruited 100 people currently using tobacco in any form in the study. Data were collected by a face-to-face interview method using the pretested, Semi-structured questionnaire having questions pertaining to sociodemographic details, nicotine dependance, Readiness to change behavior, intention to quit.

Results- The total number of subjects was 100 in the study. Most patients were males (82%) and the mean age was 33.6 (±9.13) years. 14% of the participants were identified as having significant dependence. The intention to quit was higher among individuals aged 31-45 years (50%), males (88%), those with less than secondary education (61%), married individuals (75%), students and those with other occupations (59%), Hindus (79%), and those belonging to the middle socioeconomic class (54%).

Conclusion- Significant Nicotine dependence levels was low, and a substantial majority expressed a strong intention to quit smoking. These results emphasize the importance of tailored interventions, especially for specific age and education groups. Furthermore, our study suggests that demographic factors may not be strongly associated with nicotine dependence.

INTRODUCTION:

The WHO estimates that the tobacco epidemic is one of the greatest risks to global public health, killing more than 8 million people per year, including over 1.2 million fatalities from exposure to second-hand smoke.[1] This concern is exacerbated by an upward trend in tobacco consumption across various forms in developing nations, including India.[2] More than 1 million adults die each year in India due to tobacco use accounting for 9.5% of overall deaths.[2]

This challenge encompasses both smoking and smokeless tobacco, contributing to a dual burden.[3] Notably, a 2016-17 Global Adult Tobacco Survey (GATS) reveals that smoking tobacco prevalence stands at 10.38%, while smokeless tobacco usage reaches 21.38% in India.

Collectively, 28.6% of adults, comprising 42.4% of men and 14.2% of women, engage in tobacco consumption.[4] Efforts to combat tobacco usage have been pursued worldwide through diverse policies, although quitting remains a complex endeavour. Research has emphasized this complexity, highlighting the need for effective interventions. [5–7] One such approach is the Screening Brief Intervention and Referral to Treatment (SBIRT), a comprehensive evidence-based strategy for early intervention and treatment of substance use disorders, including tobacco addiction.[8]

Despite the availability of pharmacological and behavioral methods to aid cessation, maintaining long-term abstinence poses challenges.[9]

Tobacco abstinence needs continuous motivation, drug-adherence, professional guidance, and assistance through instant messaging and telephone.[10] Previous studies used mobile services for constant encouragement, advice, and tips to quit tobacco; motivational reminders and tracking progress were also beneficial.[11]

There are very few studies from India and specifically from Maharashtra in literature to study the correlation of readiness to change, intention to quit, and severity of nicotine dependence. Therefore, the present study attempted to understand the pattern of tobacco use, nicotine dependence, and readiness to change behaviour among tobacco users attending a psychiatric outpatient Department.

AIMS AND OBJECTIVES:

Aim
To correlate the readiness to change, intention to quit and severity of dependence of tobacco.

Objectives
1. To assess the nicotine dependence among study participants by using a six-question Fagerstrom Test for Nicotine Dependence.
2. To estimate the proportion of persons having readiness to change and intention to quit.
3. To study and estimate association of demographic variables with readiness to change and intention to quit.
4. To study and estimate association of demographic variables with severity of dependence of tobacco.

METHODS & MATERIALS

Study Population and Place
This Cross-Sectional Study was conducted among the relatives of the patient attending Psychiatry OPD, which belongs to the Tertiary care Hospital, Pune. The study was carried out for a duration of 6 months.

This study purposively (Non-Probability Random sampling) recruited 100 people currently using tobacco in any form in the study.

Inclusion criteria:
1) 18-65 years of age
2) Participant willing to give consent for study
3) No severe medical or psychiatric illness

Exclusion criteria:
Participant unwilling to give consent for study and mentally challenged.

Study Procedure:
The Study was carried out in the Psychiatry OPD, Tertiary care Hospital, Pune. The institutional ethics committee approved the study. Written informed consent was collected from the individual participant, and privacy and confidentiality were ensured at each research phase. A sample size of 100 was calculated for the study.

Data were collected by a face-to-face interview method using the pretested, Semi-structured questionnaire having questions pertaining to sociodemographic details, nicotine dependance, Readiness to change behavior, intention to quit. The semi-structured questionnaire included three sections as follows.
A. Demographic profile
It contained information on age, education, Socioeconomic status, Religion, marital Status, history of tobacco use.
B. Nicotine Dependence- using Fagerström test.
C. Quitting Behaviour
Readiness to change questionnaire.
Intention to quit.

Instruments/Assessment tools
1) Semi-structured proforma including demographic variables and tobacco related variables.
2) Fagerström test for nicotine dependence (FTND)[12] smokeless forms.
3) Readiness to change questionnaire[13]
4) Intention to quit will be assessed on Likert scale 1-100%

All statistical analysis was carried out using SPSS software version 22 (IBM Corp, Armonk, NY, USA). We used frequency, percentage, and other appropriate descriptive statistics to describe the study participants' sociodemographic characteristics. Nicotine dependence and readiness to change behavior status computed using relevant statistics. Further, an appropriate descriptive statistic was applied to compute the results on FTNDS, and readiness to change behavior. Chi-square test is applied to find the association of sociodemographic. characteristics with the readiness to change the behavior of the participants.

RESULTS:
Sociodemographic profile:
The total number of subjects was 100 in the study. Most patients were males (82%) and the mean age was 33.6 (±9.13) years. Most of the patients were married (75%). Almost 53% of the study population have completed secondary education and were Hindu (79%) by religion. More than half of the participants, specifically 55%, were self-employed, and 54% belonged to the lower-middle socioeconomic class as shown in table 1.

Table 1: Sociodemographic Characteristics of Study Participants

Characteristics	Frequency	Percentage
Gender		
Male	82	82%
Female	18	18%
Education		
No Formal	1	1%
Primary	7	7%

Secondary	53	53%
Higher	24	24%
Graduation	15	15%
Marital Status		
Married	75	75%
Unmarried	25	25%
Occupation		
Govt	5	5%
Private	36	36%
Self Employed	55	55%
Student	4	4%
Religion		
Buddha	8	8%
Christian	2	2%
Hindu	79	79%
Muslim	11	11%
Socioeconomic Status		
Lower	17	17%
Upper Lower	29	29%
Lower Middle	54	54%

Nicotine Dependence:

Table 2: Relationship between Sociodemographic profile and Nicotine Dependence

Characteristics	Nicotine Dependence		P Value
	Low Dependence n (%)	**Significant Dependence** n (%)	
Age Category			
18- 30 Years	34 (82.9%)	7 (17.1%)	0.76
31-45 Years	44 (88%)	6 (12%)	
45-60 Years	8 (88.9%)	1 (11.1%)	
Gender			
Male	68 (82.9%)	14 (17.1%)	0.059
Female	18 (100%)	0 (0%)	
Education			
Less Than Secondary	50 (92%)	11 (18%)	0.146
Higher Secondary and Graduation	36 (92.3%)	3 (7.7%)	
Marital Status			
Married	66 (88%)	9 (12%)	0.318
Unmarried	20 (80%)	5 (20%)	
Occupation			
Govt	3 (60%)	2 (40%)	0.154
Private	30 (83.3%)	6 (16.7%)	
Others	53 (89.8%)	6 (10.2%)	
Religion			
Hindu	70 (88.6%)	9 (11.4%)	0.076
Muslim	7 (63.6%)	4 (36.4%)	
Others	9 (90%)	1 (10%)	
Socioeconomic Status			
Lower	42 (91.3%)	4 (8.7%)	0.158
Middle	44 (81.5%)	10 (18.5%)	

The severity of nicotine dependence in patients was assessed using the modified Fagerström Test for Nicotine Dependence (FTNDS-smokeless). Among the 100 patients screened with FTNDS, finding revealed that majority (86%) were categorized as having low dependence. However, 14% of the participants were identified as having significant dependence. No significant differences were observed in terms of age, gender, education, marital status, occupation, religion, and socioeconomic status in relation to nicotine dependence.

Readiness to Change Behaviour:
Table 3: Relationship between Sociodemographic profile and Readiness to change Behaviour

Characteristics	Readiness To Change Behaviour		
	Precontemplation n (%)	Contemplation n (%)	P value
Age Category			
18- 30 Years	35 (85.4%)	6 (14.6%)	0.22
31-45 Years	47 (94%)	3 (6%)	
45-60 Years	9 (100%)	0 (0%)	
Gender			
Male	75 (91.5%)	7 (8.5%)	0.73
Female	16 (88.9%)	2 (11.1%)	
Education			
Less Than Secondary	59 (96.7%)	2 (3.3%)	0.012
Higher Secondary and Graduation	32 (82.1%)	7 (17.9%)	
Marital Status			
Married	71 (94.7%)	4 (5.3%)	0.026
Unmarried	20 (80%)	5 (20%)	
Occupation			
Govt	5 (100%)	0 (0%)	0.701
Private	32 (88.9%)	4 (11.1%)	
Others	54 (91.5%)	5 (8.5%)	
Religion			
Hindu	73 (92.4%)	6 (7.6%)	0.513
Muslim	9 (81.8%)	2 (18.2%)	
Others	9 (90%)	1 (10%)	
Socioeconomic Status			
Lower	40 (87%)	6 (13%)	0.192
Middle	51 (94.4%)	3 (5.6%)	

The motivation to quit tobacco use was assessed using the Readiness to Change Questionnaire (RCQ). This instrument, developed based on the stage of change theory, was employed to evaluate an individual's motivation and categorize their stage of change. Among the participants, 91% were in the Precontemplation stage, while only 9% were in the Contemplation Stage. Significant differences were observed in terms of education and marital status, but no differences were observed in readiness to change behavior regarding other factors such as age, gender, occupation, religion, and socioeconomic status.

Intention to Quit:
Table 4: Relationship between Sociodemographic profile and Intention to Quit

Characteristics	Intention To Quit				
	Never Possibly n (%)	Probably n (%)	Almost Certainly n (%)	Certainly n (%)	P Value
Age Category					
18- 30 Years	4 (9.8%)	6 (14.6%)	21 (51.2%)	10 (24.4%)	0.054
31-45 Years	4 (8%)	22 (44%)	14 (28%)	10 (20%)	

45-60 Years	1 (11%)	4 (44.1%)	1 (11.1%)	3 (33.3%)	
Gender					
Male	9 (11%)	27 (32.9%)	30 (36.6%)	16 (19.5%)	0.208
Female	0 (0%)	5 (27.8%)	6 (33.3%)	7 (38.9%)	
Education					
Less Than Secondary	8 (13.1%)	26 (42.6%)	19 (31.1%)	8 (13.1%)	0.001
Higher Secondary And Graduation	1 (2.6%)	6 (15.4%)	17 (43.6%)	15 (38.5%)	
Marital Status					
Married	6 (8%)	28 (37.3%)	24 (32%)	17 (22.7%)	0.226
Unmarried	3 (12%)	4 (16%)	12 (48%)	6 (24%)	
Occupation					
Govt	1 (20%)	1 (20%)	2 (40%)	1 (20%)	0.387
Private	3 (8.3%)	7 (19.4%)	17 (47.2%)	9 (25%)	
Others	5 (8.5%)	24 (40.7%)	17 (28.8%)	13 (22%)	
Religion					
Hindu	6 (7.6%)	28 (35.4%)	26 (32.9%)	19 (24.1%)	0.532
Muslim	2 (18.2%)	3 (27.3%)	4 (36.4%)	2 (18.2%)	
Others	1 (10%)	1 (10%)	6 (60%)	2 (20%)	
Socioeconomic Status					
Lower	4 (8.7%)	13 (28.3%)	14 (30.4%)	15 (32.6%	0.209
Middle	5 (9.3%)	19 (35.2%)	22 (40.7%)	8 (14.8%)	

The intention to quit was higher among individuals aged 31-45 years (50%), males (88%), those with less than secondary education (61%), married individuals (75%), students and those with other occupations (59%), Hindus (79%), and those belonging to the middle socioeconomic class (54%). Significant differences were observed among different age groups and different education categories. However, no significant differences were observed among the other variables.

DISCUSSION:
The total number of subjects was 100 in the study. Similar to other the studies[9,14,15,16] predominance of males was observed in the current study(82%). The mean age was 33.6 (±9.13) years which is similar to **parashkar et al**[16] (32.04±11.6 year), but higher than **Shah et. al.** [15] (23.4±5.6 years) and lower than **Kumar R et. al.**[9] (49.09±12.57 Years) studies. Most of the patients were married (75%) which is higher compared to study done by **Din NU et al**[14] (40%) and **Shah et. al.** [15] (44.2%) however it is lower when contrasted with **Kumar R et. al.**[9]

Almost 53% of the study population have completed secondary education and it is aligning with study by **Shah et. al.** [15] In this study 55% were self-employed, which is higher than as seen in **Kumar R et. al.**[9]

The findings revealed that a significant majority (86%) were classified as having a low level of dependence. In contrast, 14% of the participants were categorized as having significant dependence, a proportion lower than what was observed in the study conducted in Uttarakhand. [9] The proportion of high dependence is lesser when compared with the many existing literature on nicotine dependence.[9,16–18] This study revealed no association between demographic characteristics and nicotine dependence which was found inconsistent with previous studies. [17,23]

Motivation to cease tobacco use was evaluated using the Readiness to Change Questionnaire (RCQ), which draws from the stage of change theory. This tool was employed to gauge individuals' motivation and allocate them to specific stages of change. Within the participant pool, 91% were situated in the Precontemplation stage, with only 9% positioned in the Contemplation Stage. Significant differences were observed in terms of education and marital status, but no differences were observed in readiness to change behavior regarding other factors such as age, gender, occupation, religion, and socioeconomic status. Education plays major role in readiness to change.

These findings emphasize that a significant number of patients are actively considering quitting tobacco use and have taken steps in that direction. Much of the existing literature on readiness to change behaviour indicates that patients are interested in quitting tobacco use.[9,24-26]

In our study, the percentage of participants expressing their intent to quit (91%) was notably greater compared to other studies[16,27-29]. Significant differences were noted among different age groups and different education categories. However, no significant differences were observed among the other variables. Education and age of the participants plays a significant role.

From a clinical standpoint, culturally tailored therapies and individually tailored interventions meet the patient's unique needs during abstinence, reducing discomfort and ensuring control over tobacco-related withdrawal and addiction symptoms, and control the potential for relapse. However, the clinician's role is crucial at the contemplation stage of readiness to change. They can help patients understand the risks of tobacco-related health hazards and explain the benefits of quitting. Other effective interventions include motivational interviews, cue technique, cognitive behavior therapy, patient and family counseling, and self-support groups. [9,15,19-22]

CONCLUSION:
Significant Nicotine dependence levels was low, and a substantial majority expressed a strong intention to quit smoking. These results emphasize the importance of tailored interventions, especially for specific age and education groups. Furthermore, our study suggests that demographic factors may not be strongly associated with nicotine dependence. Clinicians hold a vital role, particularly during the contemplation stage, in offering support and employing effective interventions to facilitate tobacco cessation.

Limitations:
The cross-sectional design of this survey restricts our ability to establish a causal relationship between personal and clinical characteristics related to tobacco use and readiness to change behavior. Additionally, since this study was conducted at a single center, its generalizability to broader populations is limited.

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