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A Descriptive Study to Assess Degree of Dependence and Level of Motivation to Quit Tobacco (Smoking) Among General Population of Pandra, Bhubaneswar

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Abstract:
Introduction: Tobacco is the common name of several plants in the Nicotiana genus and the Solanaceae family, and the general term for any product prepared from the cured leaves of the tobacco plant. More than 70 species of tobacco are known, but the chief commercial crop is N. tabacum. Tobacco use is a major risk factor for many chronic diseases, including cancer, lung disease, cardiovascular disease and stroke. It is one of the major causes of death and disease in India and accounts for nearly millions of deaths every year. India is also the second largest consumer and producer of tobacco. **Objectives:** Assessing degree of dependence and level of motivation to quit tobacco (smoking) among general population and to find out the association between the degree of dependence and level of motivation to quit among tobacco smokers with their selected socio-demographic characteristics. **Material / Method:** A descriptive study with a quantitative research approach was adopted for the study. 100 tobacco smoking people from general population in the village of Pandra, Bhubaneswar were selected by using non-probability purposive sampling technique. Data was collected by using a structured questionnaire "Fagerstrom test for nicotine dependence (Karl Fagerstrom, 1984), to assess degree of dependence and Richmond's readiness to change scale (Richmond et al, 1993), to assess level of motivation to quit tobacco use. **Results and Discussion:** The study revealed that 34% of the participants had moderate dependency, 32% of the participant had low dependency, while 26% had low to moderate dependency and 8% had highest dependency on tobacco. 50% of the participants had moderate, and 40% had high level of motivation, while the remaining participants (i.e.)10% had low level of motivation to quit tobacco smoking. The mean score was 33.6 ± 2.1. There was a significant association between the level of motivation to quit tobacco with the type of the family ($\chi^2 = 0.023$, $p < 0.05$). **Conclusion:** Many tobacco users show moderate to high dependency with varying quit readiness. Those with higher dependency levels demonstrate lower motivation to quit, while those with lower dependency show greater willingness. This suggests that cessation interventions should be tailored to individual dependency levels, combining behavioral counseling, motivational strategies, and pharmacological support.

Keys: Assess, Degree of dependence, Level of motivation, Readiness, Tobacco, Smoking, Nicotine

INTRODUCTION

Tobacco is the common name of numerous plants in the Nicotiana genus of the Solanaceae family, and the general term for any product manufactured from the cured leaves of the tobacco plant. More than 70 species of tobacco are known, but the major commercial crop is Nicotiana tabacum.

Numerous chronic illnesses, including as cancer, lung disease, cardiovascular disease, and stroke, are significantly increased by tobacco use. It is one of the primary causes of death and sickness in India and accounts for roughly millions of fatalities per year. Additionally, India is the world's second-largest tobacco producer and user.

Tobacco usage is one of the largest risks to public health worldwide. It results not only to loss of lives but also has enormous social and economic implications. For those in India between the ages of 35 and 39, the annual economic expenditures associated with tobacco smoking from all diseases are enormous. Tobacco use is the biggest cause of preventable disease, disability, and death worldwide.

Objectives

1. Assessing degree of dependence and level of motivation to quit (tobacco) smoking among general population.
2. Find out the association between the degree of dependence and level of motivation to quit among tobacco smokers with their selected socio-demographic characteristics.

Materials and Methods

A descriptive study with a quantitative research approach was adopted for the study as it provides accurate and meaningful description of the phenomenon under study to assess the degree of dependence of tobacco use, and level of motivation to quit among general population of specific area of Pandra, Bhubaneswar.

The study sample consisted of 100 individuals who were smokers. Samples were selected by using non-probability purposive sampling technique, who fulfill the inclusion criteria. A self-structured data sheet was used to obtain socio-demographic details of the participants, and structured questionnaires “Fagerstrom test for nicotine dependence” (Karl Fagerstrom, 1984) to assess degree of dependence and “Richmond’s readiness to change scale (Richmond et al, 1993) to assess level of motivation to quit were adopted. It contains a total of 16 questions (6 and 10 questions respectively).

Data collection

Participants were identified from the locals who smoke on a regular basis for several months to years. 30 to 35 minutes were taken to collect the data from each of the participants. The entire data collection was completed within 2 months.

Data Analysis

By utilizing Microsoft excel datasheets were prepared and various descriptive and inferential statistical analysis were conducted. The percentages, mean and standard deviation of frequency were computed. The association between degree of dependence on tobacco smoking and association between level of motivation to quit tobacco smoking with their selected socio-demographic variables were estimated using Chi-square test.

Ethics and Consent

The study was approved by the Institute's Ethical committee and formal permission has been given by the Principal of the college. During data collection, informed consent was obtained from each of the participants. It was purely on the voluntary basis and withdrawal can be made at any point of time. Assurance was given to the subjects about the maintenance of the confidentiality and anonymity of their information.

Result

The study revealed that 34% of the participants had moderate dependency, 32% of the participant had low dependency, while 26% had low to moderate dependency and 8% had highest dependency on tobacco. 50% of the participants had moderate, and 40% had high level of motivation, while the remaining participants i.e.10% had low level of motivation to quit tobacco smoking. The mean score was 33.6 ± 2.1. There was a significant association between the level of motivation to quit tobacco with the type of the family ($\chi^2 = 0.023$, $p < 0.05$).

Discussion

Section 1: Distribution of the participants according to their socio-demographic variables. [n=100]

Variables	Frequency (f)	Percentage (%)
Age (in years)		
15 to 25	18	18
26 to 35	58	58
36 to 45	8	8
Above 45	16	16
Sex		
Male	82	82
Female	18	18
Religion		
Hindu	92	92
Christian	4	4
Muslim	2	2
Others	2	2
Type of family		
Nuclear	54	54
Joint	44	44
Extended	2	2
Area of Residence		
Rural	44	44
Urban	52	52
Semi-urban	4	4
Educational status		
Illiterate	2	2
Primary	14	14

Secondary	12	12
Graduate	72	72
Occupation		
Govt. employed	22	22
Private employed	44	44
Daily wage earner	12	12
Self employed	22	22
Family history of Smoking		
Yes	62	62
No	38	38
Source of information		
Healthy person	16	16
Parents/ relatives/ friends	20	20
Mass media	58	58
No information	6	6

Table (i) Frequency and percentage distribution of the participants according to their socio-demographic variables

The data presented according to the age group majority-26-35 (58)58% of the population, age group 15-25 years is (18)18%, age group above 45 yrs is (16)16% & age group (36-45) years is 8%.

The data presented according to sex, males are the majority in number (82)82% of the population, and females are less (18)18% of the population.

The data presented that majority of population were Hindus (92)92%, whereas (4)4% were Christians & (2)2% were Muslims and (2)2% were from other castes.

Data evidence was that the majority (54)54% population were coming from a nuclear family, whereas (44)44% were from a joint family, and (2)2% were from an extended family.

The data presented that the majority (52)52% population belonged to urban areas, (44)44% population belonged to rural areas, and (4)4% population belonged to semi-urban areas.

The data further explained that majority (72)72% people had graduation or above whereas people who had secondary education were (12)12% and people who only had primary education were (14)14% and illiterates were (2)2%.

The data added that the majority (44)44% people were privately employed, whereas government-employed and self-employed people were (22)22%, and daily wage earners were (12)12%.

The data presented that majority people have family history of smoking (i.e.) (62)62% whereas people who have no family history of smoking were (38)38%.

Section 2(a): Distribution among the participants according to their degree of dependence on tobacco. [n=100]

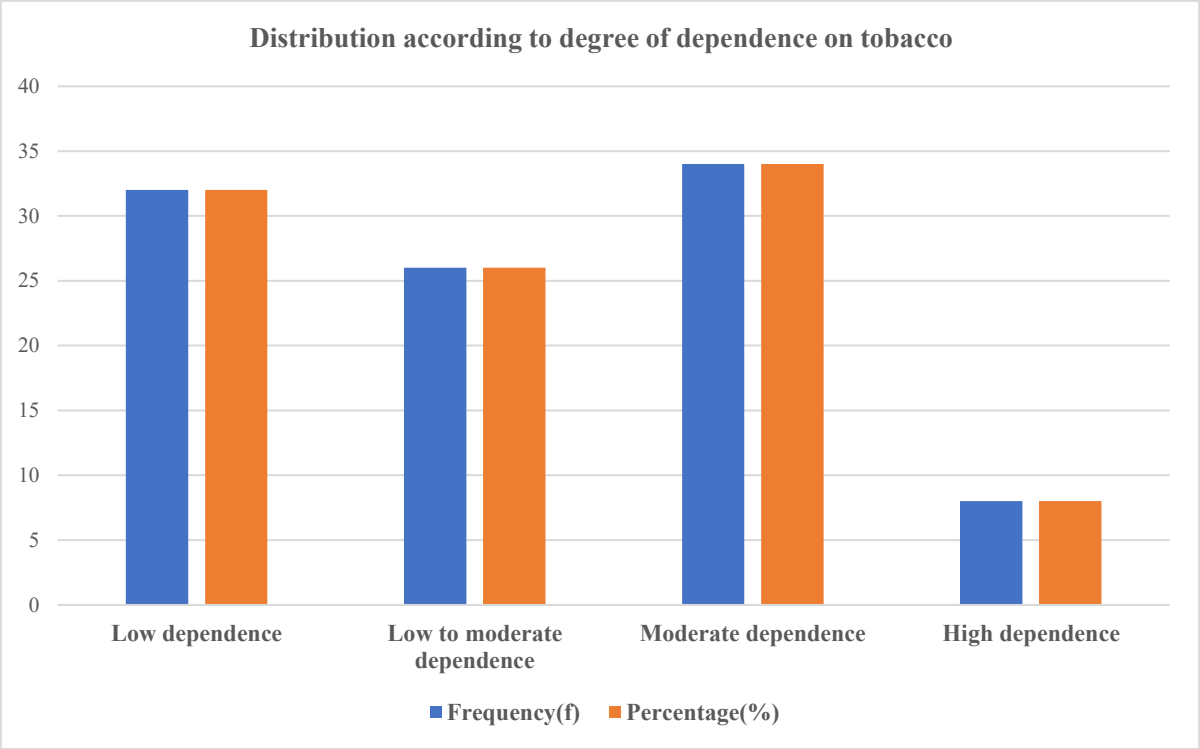

Fig. 1(a) A clustered column chart showing the frequency and percentage distribution among the participants according to their degree of dependence on tobacco.

Majority i.e. 34% of the participant were having moderate dependency, 32% of the participant were having low dependency, 26% were having low to moderate dependency and the rest i.e. 8% were having highest dependency on tobacco. The finding is consistent with a study conducted by Priyadarshini H.R. (2011), who reported moderate dependency among 41% of the participants.

Section 2(b): Distribution among the participants according to their level of motivation to quit tobacco. [n=100]

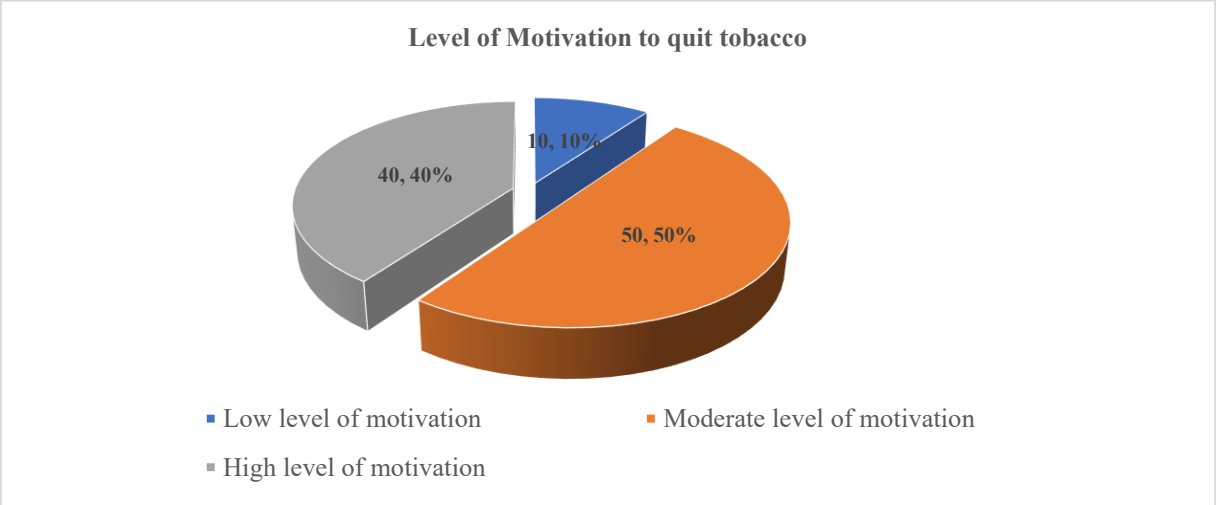

Fig. 1(b): 3-D pie diagram showing distribution among the participants according to their level of motivation to quit tobacco.

The study reveals that 50% of the participants had moderate, and 40% had high level of motivation, while the remaining participants (i.e.)10% had low level of motivation to quit tobacco smoking. The finding is consistent with a study conducted by Sinha D.N, & Gupta P C, (2003) which reported moderate level of motivation among 66% of the participants.

Section 3: Association between the degree of dependence on tobacco smoking with their selected socio-demographic variables [n=100]

Variables	Calculated χ^2	Tabulated χ^2	df	Level of significance
Age	3.052	3.118	1	NS
Sex	0.976	1.218	1	NS
Religion	6.463	6.544	1	NS
Type of family	4.774	5.023	1	NS
Area of residence	10.126	10.554	1	NS
Educational qualification	23.451	23.500	1	NS
Occupation	4.412	4.521	1	NS
Family history of smoking	0.364	0.542	1	NS
Source of information	3.349	3.598	1	NS

NB: df=degree of freedom; S=significant; NS=non-significant; χ^2=chi-square

Table (ii) Association between degree of dependence on tobacco with their selected demographic variables.

There was no significant association between degree of dependence on tobacco with their selected demographic variables. These findings highlight the need for structured health education programs to improve awareness on ill effects of tobacco (smoking) consumption among general population of specific area of Pandra, Bhubaneswar.

Section 4: Association between level of motivation to quit tobacco smoking with their selected socio-demographic variables. [n=100]

Variables	Calculated χ^2	Tabulated χ^2	df	Level of significance
Age	1.264	1.410	1	NS
Sex	0.362	0.390	1	NS
Religion	0.053	0.157	1	NS
Type of family	0.023	0.020	1	**S***
Area of residence	5.030	5.500	1	NS
Educational qualification	0.462	0.621	1	S
Occupation	11.627	11.702	1	NS
Family history of smoking	0.303	0.500	1	NS

Sources of information	0.640	1.119	1	NS

NB: df=degree of freedom; S=significant; NS=non-significant; χ^2=chi-square

Table (iii): Association between level of motivation to quit tobacco smoking with their selected demographic variables.

There was a significant association between the level of motivation to quit tobacco with the type of the family (χ^2 = 0.023) as the calculated χ^2 value is greater than tabulated (critical) χ^2 value at a specific significance level $p < 0.05$.

Limitations

The research was confined to a specific geographical area, which may reflect the patterns of tobacco dependency and quitting behavior in other regions. Moreover, the study is cross-sectional in nature and a longitudinal study may provide a better input into the family members and improve the level of motivation to quit it.

Implications

The study findings have several implications in the fields of nursing practice, nursing education, nursing administration, and nursing research.

Recommendation

An experimental study can be done to determine the degree of dependence and level of motivation to quit (tobacco) smoking among general population. The study can be replicated in similar and in different settings.

Conclusion

Many tobacco users show moderate to high dependency with varying quit readiness. Those with higher dependency levels demonstrate lower motivation to quit, while those with lower dependency show greater willingness. This suggests that cessation interventions should be tailored to individual dependency levels, combining behavioral counseling, motivational strategies, and pharmacological support. Strengthened awareness and structured cessation programs are essential for reducing tobacco usage and associated health risks.

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