Assessment of Prevalence of Tobacco Smoking and its Determinants among the Male Youth of a Selected Rural Community of Burdwan, West Bengal

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Abstract: *Tobacco is commonly consumed in the forms of smoking, chewing, snuffing and dipping tobacco. Tobacco had long been in use as an ethnogeny throughout world. Tobacco smoking is a life style related problem which is more common in developed country among the youth. Present study conducted to identify the prevalence, pattern & determinants of tobacco smoking among male youth. A survey approach with descriptive correlational research design was adopted. Data were collected from 100 rural male using questionnaire on tobacco smoking and its determinants. The study reveals that 69% of the participants are smoker and they initiate smoking mainly due to peer's influence and continued due to addiction. Mean age of initiation of smoking was 14.3 years; the determinants which were significantly associated with tobacco smoking behaviours are father's educational level ($r = -0.34$, $\bar{a}=0.01$, $df=90$), mother's educational level($r = -0.93$ $\bar{a}=0.01$, $df=90$), occupation($X^2= 13.17$, $\bar{a}=0.05$, $df=4$), belief related to chutta($X^2= 17.09$, $\bar{a}=0.01$, $df=2$), belief related to bidi($X^2= 20.35$, $\bar{a}=0.01$, $df=2$) and belief related to smokeless tobacco($X^2= 46.01$, $\bar{a}=0.01$, $df=1$), parental history of smoking ($X^2= 43.69$, $\bar{a}=0.01$, $df=1$) , psychological factors ($r = 0.96$, $\bar{a}=0.01$, $df=90$) , relationship with parents ($r = -0.95$, $\bar{a}=0.01$, $df=90$), peer smoking history ($r = 0.85$, $\bar{a}=0.01$, $df=90$), proximity to tobacco ($r = 0.83$, $\bar{a}=0.01$, $df=90$), money in hand ($r = 0.81$ $\bar{a}=0.01$, $df=90$). Tobacco smoking is responsible for substantial proportion of premature deaths in male youth in India,* thus the research study is having broad significance especially in rural community.

Keywords: Tobacco smoking, prevalence

1. Introduction

Tobacco is an agricultural product processed from the leaves of plants in the genus Nicotiana. It is consumed as a recreational drug, medicinesn etc. It is quickly became popularized as a trade item. Tobacco is commonly consumed in the forms of smoking, chewing, snuffing and dipping tobacco. Tobacco had long been in use as an ethnogeny throughout world. Tobacco smoking is a life style related problem which was common in developed country & trending to developing countries.

Tobacco use among school children is becoming a serious problem. According to WHO [1] report, the stages of development of nicotine addiction are forming attitude, trying tobacco, experimenting with tobacco, regularly using tobacco and becoming addicted to tobacco. CDC[2] reports The early age i.e before 13 years of initiation & smoking more than 10 cigarettes per day are obstacles to protect the young group from leaving the addiction. Smokers get their own cigarettes by buying themselves from convenience store. Giovino GA[3] found in his study that tobacco smoking behavior was influenced by the individual factors like school-based prevention programs and cessation programs. The environmental factors of tobacco smoking were mass media educational strategies, the presence of smoke-free laws and policies, and the price of tobacco products.

According to WHO[4] Tobacco smoking puts financial burden on their families, their insurers, health care providers and their employers as well as countries. It reduces productive years. NCD Alliance [5] reports that cigarette accounted for an average of 6.6% of total expenditures in poor urban household and 11.3% of poor rural household in Southeast China in 2002. And all these are hurdles for achieving the goals of Millennium Development Goals.

As per study report of John RM[6] They mainly considered the four major categories of tobacco related disease like tuberculosis, respiratory diseases, cardiovascular diseases and neoplasms. WHO[7] reported that Tobacco killed 6 million people in the years 2011 including 6, 00,000 non-smokers. Tobacco use is the leading cause of preventable death, and is estimated to kill more than 6 million people globally each year. Again as per WHO[8] report, By 2030, the number of tobacco-related deaths could reach 8 million a year. If current trends continue; tobacco will be responsible for 80% of these premature deaths in the low- and middle-income countries.

Analyzing the above all points, it can be stated that tobacco smoking is a Public Health priority. Tobacco smoking behavior enters in a person through the weak point of lack of awareness. But it is the time to restrain the young generation to initiate and continue tobacco smoking behavior which is possible only when determinants of tobacco smoking can be sought out.

2. Methodology

A descriptive correlational study was conducted among rural male youth. For this, a questionnaire on 'Tobacco smoking and its determinants' was designed that includes background information, prevalence & pattern of tobacco smoking & determinants of tobacco smoking. The study was conducted in three villages i.e. Kurmun, Palasi & Bhite in Kurmun Block of rural community of Burdwan district, West Bengal, India. The 100 rural male youth who can respond in writing in between 18 years to 25 years were selected as study samples through non- probability convenient sampling technique. Data were collected after getting ethical permission from ethical committee of Rabindranath Tagore International Institute of Cardiac Sciences and informed consent from each participant. The collected data were compiled analyzed using descriptive statistics & inferential statistics i.e. calculation of correlation coefficient (r) & chi square.
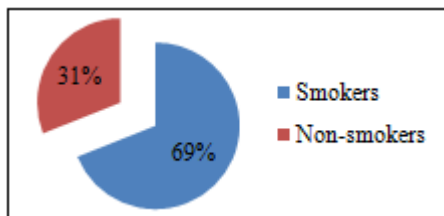
3. Results

Figure 1: Distribution of participants in terms of tobacco smoking

Table 1: Distribution of participants by their personal characteristics, N= 100

S. no	Participant's characteristics	Smokers n_1=69		Non smokers n_2=31	
		Frequency	%	Frequency	%
1	**Age**				
	• 18-20 yrs	38	55.07	20	64.52
	• 21-23yrs	16	23.19	7	22.58
	• 24yrs & above	15	21.74	4	12.90
2	**Religion**				
	• Hindu	58	84.06	26	83.87
	• Muslim	11	15.94	5	16.13
3	**Caste**				
	• General	31	44.93	16	51.61
	• S.C.	23	33.33	9	29.03
	• S.T.	11	15.94	6	19.35
	• OBC	4	5.80	-	-
4	**Occupation**				
	• Nil	13	18.84	6	19.35
	• Student	17	24.64	16	51.61
	• Service	12	17.39	3	9.68
	• Business	11	15.94	-	-
	• Cultivation	16	23.19	6	19.35
5	**Marital status**				
	• Married	16	3.19	2	6.45
	• Unmarried	53	76.81	29	93.55
6	**Staying at home with***				
	• Wife	7	10.14	1	3.23
	• Wife & children	9	13.04	1	3.23
	• Parents	65	94.20	31	100
	• Siste	29	42.03	9	29.03

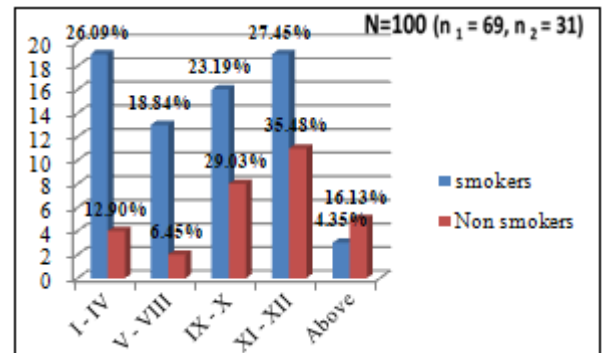|					
	• Brother	26	37.68	8	25.81
	• Grand parents	1	1.45	1	3.23
	• Other	5	7.25	2	6.45
7	**Seen any anti campaign programme of tobacco smoking***				
	• T.V	35	50.72	9	29.03
	• Radio	2	2.90	-	-
	• Poster	2	2.90	1	3.23
	• Newspaper	7	10.14	-	-
	• Magazines	1	1.45	-	-
	• Cigarette packets	31	44.93	8	25.81

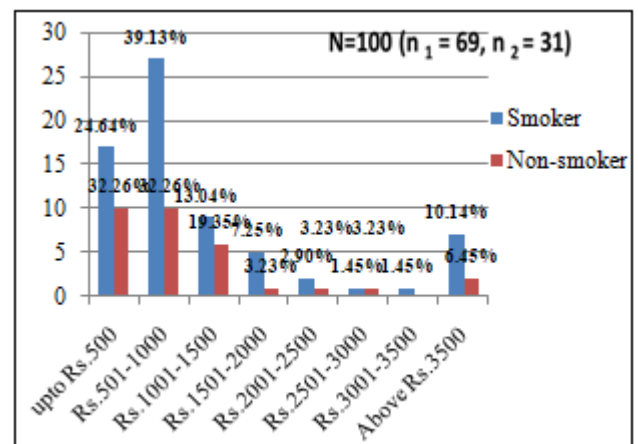**Figure 2:** Distribution of participants in terms of their highest level of education

Figure 3: Distribution of participants in term of per capita per month family income.

Table 2: Distribution of participants in terms of their parent's characteristics, N=100

S. No	Participant's characteristics	Smokers n_1=69		Non smokers n_2=31	
		Frequency	%	Frequency	%
1	**Father's educational level**				
	• Illiterate	24	34.78	3	9.68
	• I-IV	12	17.39	3	9.68
	• V-VIII	18	26.09	9	29.03
	• IX-X	7	10.14	10	32.26
	• XI-XII	5	7.25	3	9.68
	• Above	3	4.35	3	9.68
2	**Father's occupation**				
	• Nil	4	5.78	-	-
	• Service	17	24.64	3	9.68
	• Business	14	20.29	8	25.81
	• Cultivation	34	49.28	20	64.52
3	**Mother's educational**				

	level	36	52.17	6	19.35
	• Illiterate	17	24.64	1	3.23
	• I-IV	11	15.94	10	32.26
	• V-VIII	3	4.35	4	12.90
	• IX-X	2	2.90	6	19.35
	• XI-XII	-	-	4	12.90
	• Above				
4	Mother's occupation				
	• House wife	56	81.16	25	80.65
	• Cultivation	10	14.49	4	12.90
	• Maid servant	2	2.90	2	6.45
	• Business	1	1.45	-	-

Table 3: Distribution of participants in terms of tobacco smoking pattern. (*data are not mutually exclusive) n_1=69

| S. No.	Participants characteristics	Frequency	%
1	***Type of tobacco smoked**		
	• Bidi	51	73.91
	• Cigarette	48	69.57
	• Chutta	1	1.45
2	***Other addiction(s)**		
	• Bettle leaf	8	11.59
	• Guthkha	33	47.83
	• Khaini	20	28.99
	• Snuff	3	4.35
	• Alcohol	39	56.52
	• Cannabis	6	8.7
3	**Smoking per day**		
	• 1-3 times	13	18.84
	• 4-6 times	23	33.33
	• 7-10 times	22	31.88
	• 11-15 times	8	11.59
	• Above 15 times	3	4.35
4	**Spending for tobacco smoking**		
	• Upto Rs. 100/-	21	30.43
	• Rs.101-200/-	23	33.33
	• Rs.201-300/-	11	15.94
	• Rs.301-400/-	3	4.35
	• Rs.401-500/-	6	8.7
	• Above Rs.500	5	7.25
4	**Usual time of tobacco smoking**		
	• During staying alone	9	13.04
	• With friends	48	72.46
	• Over burdened by work pressure	10	14.49
	• Any time	1	1.45
	• At own wish	1	1.45
5	Trial of quitting tobacco smoking	30	43.48
6	**Tobacco smoking after waking up from bed**		
	• Within 5 min	3	4.38
	• Within 6-30 min	17	24.64
	• Within 31 min -1 hr	28	40.58
	• After 1 hr	21	30.43
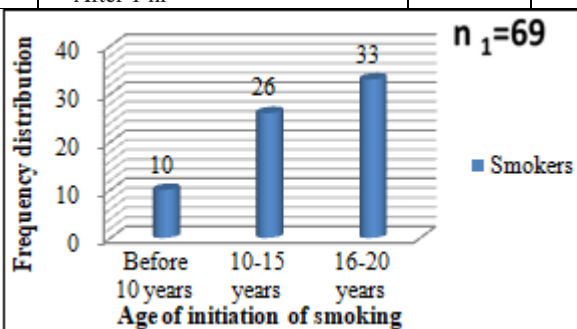
Figure 4: Distribution of participants in terms of age of initiation of tobacco smoking

Table 4: Mean, median, SD of tobacco smoking pattern n_1=69

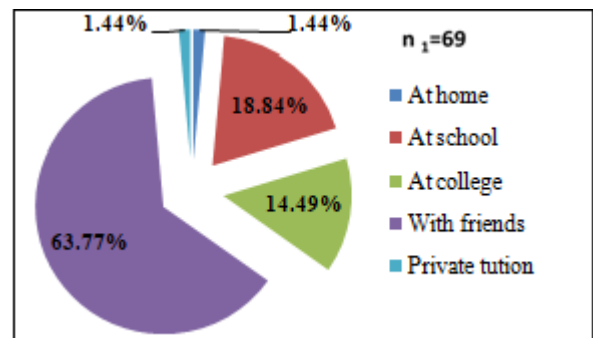| S. No.	Pattern of tobacco smoking	Mean	Median	SD
1	Age of initiation	14.304	15	3.93
2	Spending of money for tobacco smoking in last month	286.23	200	278.59

Figure 5: Distribution of participants in terms of place of first time tobacco smoking
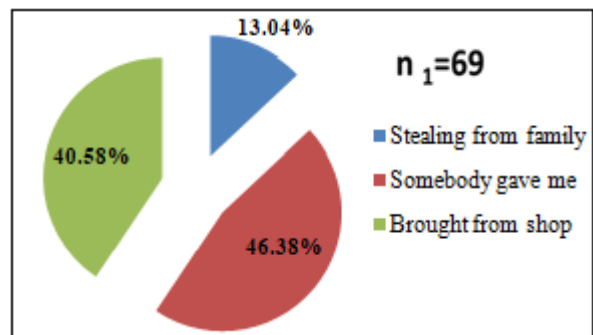

Figure 6: Distribution of participants in terms of their first time availability of tobacco
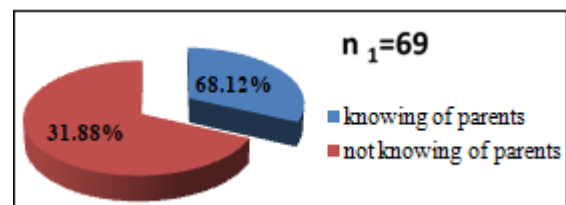

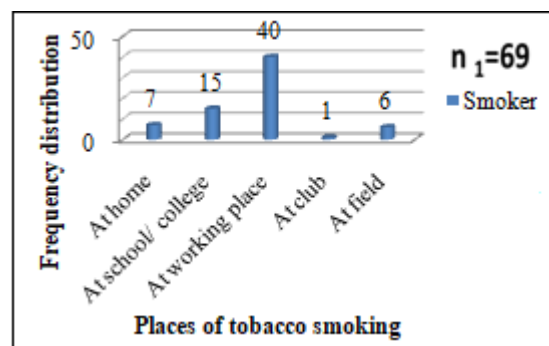**Figure 7:** Distribution of participants in terms of parental awareness of children's smoking behavior

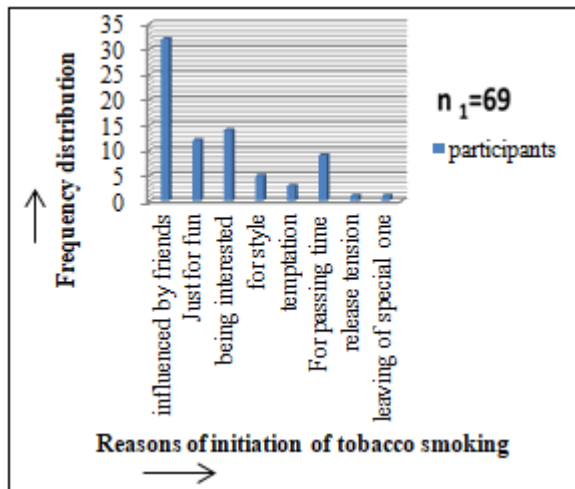**Figure 8:** Distribution of participants in terms of places of tobacco smoking

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Figure 9: Distribution of participants in terms of their reasons for initiation of tobacco smoking
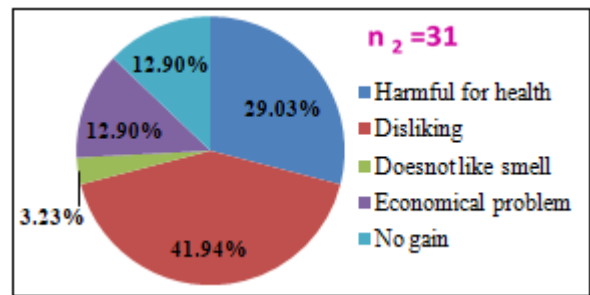(*Data are not mutually exclusive)

Figure 10: Distribution of participants in terms of reasons for continuing tobacco smoking (*Data are not mutually exclusive)

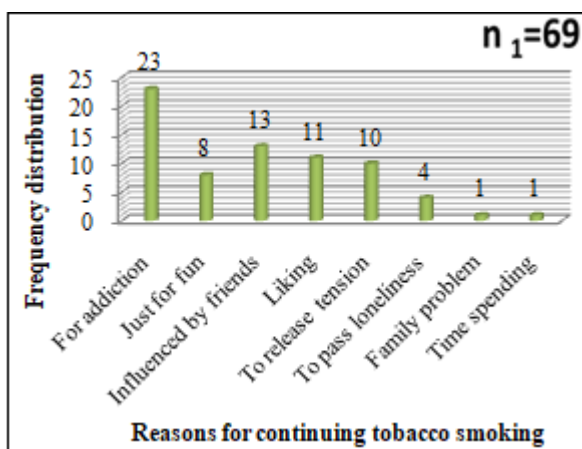**Figure 11:** Distribution of participants in terms of not smoking tobacco.

Development of null hypothesis

H_{01}: There are no significant association among predisposing factors and tobacco smoking among rural male youth at 0.05 level of significance.

H_{02}: There are no significant association among reinforcing factors and tobacco smoking among rural male youth at 0.05 level of significance.

H_{03}: There is no significant association between enabling factor and tobacco smoking among rural male youth at 0.05 level of significance.

Table 5: Correlation coefficient and chi square values showing relationship & association among predisposing, reinforcing & enabling factors with, N=100

S. No	Probable Determinants	r	Chi Square	Level of significance	df	Table value
1	Age	0.1245	-	0.05	90	0.205
2	Caste	-	0.864	0.05	90	7.82
3	Educational level	-0.2044	-	0.05	90	0.205
4	Father's educational level	-0.3397**	-	0.01	90	0.267
5	Mother's educational level	-0.9337**	-	0.01	90	0.267
6	Occupation	-	13.1682***	0.05	90	9.49
7	Father's occupation	-	5.9708	0.05	3	7.82
8	Mother's occupation	-	0.9897	0.05	3	7.82
9	Parental history of smoking	0.8162**	-	0.01	90	0.267
10	Belief related to tobacco smoking					
	Belief related to factory made cigarette	-	1.3107	0.05	90	5.99
	Belief related to chutta	-	17.0899***	0.01	90	9.21
	Belief related to bidi	-	20.347***	0.01	90	9.21
	Belief related to smokeless tobacco	-	46.0103***	0.01	90	6.64
11	Psychological factors	0.955**	-	0.01	90	0.267

Table 6: Correlation coefficient values showing relationship among reinforcing factors and tobacco smoking behaviour. N=100

S. No	Probable Determinants	r	Level of significance	df	Table value
1.	Relationship with parents	-0.9452**	0.01	90	0.267
2.	Peer smoking history	0.8539**	0.01	90	0.267
3.	Proximity to tobacco	0.0.8307**	0.01	90	0.267

Table 7: Correlation coefficient value showing relationship between enabling factor and tobacco smoking behaviour. N=100

S No.	Probable Determinants	r	Level of significance	df	Table value
1.	Money in hand	0.81**	0.01	90	0.267

4. Discussion

4.1 Prevalence of tobacco smoking

In the present study, reveals that maximum rural male youth (69%) are smoking tobacco. The participants are mostly (17%) students in between 18 years to 25 years and they are unmarried (53%). Aryal UR & Deuba K conducted a survey among college students at Kathmandu through self-reported questionnaire, and as per the study findings, 70% students smoke cigarette. So, there is a satisfactory similarity in the study result. 84

4.2 Pattern of tobacco smoking

In the present study, it was seen that mean age of initiation of tobacco smoking was 14.304 years (SD= 3.93). It was also revealed that the mean number of cigarette smoked per day was 7.275 (SD= 4.56). Aryal UR and Deuba K[9] reported in their study that, the mean age of initiation of smoking was 14.15 years (SD= 2.62), mean number of cigarette smoked per day 5.03 (SD= 3.72) and average daily expenditure was Rs. 15.18. So, both the study is complimenting each other's.

Another house hold survey was carried out by Afifi AL[10] and et all on smoking patterns and problems among male and female youth in Palestine. The study result reveals that, average age of initiation of smoking is 13 years. The smokers are more tend to have the addiction of other drug use like alcohol, inhalants. In the present survey, the majority of the smokers are also having other addictions like guthkha (33%), alcohol (39%), khaini (20%), bettle leaf (8%), cannabis (6%) and snuff (3%). Here also the study can be supported by the previous study.

4.3 Determinants of tobacco smoking

In the present study, there is significant relationship among tobacco smoking and father's highest level of education, mother's highest level of education, psychological factors, parental history of smoking, relationship with parents, peer smoking history, money in hand. The study findings also indicate that there is a significant association among tobacco smoking behaviour and occupation of the participants, belief related to chutta, belief related to bidi, belief related to smokeless tobacco. Sreeramareddy CT and Kishore PV[11] conducted a survey on prevalence and correlates of tobacco use among junior collegiate in Nepal through a self-reported questionnaire. His study result indicated that peer smoking history, smoking history of family member's and purchasing tobacco products for family members have a 85 significant association with tobacco smoking behaviour. So these factors were proved as correlates of tobacco smoking which justifies the present study findings.

Jeanne AM [12] and et all carried out a cross sectional study through focus group interview. He found the social factors which are associated with tobacco smoking behaviours are social gatherings, smoking history of role model like parents, teacher, friends. Different psychological crisis influence tobacco smoking for coping practice. In the present study, there is also a significant relationship between psychological factors and tobacco smoking behaviour. So, here also the researcher can satisfy her study findings.

5. Conclusion

A majority of rural male youth is having tobacco smoking habit as a health risk behaviour as evident by questionnaire on tobacco smoking and its determinants.

- As per participants response usually they start tobacco smoking around the age of 14.304 years. But with the increasing age they become addicted of it.
- Bidi is mainly preferable product for smoking among rural male youth.
- The factors which are influencing tobacco smoking behaviour were not reflecting by their participant's response, but after the statistical calculation of data, the researcher found father's and mother's educational level, parental history of smoking, occupation, belief related to chutta, belief related to bidi, belief related to smokeless tobacco, psychological factors, relationship with parents, peer smoking history, proximity to tobacco and money in hand are the determinants of tobacco smoking.

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