

# Study on Sociodemographic Factors and Expenditure Pattern on Tobacco Use among Rural Population

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## ABSTRACT

**Introduction:** Tobacco consumption is a major public health issue and is the major risk factor for six leading causes of death, namely ischemic heart disease, cerebro-vascular diseases, tuberculosis, lower respiratory tract infections, chronic obstructive pulmonary disease, and cancers (trachea, bronchus and lungs) 12 million cases of preventable tobacco related illnesses takes place each year. Most of deaths occur in 35- 69 years age group which is economically productive, due to tobacco use and an average loss of 20-25 years of life. Tobacco use has high impact on growing economy and high expenditure on health Aims and

**Objectives:** The study was done with the objective of assessing the sociodemographic factors and expenditure on tobacco consumption in rural population at Kuppam field practice area, A.P.

**Materials and Methods:** Prevalence study on sociodemographic factors and expenditure on tobacco consumption was done at field practice area of Kuppam in A.P. **Result:** Total 1500 individuals above 15 yrs were studied. The overall prevalence of tobacco use among the subjects was 61.3%. The prevalence of smoking, chewing and snuff use was 19.5%, 56.6% and 2.7% respectively About 19.6 % of tobacco consumers were spending 25% and above of the monthly income of family for tobacco products which is more than the expenditure for education. And females were spending more.

**Conclusion:** About 19.6% of tobacco consumers were spending 25% and above of the monthly income of family for tobacco products.

**Key words:** Tobacco consumption. Expenditure, Sociodemographic factors, Prevention

## INTRODUCTION

Tobacco consumption is a major public health issue globally. Majority of smokers (81%) of the world are living in low and middle income countries. is the major risk factor for six leading causes of death namely ischemic heart disease, cerebro-vascular diseases, tuberculosis, lower respiratory tract infections, chronic obstructive pulmonary disease, and cancers (trachea, bronchus and lungs) <sup>(1)</sup> More than 5

million deaths are due to direct use of tobacco, and about 600,000 non-smokers die due to passive smoking. There is an estimated 12 million cases of preventable tobacco related illnesses each year. <sup>(2)</sup> It is estimated that the annual death toll may reach 8 million by the year 2030. <sup>(3)</sup> Most of deaths occur in 35- 69 years age group due to tobacco use and an average loss of 20-25 years of life. Tobacco use has high impact on growing economy and high expenditure

on health. <sup>(4)</sup> There are more than 300 million smokers in India. This includes more than 5 million child smokers, with 55,000 children taking up tobacco use every year. In India, *beedi* smoking is the most popular form of tobacco use and chewing will be the next. In India, 90% of the oral cancer patients were tobacco chewers. The mortality attributable to tobacco is very high, about 900,000 per year in India. Tobacco consumption is higher among illiterate, joint families, agricultural laborers and lower socioeconomic people. <sup>(5)</sup> It is estimated that the poorest households spend almost 10 times on tobacco as on education. <sup>(6)</sup> So tobacco consumption is more common among illiterate, laborers, low socioeconomic status it is increasing the economic burden. As tobacco consumption started in early age, long duration of its usage leading to sever diseases like cancers which in turn drag these poor people into catastrophic conditions. So it is essential to prevent tobacco usage so that it will eliminate the economic burden of a family, community and nation as such. So the present study was planned to be carried out in this background to throw light on sociodemographic factors and expenditure on tobacco consumption among the rural people of this region

## MATERIALS AND METHODS

Cross sectional study was done in the rural field practice area of Kuppam, Chittoor Dist, A.P., from November 2016 to January 2018. Total 1500 participants, above 15 yrs were included after taking the informed written consent. Pre-tested semi structured Performa was used to collect the data. A pilot study was undertaken among 30 subjects (aged 15 years & above) in a village. This helped to fine-tune the Performa. The finalized Performa was then administered to the study subject. For the study, the villages having more than 1500 population were noted. Three directions were chosen randomly such as North, South and East. From each direction, one such village was selected randomly for the study.

A sample of 500 persons from each village was taken, so that a total sample of 1500 was achieved. By systematic method, the households on the left hand side of the villages were included in the study. House to house visit was made to contact the subjects. After reaching the village, the first house on the left hand side was visited and subsequently the other houses were visited by following the left hand principle, until the target number of 500 persons was reached. In each household, all the individuals aged 15 years & above were selected for the study, who were willing to participate and are of permanent residents of that village. WHO definition of current users of tobacco was applied. That is a person who gave the history of consumption of any tobacco product within 30 days preceding the survey.

**Statistical methods:** Data was analyzed by using Epi-info version 7, proportion, percentage, ANOVA, Chi square test, 't' test were applied. The results were discussed by comparing with similar studies collected as review of literature and detailed report was prepared.

## RESULTS

### Distribution Sociodemographic factors of subjects

Variables	No.	Percentage
Male	783	52.7%
Female	717	47.8%
<b>Type of family</b>		
Nuclear family	605	40.3
Joint family	580	38.7
Three generation family	315	21.0
<b>Marital status</b>		
Married	1093	72.9
Unmarried	318	21.2
Separated/ Divorced/ Widow/ Widower	89	5.9
<b>Educational status</b>		
Secondary and above	505	33.7
Primary school	215	14.3
Illiterate	780	52.0
<b>Occupational status</b>		
Laborers	819	54.6
House wife	252	16.8
Students	222	14.8
Employers	24	1.6
Business	183	12.2
<b>Socioeconomic status</b>		
Class I	90	6.0
Class II	104	6.9
Class III	327	21.8
Class IV	512	34.1
Class V	467	31.1

Total number of study subjects were 1500, Male 783 (52.2%) and females 717 (47.8%). Most of them were in the age group of 20-29 years (32.3%), followed by 30-39 years (20.9%). Majority of them were 605 (40.3%) belonged to nuclear family. Most of them were married (72%) and, Illiterates were 780 (52.0%). Majority of them, were agricultural laborers 678 (45.2%) and 34.1% belonged to class IV.

Prevalence of tobacco consumption among the 1500 study subjects was 61.3% (919 persons) Hindus, 61.2% (1496) were tobacco consumers and all the 4 Muslims were tobacco consumers. The prevalence of tobacco consumption was highest among the subjects belonging to the marital status of separated/ divorced/ widow/ widower group (86.5%) followed by married persons (70.2%). It was found to be lowest among unmarried persons (23.6%). The prevalence of tobacco consumption was highest among the subjects of three generation family (66.4%) followed by joint family (62.6%). This difference was statistically significant. Out of 780 illiterate subjects, 609 (78.1%) were tobacco consumers and among Graduates/Post graduates only 23.1% were tobacco consumers. By applying Chi-square test, the difference was found to be statistically significant. The tobacco consumption was found to be highest among Agricultural labors (71.7%) followed by housewife (63.4%) (Table 1). The tobacco consumption was found to be lowest in Class I (38.9%) and highest in Class V (70.2%). The prevalence of tobacco consumption showed gradual increase from class I (Upper social class) to class V (poorer social class) Table 2. It was found that about 31% subjects were smoking less than 5 beedis /cigarettes/ chuttas per day. However 20.5% of the subjects consumed 20 or more beedis/ cigarettes etc, per day. About 32.1% of subjects used the chewing products less than 5 times per day, and 47.1% subjects used them for 10 times or more. There is difference in spending on tobacco by different age group was found in our study (Table 3) and there is gender

difference, females are spending more compared to male subjects. (Table 4) The amount spent for tobacco products per month by a tobacco consumer was compared with the monthly income of family and the percentage was calculated. (Table 5)

**Table 1: Occupations of the subjects and prevalence of tobacco consumption**

Occupation	Tobacco consumption among the subjects		Total (%)
	Yes (%)	No (%)	
Agricultural Labour	488 (72.0)	190(28.0)	678 (100.0)
House wife	179 (71.0)	73 (29.0)	252 (100.0)
Agarabatti worker	64 (66.0)	33 (34.0)	97 (100.0)
Land owner	97 (63.4)	56 (36.6)	153 (100.0)
Stone cutter	23 (52.3)	21 (47.7)	44 (100.0)
Professional	5 (45.5)	6 (54.5)	11 (100.0)
Trader	12 (40.0)	18 (60.0)	30 (100.0)
Clerical	4 (30.8)	9 (69.2)	13 (100.0)
Student	47 (21.2)	175 (78.8)	222 (100.0)
Total	919 (61.3)	581 (38.7)	1500 (100.0)

$$\chi^2=207.9; df=8; p<0.001$$

The differences noted regarding tobacco consumption among different occupational groups were statistically significant, by applying Chi-square test.

**Table 2: Socio-economic status of the subjects and prevalence of tobacco consumption**

Socio-economic status	Tobacco consumption among the subjects		Total (%)
	Yes (%)	No (%)	
Class I	35 (38.9)	55 (61.1)	90 (100.0)
Class II	50 (48.1)	54 (51.9)	104 (100.0)
Class III	175 (53.5)	152(46.5)	327 (10.0)
Class IV	331 (64.6)	181 (35.4)	512 (10.0)
Class V	328 (70.2)	181 (29.8)	467 (10.0)
Total	919 (61.3)	581 (38.7)	1500 (100.0)

$$\chi^2=53.1; df=4; p<0.001$$

The prevalence of tobacco consumption among different classes was found to be varying and this difference or variation was statistically significant.

**Table 3: Tobacco consumers of different age groups and their spending for tobacco products**

Age group (years)	Tobacco consumers (N=919)	Amount spent for tobacco (in Rupees) (Mean ± SD)
15 – 19	41	68.7 ± 14.7
20 – 29	246	213.2 ± 27.8
30 – 39	216	307.5 ± 38.7
40 – 49	169	366.3 ± 24.1
50 – 59	100	380.3 ± 48.1
60 & above	147	387.0 ± 41.1

$$F=1012.2; p<0.001$$

The difference in spending between different age groups was statistically significant by applying ANOVA

Table 4: Male and female tobacco consumers and their spending for tobacco products

Gender	Tobacco consumers (N=919)	Amount spent for tobacco (in Rupees) (Mean ± SD)
Male	409	262.6 ± 43.2
Female	510	272.8 ± 35.1

t=3.94; p<0.001

It was noteworthy that the expenditure for tobacco was higher among females and the difference was statistically significant

Table 5: Percentage of monthly income of family spent for tobacco products

Percentage of monthly income of family spent for tobacco	Tobacco consumers	Percentage
Less than 5	255	27.8
5 -9	206	22.4
10 -14	125	13.6
15-19	127	13.8
20 -24	26	2.8
25 & above	180	19.6
Total	919	100.0

About 19.6 % of tobacco consumers were spending 25% and above of the monthly income of family for tobacco products.

## DISCUSSION

Tobacco consumption is a major public health issue and it is a major risk factor for six leading causes of death. Younger generation also getting addicted to it and increasing the economic burden. In this study prevalence of tobacco consumption in the form of chewing is more common among females. To overcome thirst, hunger, to get rid of tension, to get extra energy to work for a longer time without food, for relief from tooth ache, peer pressure, and some cultural factors are contributing for initiation and continuation of tobacco consumption. So, it is affecting not only mother and child but also whole present population due to second hand smoking and in turn affecting future generation like preterm baby, low birth weight baby, still birth etc. This will have a great impact on economic status of the family leading into catastrophic condition

To control the tobacco epidemic in India, the problem should be quantified and various determinants of tobacco use and economic burden should be identified. The present study was a community based study conducted among 1500 subjects aged 15 years & above in a rural area of Kuppam. In this study, males were 52.2% and females were 47.8%. (53.2%) were in age group of 20-39 years. and, most subjects were illiterates (52.0%) and agricultural laborers (45.2%). In the current study, most of the subjects belonged to lower social status, i.e., class IV (34.1%) and class V (31.1%). In our study 1500 study 61.3% is the prevalence, Beedis being cheaper are preferred by poor people was the commonest smoking product, which is more dangerous than cigarette 98.3% were beedi smokers in our study and similar findings were reported by Zahiruddin QS et.al.,<sup>(7)</sup> In our study chewing tobacco was very high 92% which is 45.7% and among females and 49.3% reported by Chaturvedi HK et.al.<sup>(8)</sup> It was found that tobacco consumption is directly related to increasing age. Similar findings were reported by Sinalkar DR et.al.<sup>(9)</sup> So, in our study tobacco use was significantly higher in poor, less educated, and both among men and women is similar to National Family Health Survey-2 (1998) Rani M, Bonu S et.al,<sup>(10)</sup> 20.5% of the subjects consumed 20 or more beedis/ cigarettes etc, per day and 47.1% subjects using in the form of chewing form for more than 10 times a day

In the present study, most subjects (27.8%) were spending less than 5% of the monthly income of family for tobacco products. However 19.6% subjects spent more than 25% of the monthly income for tobacco. It was noteworthy that the expenditure for tobacco was higher among females and the difference was statistically significant and as the age advances their consumption and expenditure is also increasing. In Indonesia, the lowest income group spends 15 % of total expenditure on tobacco.<sup>(11)</sup> In Egypt, the low income families spend more than 10% on tobacco.

In Dharwad study, <sup>(12)</sup> the tobacco expenditure was 7% of the total income. There were limited studies on the cost of tobacco consumption. Moreover as these studies were conducted in various regions and varied times, a direct comparison with the present study is not possible.

## CONCLUSIONS AND SUGGESTIONS

The study has found a high prevalence of tobacco use (61.3%). The present study has found the initiation of tobacco use before 20 years of age in most of the subjects Hence community based smoking cessation activities need to be conducted among illiterates, agriculture labors house wives and people belonging to low socioeconomic status and three generation families where family members are influencing to youngsters. The present study has found the initiation of tobacco use before 20 years of age in most subjects. Hence attention should be focused on the younger age group subjects like school age children and adolescents. The common reasons for starting tobacco use found in this present study were peer pressure, influence of family members or relatives. Hence focused group discussions should be held in the present study, it was found that there were certain beliefs that tobacco is helpful in relieving pain, tension etc. Hence, health education messages by medical and paramedical personnel should be given to the communities to dispel these misconceptions. People are growing the tobacco for their bread and butter in most of the regions. So, the legislative measures should be taken to grow the alternative crop and help the people who are dependent on tobacco growing.

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