Epidemiological Study of Prevalance and Pattern of Tobacco Use among Rural Population of Kuppam

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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. In India, 90% of the oral cancer patients were tobacco chewers. The mortality attributable to tobacco has been estimated to be about 900,000 per year in India. *Aims and Objectives:* The study was done with the objective of assessing the prevalence and patterns of tobacco usage among rural population at Kuppam field practice area, A.P. *Methods and Materials:* Prevalence study 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. The most common type of mixed use was found to be smoking and chewing (88.9%). Most common smoking product was beedi (98.3%). Tobacco chewing was mostly with betel leaf and areca nut (83.6%).

Keywords: Tobacco; Pattern; Smoking; Rural.

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) [1]. More than 5

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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[2]. It is estimated that the annual death toll may reach 8 million by the year 2030 [3].

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 [4]. There are more than 300 million smokers in India [2].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. Cigarette smoking is the second most popular form of tobacco use, while tobacco chewing will be the next. Regarding tobacco chewing, people usually consume betel leaf and araca nut with tobacco.

Other preparations such as gutka, hans, chaini, paan masala, and mawa are also used which are highly addictive. 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. So to prevent the mortality and morbidity, a substantial proportion of adult smokers have to quit smoking and children should be prevented from acquiring this unhealthy habit. Tobacco use is the single largest preventable cause of death and disability, so the present study was planned to be carried out in this background to throw light on the tobacco use and the patterns of its use among the rural people of this region.

Materials and Method

Community based Cross sectional study was done in the rural field practice area of PES Institute of Medical Sciences Kuppam, Chittoor District Andhra Pradesh,from November 2012 to January 2014 .A total of 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. Data was analyzed by using Epi-info version 7, proportion, percentage, ANOVAs, Chi square test and multivariate logistic regression test. The results were discussed by comparing with similar studies collected as review of literature and detailed report was prepared.

Results

Table 1 shows the distribution of participants according to sociodemographic characteristics. Total no. 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%. 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%). This difference between the various groups was statistically significant (Table 2).

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 (Figure 1).

If one or more people using tobacco in a family, others also using it because of the influence of family members.

Out of 780 illiterate subjects, 609 (78.1%) were tobacco consumers and among Graduates/Post graduates only 23.1% were tobacco consumers and the difference was found to be statistically significant (Table 3). Figure 2 depicts the tobacco consumption was found to be highest among Agricultural labors (71.7%) followed by housewife (63.4%).

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 group (Figure 3).

Patterns of Tobacco Consumption

Various forms of tobacco consumption were noted such as smoking, tobacco chewing, .tobacco powder used as snuff through nose, and combination of more than one of the above forms of consumption. It was found that Smoking 292(31%), chewing 850 (92%), Snuff 25 (2.7%). The smokers were using different forms of tobacco products like cigarettes , beedis and chuttas.

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Table 1: Distribution Sociodemographic factors of subjects

Variables	No	Percentage
Sex		
Male	783	52.7%
Female	717	47.8%
Type of Family		
Nuclear family	605	40.3
Joint family	580	38.7
Three generation family	315	21.0
Marital Status	**No. of subjects (N= 1500)**	**Percentage**
Married	1093	72.9
Unmarried	318	21.2
Separated/ Divorced/ Widow/ Widower	89	5.9
Educational Status		
Secondary and above	505	33.7
Primary school	215	14.3
Illiterate	780	52.0
Occupational Status		
Laborers	819	54.6
House wife	252	16.8
Student	222	14.8
Employers	24	1.6
Business	183	12.2
Socioeconomic Status	**No. of subjects**	**Percentage**
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

Table 2: Marital status of subjects and prevalence of tobacco consumption

Marital status	Tobacco consumption among the subjects		Total (%)
	Yes (%)	No (%)	
Married	767 (83.47)	326 (56.12)	1093
Unmarried	75 (8.16)	243 (41.82)	318
Divorced / separated / widow/ widower	77 (8.37)	12 (5.06)	89
Total	**919 (100)**	**581 (100)**	**1500**

$X^2=230.8$;   df=2;   p<0.001

The prevalence of tobacco consumption was highest among the subjects belonging to the married group (83.47%) followed by divorced/separated group (8.37%). This difference between the various groups was statistically significant.

Table 3: Initiation of tobacco consumption in different age groups

Age group (years)	No. of subjects Initiated in tobacco use	Percentage
Less than 20	502	54.6
20 – 29	264	28.7
30 – 39	83	9.1
40 & above	70	7.6
Total	**919**	**100.0**

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.

Most subjects (54.4%) started tobacco consumption below the age of 20 years followed by 28.9% of subjects

Table 4: Educational status of subjects and prevalence of tobacco consumption

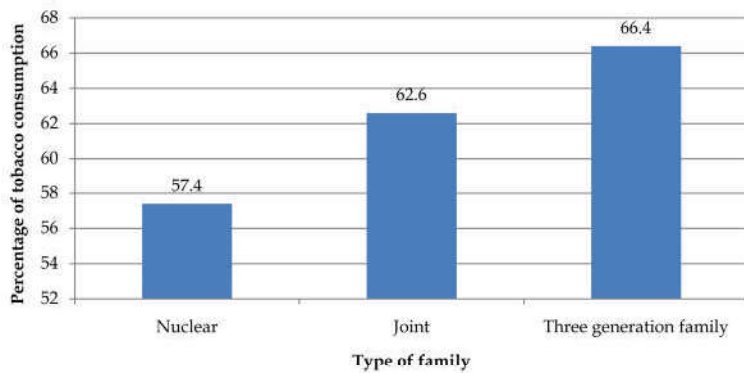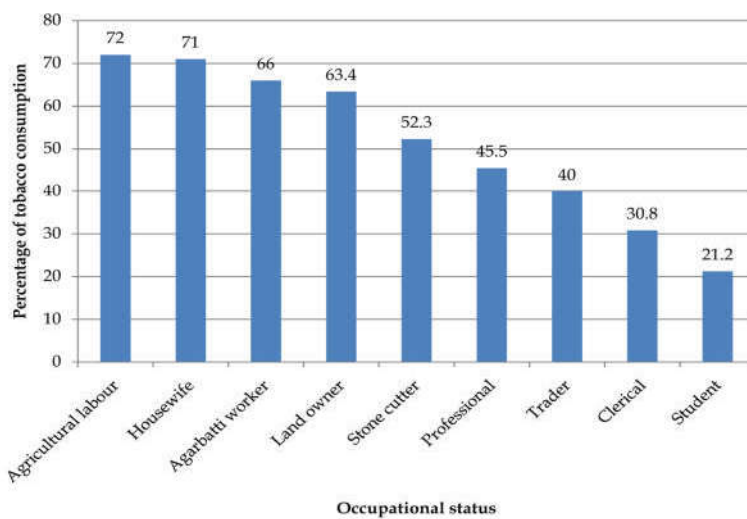| Educational Status	Tobacco Consumption		Total (%)	χ^2 p
	Yes (%)	No (%)		
Graduate or postgraduate	36 (23.1)	120 (76.9)	156 (100.0)	
Intermediate or post high school diploma	13 (37.1)	22 (62.9)	35 (100.0)	151.1 p<0.001
High school	36 (37.5)	60 (62.5)	96(100.0)	
Middle school	99(45.4)	119 (54.6)	218 (100.0)	
Primary school	126 (58.6)	89 (41.4)	215 (100.0)	
Illiterate	609 (78.1)	171 (21.9)	780 (100.0)	
Gender				
Male	409 (52.2)	374 (47.8)	783 (100.0)	56.3
Female	510 (71.1)	207 (28.9)	717 (100.0)	p<0.001

Fig. 1: Tobacco consumption by type of family

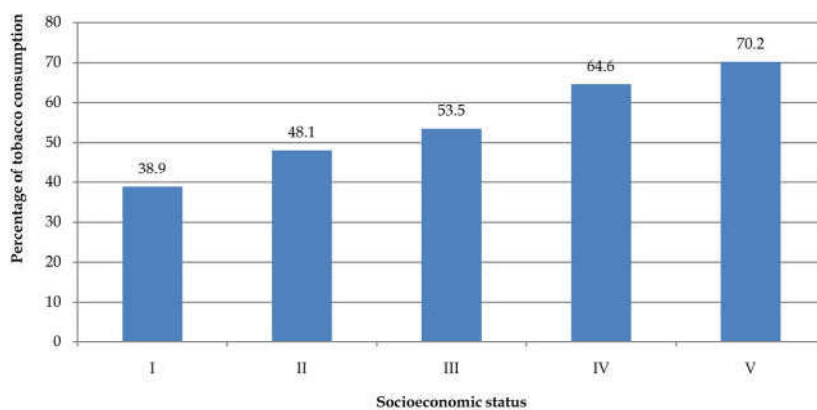**Fig. 2:** Distribution of tobacco consumption by occupational status

Fig. 3: Prevalence of tobacco consumption by socioeconomic status

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in the age group of 20-29 years. Only 7.6% of subjects started to use tobacco after the age of 40 years (Table 3). Prevalence of tobacco consumption was higher among the females (71.7%) compared with males (52.2%), which was statistically significant (Table 4). Tobacco chewing was very common among most women. However it was comparatively less among the men. Men have different habits such as smoking, tobacco chewing and using snuff. This may be the reason for less number of chewing among males. Tobacco consumption increased steadily from lower age group to higher age group. Among 780 illiterate subjects, 609 (78.1%) were tobacco consumers. Among the Graduates/Post graduates only 23.1% were tobacco consumers and the difference was found to be statistically significant.

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. More over it is preventable so the special attention should be given. If half of the smokers quit tobacco in the next twenty years, one third of tobacco deaths would be avoided [4]. To control the tobacco epidemic in India, the problem should be quantified and various determinants of tobacco use should be identified. The present study was a community based study conducted among subjects aged 15 years & above in a rural area of Kuppam. The current study has found that most subjects were agricultural labourers (45.2%). In the Ballabgarh study [5], a majority of the males were engaged in daily labour (50.2%).

In our study 1500 study subjects, 919 persons [61.3%] were consuming tobacco that is prevalence of tobacco consumption and, similar findings were reported by Sinha DN, et. al [6] and Chandra [7] in which it was 63% and 71% respectively. Tobacco chewing in our study was 83.6% in women which is similar to study done at Bombay. Prakash C Gupta, et. al [8]. smoking prevalence was about 31.8% in our study and similar findings were reported by Khokhar A, et. al., Delhi [9] which is 30.8%. In our study 78.1% tobacco users were illiterate and similar findings were reported by Ansari ZA, Bano SN et.al [10].

Our study shows 71.7% were agriculture labourers were tobacco consumers compared to National family health survey 2005-06 with similar findings by. Rooban T, et. al [11].

Conclusion and Recommendations

1. The study has found a high prevalence of tobacco use (61.3%). Hence community based smoking cessation activities need to be conducted in this region to explain the adverse effects of tobacco consumption.

2. 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 to control & prevent the tobacco use in the community.

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