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PREVALENCE OF TOBACCO USE AMONG THE ADULT MALES IN A SOUTH INDIAN VILLAGE

Kalyan Chebrolu[1], Vinay Babu Koganti[2], Swapna Budimelli[3]

ABSTRACT: BACKGROUND: Tobacco usage is widely prevalent in both the developed and developing countries. It is one of the important preventable causes of premature death in developing countries. It has been estimated that nearly 50% of men are dependent on some form of tobacco use. **MATERIALS AND METHODS:** The aim of the study was to find out the prevalence of tobacco usage among the adult male population in rural areas. The objectives were to find out the tobacco usage in various forms and the impact of pictorial warnings on the packing to quit tobacco. A cross sectional observational study was conducted in Pedaparimi village of Guntur district, Andhra Pradesh, Rural Field Practice area of NRI Medical College, Guntur for 3 months (from January to March 2014). Ten percent of the houses were studied using systematic random sampling method. The data was collected from 105 adult male respondents residing in the village. **RESULTS:** 71.4% of the respondents ever used tobacco, of them nearly 61% are current users, and 28.6% never used tobacco in any form. Smoking by far was the popular method of tobacco intake (96%); cigarette smoking was popular among 38.7% of the respondents, followed by cigar (32.0%) and beedi (25.3%). Nearly two-thirds (67.2%) of the current tobacco users attempted to quit tobacco previously and failed. 51.4% were aware regarding the ill effects of exposure to second hand smoke. 29.5% of the respondents were not aware of the pictorial warnings depicted on the various tobacco products. **CONCLUSION:** There is high prevalence of tobacco use in the present study village as like in any other villages in the country. There should be a national effort to prevent any further increase in the prevalence of tobacco use, especially among the vulnerable groups. Changes in the pictorial warnings depicted on the tobacco products to have an effect on awareness of the diseases caused and cessation of the use is needed.
KEYWORDS: Tobacco, smoking, smokeless tobacco, tobacco cessation, prevalence.

INTRODUCTION: Tobacco usage is widely prevalent in both the developed and developing countries. It is one of the important preventable causes of premature death in developing countries. It has been estimated that nearly 50% of men are dependent on some form of tobacco use. The factors involved in the initiation and maintenance of the habit of smoking are social and psychological with physical dependence supervening.[1]

Until 1940, tobacco was considered harmless, but subsequently, laboratory and clinical research studies have confirmed that tobacco is a hazard to health. On an average smoke from cigarette contains 4000 chemicals, some of which are highly toxic and causes cancer. By the year 2020, tobacco will become the single leading cause of death, causing one out of every eight deaths.[2]

Heavy smoking is responsible for coronary heart disease in a good number of cases. Major effects of smoking on cardiovascular system are stimulation of central nervous system by nicotine and displacement of oxygen from hemoglobin by carbon monoxide and toxic injury to the endothelial

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cells, which leads to atherogenesis. On an average 50-150 microns of nicotine is absorbed through lungs and oral mucosa with each puff of tobacco.[3]

The U.S. Surgeon General reports on health consequences of smoking have conclusively shown since 1964 that cigarette smoking is the most important cause of COPD. Similarly in India, tobacco smoking was responsible for over 82% of COPD.[4] The mortality burden of tobacco related deaths have been estimated at 8 lakh deaths annually. In developing countries like India, where awareness levels are low, the first step towards a tobacco free society includes anti-tobacco education and medical help for those willing to quit.[2]

In this study an attempt has been made to find out the prevalence of tobacco usage in any form among the rural adult male population in the Rural Field Practice area of NRI Medical College, Guntur, Andhra Pradesh. The study was taken up to find out the awareness levels among the rural population towards tobacco usage.

MATERIALS AND METHODS: The aim of the study is to find out the prevalence of tobacco usage among the adult male population in rural areas. The objectives would be to find out the tobacco usage in various forms and the impact of pictorial warnings on the packing to quit tobacco.

A cross sectional observational study was conducted in Pedaparimi village of Guntur district, Andhra Pradesh, Rural Field Practice area of NRI Medical College, Guntur for 3 months (from January to March 2014). The village consists of 1047 households. Ten percent of the houses were studied using systematic random sampling method. The data was collected from 105 male respondents, aged >15 years, resident in the village by interview method by administering a pre- tested structured schedule only after taking an informed consent from them. Institutional Ethical Clearance was obtained prior to the study.

The data was analyzed using Epi Info and Microsoft Excel software and presented in the form of tables.

RESULTS:

Socio-Demographic Characteristics (Table No.1): Nearly half the respondents were between 30-49 years age group. About 45% of the respondents were illiterate and three fourths of them are agricultural laborers. Nearly 95% of the respondents were married, two- thirds were living in Nuclear families. Nearly half (49.5%) were Hindus and Christians accounted for 31.4% in the present study. Nearly two thirds are earning a monthly family income between Rs 5000 to Rs. 8000.

Tobacco Consumption Pattern (Table No. 2): 71.4% of the respondents ever used tobacco of them nearly 61% are current users, 28.6% never used tobacco in any form. Smoking by far was the popular method of tobacco intake (96%); cigarette smoking was popular among 38.7% of the respondents, followed by cigar (32.0%) and beedi (25.3%).

Among the smokers, more than 75% smoke >9 cigarettes per day, 50% of the cigar smokers use >9 per day. More than 84% of beedi smokers use >9 per day. Only 3 respondents were used to chewable form of tobacco, of these two of them use > 9 times a day. The present study could not find even a single respondent addicted to sniffing. (Table No. 3)

Nearly 69% of the cigarette smokers, 96% of the cigar smokers, 79% of beedi smokers have been used to smoking for >9 years. All the respondents who use chewable form of tobacco have been doing so for >9 years. (Table No.4)

Peer pressure and the desire to try once were the common responses quoted for tobacco consumption at the first instance. Sixty percent of the respondents ever consumed tobacco did so

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when they were below 20 years of age. Nearly one- fourths of the respondents have another member in the family consuming tobacco. (Table No. 2)

All the Non- users were exposed to second- hand smoke, three- fourths of them both at public and work places. (Table No.2)

Nearly two-thirds (67.2%) of the current tobacco users attempted to quit tobacco previously and failed. (Table No.2)

TOBACCO AWARENESS: Nearly 81% of the respondents were aware of the diseases caused due to tobacco consumption. Two-thirds opined that tobacco is responsible for cancers, 22.3% said that it was responsible for respiratory illness among the users. More than half the respondents cited electronic media as the source of information where they got to know about the ill effects of tobacco consumption. 51.4% were aware regarding the ill effects of exposure to second hand smoke. (Table No. 5)

PICTORIAL WARNINGS: 29.5% of the respondents were not aware of the pictorial warnings depicted on the various tobacco products. Nearly three- fourths (77.0%) of the respondents who were aware of pictorial warnings observed X- ray on the packs. The pictorial warnings have very poor impact (only on 9.5% respondents) in making the users quit tobacco. (Table No.5)

DISCUSSION: It is clear from this cross sectional study that tobacco consumption is highly prevalent among the males in rural Andhra Pradesh. Smoking is the most common form of tobacco used followed by chewing.

TOBACCO USE: In the present study, 61% of the adults use tobacco in any form and this is 72% including those who previously used.

In a study on tobacco habits in India by Bhonsle, et al the overall prevalence rates among men varied from 61% in Maharashtra to 86% in Andhra Pradesh; among women it ranged from 15% in Bhavnagar (Gujarat) to 67% in Andhra Pradesh. Men preferred smoking and chewing with some regional variations in their study.[5] In the study of tobacco use in rural area of Bihar, India, by Sinha, et al tobacco use was 78% in men.[6] GATS India revealed that more than one-third (35%) of adults in India use tobacco in some form or the other. The prevalence of overall tobacco use among males is 48 percent. Nearly two in five (38%) adults in rural areas use tobacco in some form.[7]

The prevalence of tobacco use is higher in the present study when compared to the national statistics.

In the present study only 4% of the study population used smokeless tobacco.

Smokeless tobacco users used mostly dentifrice in a study done in rural Bihar by Sinha et al in 2003.[6] About 21 percent adults use only smokeless tobacco, 9 percent only smoke and 5 percent smoke as well as use smokeless tobacco. The extent of use of smokeless tobacco products among males (33%) is higher.

The prevalence of smokeless tobacco is lesser in the present study.

Gutkha and pan masala are the common forms of smokeless tobacco used by the respondents in the present study.

In India, khaini or tobacco-lime mixture (12%) is the most commonly used smokeless tobacco product, followed by Gutkha, a mixture of tobacco, lime and areca nut mixture (8%), betel quid with tobacco (6%) and applying tobacco as dentifrice (5%)[7]. Cigarette smoking (38.7%) was most popular smoking tobacco product, followed by Cigar (32.0%) and Bidi (25.3%)[7]. In rural Bihar Sinha et al,

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observed bidi to be the most popular among smoking tobacco products[6]. Among smoking tobacco products, bidi (9%) is used most commonly followed by the cigarette (6%) and the hookah (1%) [7].

Cigarettes and cigars are more preferred in rural Andhra Pradesh in the present study when compared to bidi which is more popular nationwide.

In the current study, nearly three- fourths of the cigarette smokers use >9 cigarette sticks per day, 50% of the cigar smokers use >9 cigars per day, 84% of bidi smokers use >9 bidi sticks per day.

On an average a daily cigarette smoker in India smokes 6.2 cigarette sticks per day, and a daily bidi smoker smokes 11.6 bidi sticks per day. One-fourth of daily cigarette smokers smoke more than 10 cigarettes per day, and more than half of the daily bidi smokers smoke more than 10 bidis per day.[7]

In the present study the prevalence of smoking tobacco use frequency is more per day when compared to the national data.

Sixty percent of the respondents in the present study are getting used to tobacco under 19 years of age.

Bala DV et al in a study done in Gujarat state in 2006 observed that 74% of tobacco consuming youngsters currently under 25 and further 50% in the 26-35 years age group have initiated tobacco use in childhood or in adolescence.[8]

The mean age at initiation of daily tobacco use for tobacco users' age 20–34 years is 17.8 years. The mean age at initiation of smoking as well as use of smokeless tobacco among users of respective products age 20-34 years is 17.9 years. Two in every five daily tobacco users age 20–34 had started using tobacco daily before attaining the age of 18.[7]

The age at initiation of tobacco consumption in the present study is similar to the GATS India study.

TOBACCO CESSATION: Two thirds of the ever tobacco users in any form made a quit attempt in the past 12 month period prior to the present study.

Nearly two in five smokers (38%) and users of smokeless tobacco (35%) made an attempt to quit respective tobacco use in the past 12 month period prior to the survey. Among smokers, 38% reported that they made a quit attempt. Among smokeless tobacco users 39% males made a quit attempt. Fifty five percent smokers in Andhra Pradesh made a quit attempt.[7]

When compared to the national level, more number of the respondents in the present study made attempts to quit in the preceding 12 month period.

SECOND-HAND SMOKE: Nearly three fourths of the non- tobacco users in the present study were exposed to second hand smoke at work and public places.

GATS India shows that 52 percent of adults were exposed to second-hand smoke (SHS) at home. In rural areas 58 percent and in urban areas 39 percent were exposed to SHS at home.[7]

The exposure to second hand smoke at home is less when compared to the national data.

Knowledge, attitudes and perceptions.

Seventy percent of the respondents in the present study noticed pictorial warnings on tobacco products but nine out of ten observed that they did not in any way affect in quitting tobacco. A little more than half (52%) of adults in India noticed anti-cigarette information on any media/ location during the last 30 days prior to the survey.[7]

The awareness regarding pictorial warnings in the present study is better when compared to the nation-wide study.

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Nearly 81% of the respondents were aware of the diseases caused due to tobacco consumption. Two-thirds opined that tobacco is responsible for cancers, 22.3% said that it was responsible for respiratory illness among the users.

Half (49%) of adults in India are aware that smoking causes stroke and less than two-thirds (64%) believe that smoking causes heart attack whereas, a large proportion (85%) believes that smoking causes lung cancer.[7]

The awareness levels in the present study regarding the diseases caused due to tobacco consumption is better. But the level of knowledge for various diseases caused is low when compared to the nationwide study.

More than half the respondents in the present study cited electronic media as the source of information where they got to know about the ill effects of tobacco consumption.

Bhojani U M, et al, observed in a study done on pre- university students of Bangalore that television (43.3%) to be the most common sources of information on tobacco hazards among all the categories of tobacco users.[9] A little more than half (52%) of adults in India noticed anti-cigarette information on any media/location during the last 30 days prior to the survey.[7]

The findings in the present study are similar to the nationwide study.

CONCLUSION: There is high prevalence of tobacco use in the present study village as like in any other villages in the country known from the findings of the GATS India report. There should be a national effort to prevent any further increase in the prevalence of tobacco use, especially among the vulnerable groups. More and more youngsters are falling prey to the tobacco products and, they are also attracted to smokeless form by the advertising and marketing agencies. Targeted approach should be followed for addressing different types of tobacco use and user groups for cessation. Changes should be made in the pictorial warnings depicted on the tobacco products to have an effect on awareness of the diseases caused and cessation of the use.

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	Frequency	Percentage
Age of the respondents		
15-29	20	19.1%
30-49	52	49.5%
≥50	33	31.4%
Education		
Illiterate	47	44.8%
Upto 5th class	24	22.8%
Upto10th class	25	23.8%
Intermediate	3	2.9%
Degree	5	4.8%
Post graduate	1	0.9%
Occupation		
Agricultural labourer	80	76.2%
Petty business	3	2.9%
Unemployed	10	9.5%
Student	1	0.9%
Professional	9	8.6%
Others	2	1.9%
Type of family		
Nuclear	70	66.7%
Three generation	35	33.3%
No. of persons living in the family		
2	11	10.5%
3	13	12.4%
4	40	38.1%
5 and above	41	39.0%
Monthly family income		
<5000	29	27.6%
5000- 8000	67	63.8%
>8000	9	8.6%
Marital status		
Married	99	94.3%
Unmarried	6	5.7%
Religion		
Hindu	52	49.5%
Muslim	20	19.1%
Christian	33	31.4%
Table 1: Socio- demographic characteristics of the respondents (n=105)		

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	Frequency	Percentage
Tobacco Usage in any form (n=105)		
Current users	64	60.9
Used previously but not using presently	11	10.5
Never used	30	28.6
Tobacco consumption type (n=75)		
Cigarette	29	38.7
Cigar	24	32
Beedi	19	25.3
Chewing (Gutkha, Pan Masala)	3	4
Sniffing	0	0
Reasons for consumption of Tobacco at the first instance (n=75)		
Peer pressure	48	64
Peer pressure & Try once	10	13.3
Try once	9	12
Movies	6	8
Other causes	2	2.7
Age at initiation of Tobacco Consumption (n=75)		
≤19 years	45	60
20-29 years	28	37.3
≥ 30 years	2	2.7
Presence of Family members consuming Tobacco (n=105)		
Yes	25	23.8
No	80	76.2
Place of Exposure to Second Hand Smoke Among Non- Users (n=30)		
At Home	2	6.7
At Work	2	6.7
Public Places	1	3.3
At work & Public Places	22	73.3
All	3	10
Ever Attempted to Quit Tobacco (n=64)		
Yes	43	67.2
No	21	32.8
Table 2: Tobacco Consumption pattern		

FREQUENCY OF TOBACCO CONSUMPTION PER DAY								
No. per day	**Cigarette**		**Cigar**		**Beedi**		**Chewing**	
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
≤9	7	24.1%	12	50.0%	3	15.8%	1	33.4%
10 to 19	17	58.6%	12	50.0%	8	42.1%	2	66.6%
≥20	5	17.3%	0	0.0%	8	42.1%	0	0.0%
Total	**29**	**100.0%**	**24**	**100.0%**	**19**	**100.0%**	**3**	**100.0%**
Table 3: Frequency of tobacco consumption per day (n=75)								

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HISTORY OF TOBACCO CONSUMPTION (IN YEARS)								
Duration (in years)	Cigarette		Cigar		Beedi		Chewing	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
0 to 4	5	17.3%	0	0.0%	0	0.0%	0	0.0%
5 to 9	4	13.8%	1	4.2%	4	21.0%	0	0.0%
10 to 19	13	44.8%	1	4.2%	6	31.6%	2	66.6%
20 to 49	6	20.7%	15	62.5%	9	47.4%	1	33.4%
≥ 50	1	3.4%	7	29.1%	0	0.0%	0	0.0%
Total	29	100.0 %	24	100.0 %	19	100.0 %	3	100.0 %

Table 4: History of Tobacco Consumption (in years) (n=75)

	Frequency	%
AWARENESS OF DISEASES CAUSED DUE TO TOBACCO CONSUMPTION (n=105)		
Yes	85	80.9
No	20	19.1
DISEASES KNOWN TO BE CAUSED DUE TO TOBACCO CONSUMPTION (n=85)		
Cancers	57	67.1
Respiratory illnesses	19	22.3
Cardiac Illnesses	5	5.8
Paralysis	2	2.4
GIT disorders	1	1.2
Hypertension & Diabetes	1	1.2
SOURCE OF INFORMATION REGARDING ILL-EFFECTS OF TOBACCO CONSUMPTION (n=85)		
Electronic Media	44	51.8
Friends	17	20
Doctor	7	8.2
Others	17	20
AWARENESS REGARDING SECOND HAND SMOKE (n=105)		
Yes	54	51.4
No	51	48.6
AWARENESS OF PICTORIAL WARNINGS (n=105)		
Yes	74	70.5
No	31	29.5
IMPACT OF PICTORIAL WARNINGS IN QUITTING (n=74)		
Present	7	9.5
Absent	67	90.5
PICTORIAL WARNINGS NOTICED BY THE RESPONDENTS (n=74)		
X- ray	57	77
Cigarette struck- off	10	13.5
Scorpion	7	9.5

Table 5: Tobacco Awareness

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