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High Prevalence of Smoking and Alcohol as Risk Factors in Cardiovascular Diseases.

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ABSTRACT

Smoking and Alcohol intake both individually and collectively were related to high prevalence of coronary artery disease. The present study was conducted to estimate the prevalence of alcohol and smoking as cardiovascular risk factors in rural area of Tirupati. We considered both male and female subjects (N=734) with age group of 30 years and above age group of rural population of Tirupathi in our study. It was found that 16.9% are current smokers. Majority of them were smoking for 11-20 years (42.7%) and less than or equal to 10 cigarettes per day (47.6%). As much as 41.9% are smoking 11-20 cigarettes per day. The tobacco chewing was found in 9.5% subjects. Current alcohol intake was reported by 19.9% subjects. A majority of them are taking alcohol for 11-20 years (40.4%).The prevalence of alcohol intake and smoking were found to be higher in those aged more than 50 years, secondary education and above, not unskilled occupation, currently married, Hindu religion, nuclear family, scheduled caste & tribe and those belonging to lower socioeconomic status. Prevalence of medium and high risk was found to be significantly higher in males than in females. Alcohol and Smoking are the most important cardiovascular risk factors as well as highly modifiable risk factors in Cardiovascular Diseases.
Keywords: Alcohol, cardiovascular diseases, smoking

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INTRODUCTION

Smoking is one of the most important cardiovascular risk factors in India[28]and smoking cessation and tobacco control must be an important initial strategy to reduce cardiovascular risk[1]. NFHS-3 shows that more than half of men use one or more forms of tobacco, compared with only 11 % of women. In Andhra Pradesh 5.2% women and 42.8% of men using any type of tobacco. NFHS-3 shows that one-third of men drinks alcohol. In Andhra Pradesh, 47.2% of men and 6.8% of women are consuming alcohol [2].National survey found that the prevalence of current use of alcohol ranged from a low of 7 % in Gujarat to a high of 75 % in Arunachal Pradesh and that alcohol use among women exceeded 5% percent only in the northeastern states [3,4]. The present study was undertaken to study the cardiovascular risk factor role of smoking and alcohol and their prevalence in rural population of Tirupathi. If considered and followed Alcohol and smoking are the most important modifiable risk factors of cardiovascular diseases.

MATERIALS AND METHODS

We have selected both male and female subjects (N=734) with age group of 30 years and above age group to estimate the prevalence of smoking and alcohol as cardiovascular risk factors in rural area of Tirupati. Subjects were included in the cross-sectional study by using 20 cluster sampling technique. The study subjects were explained the purpose of the study and informed consent was taken from the subjects. One subject from each house aged 30 years and above is interviewed who is selected randomly from those available at home at the time of study.Respondents who reported smoking at least 100 cigarettes in their lifetime and who, at the time of survey, smoked either every day or some days were defined as Current Smoker. Current use of alcohol is defined as those reporting use of alcohol in the last one month.Cardiovascular risk categorization was assessed according to points table of American Heart Association, 2008. Ethical clearance for this study was accorded by Institutional ethical committee, Sri Venkateswara Medical College, Tirupati.

RESULTS

It was found that 16.9% are current smokers. A majority of them were smoking for 11-20 years (42.7%) and less than or equal to 10 cigarettes per day (47.6%). As much as 41.9% are smoking 11-20 cigarettes per day. The tobacco chewing was found in 9.5% subjects. Current alcohol intake was reported by 19.9% subjects [Table-1]. A majority of them are taking alcohol for 11-20 years (40.4%). It was found that most of them were taking alcohol either occasionally (40.4%) or daily 29.5% [Table-2].The prevalence of smoking has been found to be higher in more than 50 years age, illiterate and primary level of education, not unskilled occupation, currently married, Hindu religion, nuclear family, scheduled caste & tribe and those belonging to lower socioeconomic status[Table-3].. However statistical significance was found with regard to those aged 50 years above, not unskilled occupation and those who are currently married. The prevalence of alcohol intake was found to be higher in those aged more than 50 years, secondary education and above, not unskilled occupation, currently married, Hindu religion, nuclear family, scheduled caste & tribe and those belonging to lower socioeconomic status [Table-4]. However statistical significance was found with regard to age more than 50 years, not unskilled occupation, currently married and those belonging to nuclear family. Based on the prevalence of smoking and alcohol risk factors we assessed the cardiovascular diseases risk and recorded [Table-5].

DISCUSSION

In the present study, the current smoking was found in 16.9% subjects. A comparable prevalence of smoking (19.9%) was reported in a study in rural Andhra Pradesh 2007,rural north India study (19.8%) and Chennai study 22.9% [5].[133] A higher prevalence (39.5%) was reported in a study in rural Karnataka, and in a study in Jaipur (24.3%). Similarly higher prevalence was reported in rural Lucknow (27.9%) and ICMR study 26.7% [6]. A lower prevalence was found in Assam study (12.5%[7]. [137]In the present study, the prevalence of smoking has been found to be higher in 50 & above years age, illiterate and primary level of education, not unskilled occupation, currently married, Hindu religion, nuclear family, scheduled caste & tribe and those belonging to lower socioeconomic status. However statistical significance was found with regard to those aged 50 years & above, not unskilled occupation and those who are currently married. Data from observational studies suggest that passive cigarette smoking produces a small increase in cardiovascular risk whether

reducing exposure to passive cigarette smoke reduces cardiovascular risk has not been directly established[8]. The prevalence of current chewing of tobacco in the present study was found in 9.7% of subjects. Some studies suggest that, about 10 years after stopping smoking, coronary heart disease mortality risk is reduced to that of people who have never smoked [9]. It has also been shown that cigarette smokers who change to a pipe or cigar and those who continue to smoke but reduce the number of cigarettes, have a greater mortality risk than those who quit smoking [10,11]. Evidence from the Inter heart study has highlighted the adverse effects of use of any tobacco product and, importantly, the harm caused by even very low consumption [12]. In the current study, it was found that 19.9% of subjects were taking alcohol currently. The frequency of alcohol intake was found to be mostly occasional (40.4%).In the present study, the prevalence of alcohol intake was found to be higher in those aged more than 50 years, secondary education and above, not unskilled occupation, currently married, Hindu religion, nuclear family, scheduled caste & tribe and those belonging to lower socioeconomic status. However statistical significance was found with regard to age more than 50 years, not unskilled occupation, currently married and those belonging to nuclear family. In a study in rural Lucknow, it was found to be 14.7% [13]. Further, in the present study, it was found that majority of them had been taking alcohol for 11-20 years (40.4%). People who drink heavily have a high mortality from all causes and cardiovascular disease, including sudden death and haemorrhagic stroke. In addition, they may suffer from psychological, social and other medical problems related to high alcohol consumption [14]. In a study in Jaipur, it was found that smoking and alcohol intake both individually and collectively were related to high prevalence of hypertension as well as coronary artery disease [15]. Prevalence of medium and high risk was found to be significantly higher in males (41.8%) than in females (5.5%).In our study the prevalence of smoking and alcohol were high compared to previous literatures indicating the major role in cardiovascular diseases under modifiable risk factors.

Table-1: Details of tobacco use among the subjects (N=734)

S.No		Parameter	No. of subjects	Percentage
1		**Current Smoking**		
	(a)	Yes	124	16.9
	(b)	No	610	83.1
2		**Duration of smoking (years) (N=124)**		
	(a)	< 10	25	20.2
	(b)	11 – 20	53	42.7
	(c)	> 20	46	37.1
3		**Number of cigarettes/beedis/cigars per day (N=124)**		
	(a)	< 10	59	47.6
	(b)	11 – 20	52	41.9
	(c)	> 20	13	10.5
4		**Current Tobacco chewing**		
	(a)	Yes	70	9.5
	(b)	No	664	90.5

Table-2: Details of Alcohol intake among the subjects (N=734)

S.No		Parameter	No. of subjects	Percentage
1		**Current alcohol intake**		
	(a)	Yes	146	19.9
	(b)	No	588	80.1
2		**Duration of alcohol intake (years) (N=146)**		
	(a)	< 10	50	34.3
	(b)	11 – 20	59	40.4
	(c)	> 20	37	25.3
3		**Frequency of Alcohol intake (N=146)**		
	(a)	Daily	43	29.5
	(b)	2-3 times a week	32	21.9
	(c)	Weekly once	12	8.2
	(d)	Occasionally	59	40.4

Table-3: Relationship between Smoking with certain socio-demographic factors

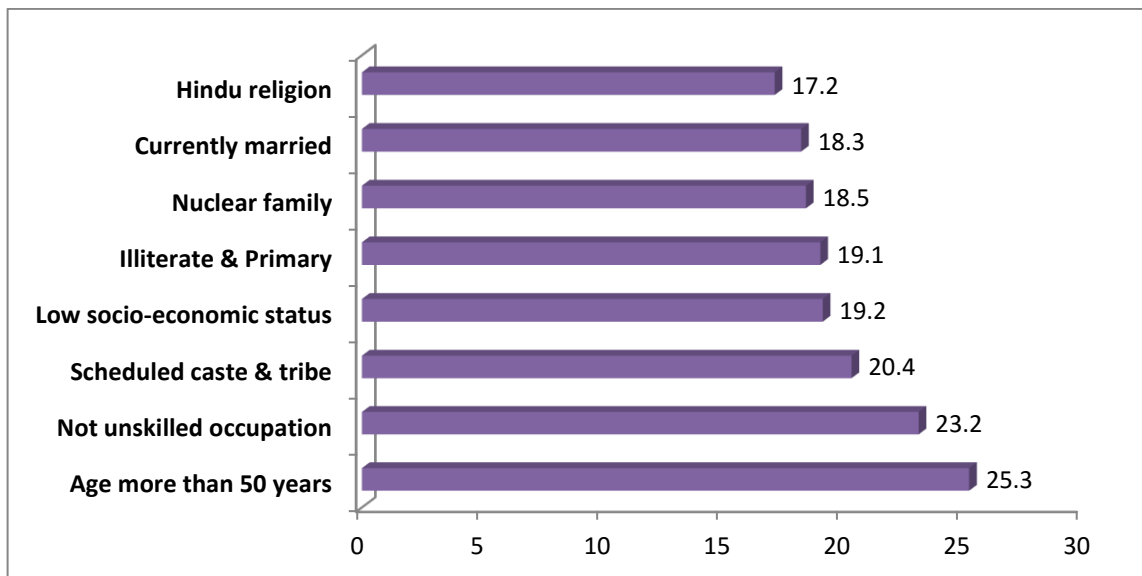| S.No	Factor	Prevalence of Smoking (%)	Odds ratio and 95% CI	Statistical significance
1.	Age 50 years & above	60 / 237 (25.3)	2.29 (1.55 – 3.40)	$\chi2$=17.7; P<0.001 ;S
2.	Illiterate & Primary	72 / 376 (19.1)	1.39 (0.94 – 2.06)	$\chi2$=2.79; P=0.09 ;NS
3.	Not unskilled occupation	63 / 272 (23.2)	1.98 (1.34 – 2.93)	$\chi2$=12.1; P<0.001 ;S
4.	Currently married	117 / 639 (18.3)	2.82 (1.27 – 6.24)	$\chi2$=7.05; P=0.008 ;S
5.	Hindu religion	119 / 690 (17.2)	1.63 (0.63 – 4.21)	$\chi2$=1.02 P=0.31 ;NS
6.	Nuclear family	87 / 470 (18.5)	1.39 (0.92 – 2.12)	$\chi2$=2.43 P=0.12 ;NS
7.	Scheduled caste & tribe	33 / 162 (20.4)	1.35 (0.87 – 2.11)	$\chi2$=1.79; P=0.18 ;NS
8.	Low socio-economic status	66 / 343 (19.2)	1.37 (0.93 – 2.01)	$\chi2$=2.53 P=0.11 ;NS

Table-4: Relationship between Alcohol intake with certain socio-demographic factors

| S.No	Factor	Prevalence of Alcohol intake (%)	Odds ratio and 95% CI	Statistical significance
1.	Age 50 years & above	55 / 237 (23.2)	1.87 (1.26 – 2.78)	$\chi2$=9.94; P<0.001 ;S
2.	Secondary education & above	72 / 358 (20.1)	1.03 (0.71 – 1.48)	$\chi2$=0.02; P=0.88 ;NS
3.	Not unskilled occupation	75 / 272 (27.6)	2.10 (1.45 – 3.03)	$\chi2$=16.0; P<0.001 ;S
4.	Currently married	139 / 639 (21.8)	3.49 (1.58 – 7.72)	$\chi2$=10.7; P<0.001 ;S
5.	Hindu religion	139 / 690 (20.1)	1.33 (0.58 – 3.05)	$\chi2$=0.47; P=0.49 ;NS
6.	Nuclear family	105 / 470 (22.3)	1.56 (1.05 – 2.33)	$\chi2$=4.92; P=0.03 ;S
7.	Scheduled caste & tribe	39/ 162 (24.1)	1.38 (0.91 – 2.09)	$\chi2$=2.28; P=0.13: NS
8.	Low socio-economic status	70 / 3431 (20.4)	1.06 (0.74 – 1.53)	$\chi2$=0.11; P=0.74 ;NS
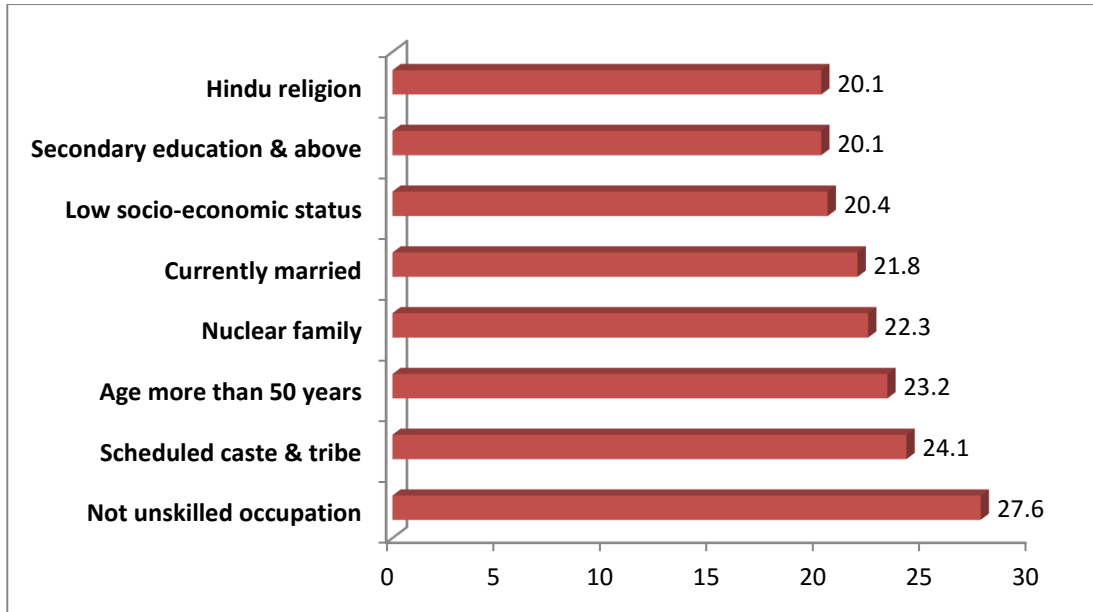
Table -5: Cardiovascular risk categorization compared between male and female subjects

Cardiovascular risk category	Males (%)	Females (%)	Total (%)
Low (less than 10 %)	217 (58.5)	341 (94.4)	558 (76.0)
Medium (10 – 20%)	58 (15.5)	14 (3.9)	72 (9.8)
High (Above 20%)	98 (26.3)	6 (1.7)	104 (14.2)
Total	**373 (100.0)**	**361 (100.0)**	**734 (100.0)**
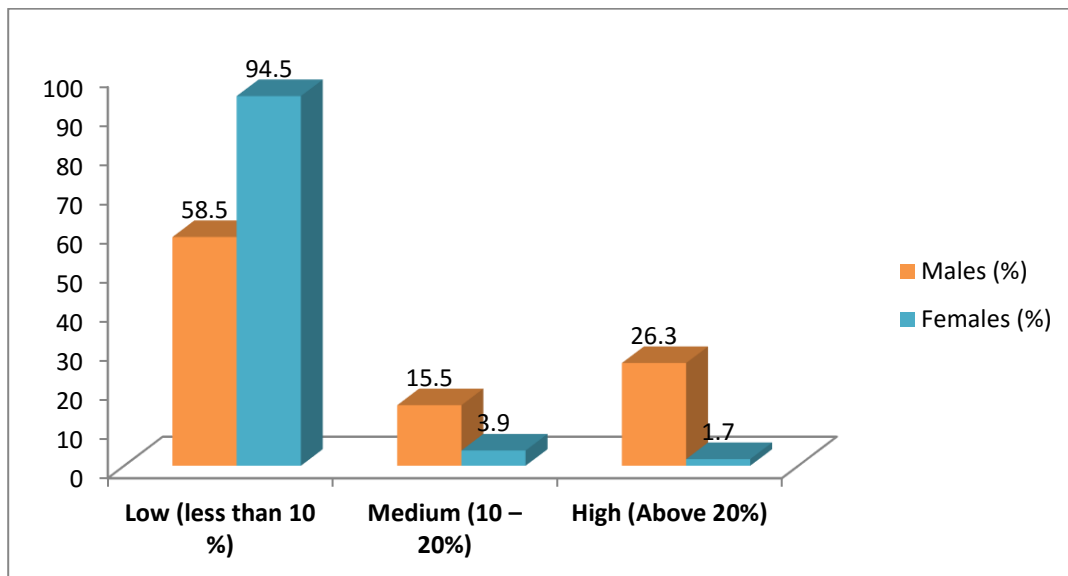
CONCLUSION

The present study reveals that Alcohol and Smoking are the most important cardiovascular risk factors as well as highly modifiable risk factors in Cardiovascular Diseases.

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