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Original Research Article

A study on prevalence of various risk factors associated with cardiovascular diseases in urban and rural areas of Dharwad region

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ABSTRACT

Background: Prevalence of risk factors for cardiovascular diseases is routinely carried out in developed countries. The aim was to study the prevalence of risk factors associated with cardiovascular diseases in urban and rural areas of Dharwada population.
Methods: A total of 652 subjects (male-328; female-324) with an age group 15-64 years from rural and urban areas of Dharwad population were selected for the present study. Pregnant women, severe chronic illness, bedridden patients and subjects who refused to participate in the study were excluded from the study. Age-sex, religion educational status, and occupation, type of family, socioeconomic status followed by a questionnaire on the use of tobacco, alcohol were collected and tabulated.
Results: Subjects with tobacco smoking habit were 30 (9.2%) in the urban area which was more in comparison to 11 (3.4%) in the rural area. In the urban area, tobacco usage was more among males (62.9%) and unemployed (55.9%) and it was found to be statistically significant ($p<0.05$). In the rural area, tobacco usage was more among 40-64 years age group (39.4%), males (61.6%), literates (39.4%), employed (48.8%) and lower socioeconomic group (39.2%) and it was found to be statistically significant ($p<0.05$). The alcohol consumption habit among the study subjects was more in the age group of 40-64 years in both urban (18.3%) and rural (9.6%) area and they were found to be statistically significant.
Conclusions: Consumption of tobacco, alcohol is the major risk factor in the management of cardiovascular diseases in the urban and rural population.

Keywords: Alcohol, Cardiovascular risk, Tobacco

INTRODUCTION

Non-communicable diseases (NCDs) are responsible for 63% of all the deaths worldwide.[1] It is estimated currently that, of every 10 deaths, 6 are attributable to non-communicable diseases.[2] NCDs are estimated to account for 53% of all deaths; among them 24% of deaths are due to cardiovascular diseases.[3] Cardiovascular diseases (CVDs) are caused by disorders of the heart and blood vessels. They includes coronary heart disease (heart attack), cerebrovascular disease (stroke), raised blood pressure (hypertension), peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure.[4] Mortality rates of CVDs are due to the consequence of previous exposure to behavioral risk factors like tobacco, alcohol, inappropriate diet, physical inactivity and biological risk factors such as obesity, hypertension, diabetes and dyslipidemia.[4,5] The present study aims at prevalence of risk factors associated with cardiovascular diseases in urban and rural areas of Dharwad population.

METHODS

652 subjects (male-328; female-324) with an age group 15-64 years from rural and urban areas of Dharwad population was selected for the present study during 2012-2013 in urban and rural field-practice areas of SDMCMSH, Dharwad, Karnataka. Pregnant women, severe chronic ill ness, bedridden patients and subjects who refused to participate in the study were excluded from the study. Health education and counselling regarding the risk factors of cardiovascular diseases and prevention of risk factors for those who have been diagnosed or having risk factors were provided to all the respondents. Age sex, religion educational status and occupation, type of family, socio economic status followed by questionnaire on use of tobacco, alcohol were collected and tabulated. The nature and purpose of the study were explained to them in their own language. Confidentiality was assured, local cultural values and ideas were respected. Informed written consent was taken from each subject before interview. The present study was in clearance with Institutional ethical committee, SDMCMSH, Dharwad.

RESULTS

Out of 652 subjects 50.3% were males and 49.7% were females in the present study. In urban area females were more 53.7% and in rural area males were more 54.3%. In the present study regarding gender wise distribution among study subjects it was observed that in urban area, females 175 (53.7%) were more compared to males 151 (46.3%). In rural area 177 (54.3%) were males and females 149 (45.7%) (Table 1). In urban area majority 85 (26.1%) study subjects were in 25-34 years age group, in rural area majority, 95 (29.1%) study subjects were in 55-64 years age group (Table 2). Majority of study subjects, 181 (55.5%) in urban area were unemployed and majority, 161 (50.0%) in rural area were semiskilled (Table 3). Subjects with tobacco smoking habit were 30 (9.2%) in urban area which was more in comparison to 11 (3.4%) in rural area (Table 4). Subjects with smokeless tobacco consuming habit were 100 (30.7%) in rural area which was more in comparison to 76 (23.3%) in urban area (Table 5). Subjects with tobacco usage habit were 111 (34%) in rural area which was marginally higher in comparison to 106 (32.5%) in urban area. The mean age of initiation of smoking was 23.20±4.83 years in urban and 23.30±4.47 years in rural area. The mean age of initiation of smokeless tobacco use was 24.29±7.44 years in urban and 23.86±6.54 years in rural area. In urban area tobacco usage was more among males (62.9%) and unemployed (55.9%) and it was found to be statistically significant (Table 6). Subjects with habit of alcohol consumption were 33 (10.1%) in urban area which was more in comparison to 20 (6.1%) in rural area. The alcohol consumption habit among the study subjects was more in the age group of 40-64 years in both urban (18.3%) and rural (9.6%) area and they were found to be statistically significant ($p<0.05$). In urban area, alcohol consumption habit was more prevalent among employed (18.6%) and it was found statistically significant (Table 7).

Table 1: Gender wise distribution of study subjects in urban and rural area.

Gender	Urban no. (%)	Rural no. (%)	Total no. (%)
Male	151 (46.3)	177 (54.3)	328 (50.3)
Female	175 (53.7)	149 (45.7)	324 (49.7)
Total	326 (100.0)	326 (100.0)	652 (100.0)

Table 2: Age wise distribution of study subjects in urban and rural area.

Age group (years)	Urban no. (%)	Rural no. (%)	Total no. (%)
15–24	40 (12.3)	22 (6.7)	62 (9.5)
25–34	85 (26.0)	68 (20.9)	153 (23.5)
35–44	69 (21.2)	86 (26.4)	155 (23.8)
45–54	57 (17.5)	55 (16.9)	112 (17.2)
55–64	75 (23.0)	95 (29.1)	170 (26.0)
Total	326 (100.0)	326 (100.0)	652 (100.0)

Table 3: Distribution of study subjects according to occupation in urban and rural area.

Occupation status	Urban no. (%)	Rural no. (%)	Total no. (%)
Unemployed	181 (55.5)	113 (34.7)	294 (45.1)
Unskilled	48 (14.7)	23 (7.0)	71 (10.9)
Semiskilled	13 (4.0)	163 (50.0)	176 (27.0)
Skilled	45 (13.8)	12 (3.7)	57 (8.7)
Semi professional	39 (12.0)	15 (4.6)	54 (8.3)
Total	326 (100.0)	326 (100.0)	652 (100.0)

Table 4: Prevalence of smoking of tobacco among study subjects in urban and rural areas.

Smoking	Urban no. (%)	Rural no. (%)	Total no. (%)	χ2 (p value)
Users (current and past)	30 (9.2)	11 (3.4)	41 (6.3)	9.396 p=0.0022*
Never users	296 (90.8)	315 (96.6)	611 (93.7)	
Total	326 (100.0)	326 (100.0)	652 (100.0)	

Table 5: Prevalence of usage of smokeless tobacco in study subjects in urban and rural area.

Smoking	Urban no. (%)	Rural no. (%)	Total no. (%)	χ2 (p value)
Users	76 (23.3)	100 (30.7)	176 (27.0)	4.483 p=0.0342*
Never users	250 (76.7)	226 (69.3)	476 (73.0)	
Total	326 (100.0)	326 (100.0)	652 (100.0)	

Table 6: Prevalence of tobacco usage in urban and rural area.

Smoking	Urban no. (%)	Rural no. (%)	Total no. (%)	χ2 (p value)
Users	106 (32.5)	111 (34.0)	217 (33.3)	0.173 p=0.677
Never users	220 (67.5)	215 (66.0)	435 (66.7)	
Total	326 (100.0)	326 (100.0)	652 (100.0)	

Table 7: Prevalence of alcohol consumption among study subjects in urban and rural area.

Alcohol consumption	Urban no. (%)	Rural no. (%)	Total no. (%)	χ2 (p value)
Present	33 (10.1)	20 (6.1)	53 (8.1)	3.471 p=0.0625
Absent	293 (89.9)	306 (93.9)	599 (91.9)	
Total	326 (100.0)	326 (100.0)	652 (100.0)	

DISCUSSION

Integrated disease surveillance project non-communicable disease (IDSP-NCD) risk factor survey in Andhra Pradesh reported an incidence of 43.7% of males, 56.3% of females in their study.[6,7] More number of study subjects were in 55-64 years age group in both urban and rural areas and the findings were similar with previous literature.[8,9] Majority subjects were Hindus (85.6%), Muslims (8.6%) in rural Bangalore study and the findings were similar to present study.[7,10] According to IDSP-NCD risk factor survey urban illiterates(26.1%) and rural illiterates (52.3%) with an incidence of 45% was noted.[11] Subjects were unskilled workers (37.8%) in urban area which was more when compared to 29.9% in rural area which is similar to the present study.[12] 50% of the study subjects belonged to lower middle and upper lower class and this findings was similar to present study.[6] Literature stated that majority of individuals were married with an incidence of 77% of study participants were married. The findings were similar to present study.[11,13] An incidence of 55% of subjects belonged to joint family in rural area, more when compared to urban area and 54.1% of the study subjects belonged to nuclear family in urban area more when compared to rural area.[14] Smoking prevalence in rural area was 17.2% and in urban area 15% in Karnataka population and the findings were in contrast with the present study may be due to less sample size.[15] Prevalence of smokeless tobacco was 13.1% showed less when compared to the present study.[16] An incidence of 35% of adults use tobacco, urban area usage was 37.5%, rural 52.3% by the Global Adult Tobacco Survey (GATS) and the findings are in contrast with the present study.[17] Tobacco usage was higher in males compared to females which is in agreement with present study findings.[18,19] There was an increase in alcohol use with age and found significant whereas alcohol use was more common in lower socioeconomic group.[20] The prevalence of alcohol consumption was 23.1% in urban area and 10.1% in rural area. The findings were in contrast with the present study. Alcohol consumption was seen in men (37.7%) in a study conducted in rural Maharashtra and the incidence was higher compared to present study.[12,18]

CONCLUSION

Prevalence of tobacco use, consumption of tobacco, use of alcohol is the major risk factors in management of cardiovascular diseases in urban and rural areas.

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