Research Article

Tobacco and alcohol use in elderly population of rural India

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ABSTRACT

Background: Tobacco and alcohol are among the most widely abused psychoactive substances among elderly population, especially in rural areas. Fewer research in this domain leads to the conduction of this study. **Objectives:** The present study was conducted in rural geriatrics to know the prevalence of smoking and alcohol and to find their association with various sociodemographic factors. **Materials and Methods:** Eight villages of RS Pura block were selected using multistage random sampling technique. Men and women aged 60 years and above were interviewed using predesigned questionnaire which included questions on sociodemographic, smoking, and alcohol consumption status. **Results:** Nearly 518 persons were interviewed of whom 53.5% were females. 33.20% were smokers and 11.39% were ex-smokers with high prevalence in males 54.35%. 7.47% of the men and 6.86% were current tobacco chewers. 19.30% respondents were current alcoholics, whereas 4.25% were ex-alcoholics. 38.59% males and only 2.53% females were alcoholic. There was a progressive decline in a number of smokers with advancing age. Majority of men were moderate-to-light smokers (42.75% and 37.40%, respectively) and only 19.85% were heavy smokers. **Conclusion:** More knowledge needs to be acquired about factors that have a bearing on cessation. Medical and family support to those willing to quit will play a pivotal role.

KEY WORDS: Tobacco; Alcohol; Elderly

INTRODUCTION

Tobacco and alcohol are among the most widely abused psychoactive substances across the world, with tobacco more common than alcohol. Smoking has been associated with a number of morbid conditions which can be fatal. Mortality rates have been reported to be twice among elderly who smoked tobacco compared to nonsmokers.[1] There are over 50 diseases that are caused, increased, or exacerbated by smoking.[2] Tobacco use has been well documented as a significant cause of mortality and morbidities including cardiovascular disease, peripheral vascular disease, cerebrovascular disease, cancer, and chronic obstructive pulmonary disease among the elderly population.[3] As per available estimates, there are 1.3 million smokers and 2 billion alcohol users in the world. The World Health Organization (WHO) estimates that 4.9 million deaths (8.8%) and 59.1 million disability-adjusted life years (DALYs) (4.1%) are attributable to tobacco use every year. Unless the current trends are reversed, the figure is expected to rise to 10 million deaths per year by the 2020s or early 2030s, with 7 million (70%) of these deaths occurring in developing countries, mainly in China and India.[4]

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In India, 14% of population aged above 15 years smoke tobacco (24% for men and 3% for women).[5] Smoking is already responsible for about 1 in 5 deaths for men and 1 in 20 deaths for women at ages 30-69.[6]

Although many of the alcohol-related health effects have been recognized recently, the use of alcohol in human life

is very old. There is a causal relationship between alcohol consumption and more than 60 types of diseases and injury. Worldwide, alcohol is estimated to cause about 20-30% of esophageal cancer, liver cancer, cirrhosis of the liver, homicide, epilepsy, and motor vehicle accidents. Worldwide, 1.8 million deaths and 58.3 million DALYs are attributed to the use of alcohol. Thus, consumption of alcohol is a cause of concern to minimize these problems.[4]

The different forms of tobacco consumed in India are smoking tobacco such as beedi, cigarette, hookah (hubble-bubble), and cigar; chewable tobacco such as gutka and khaini; applying tobacco such as gul; and other forms such as tobacco-containing tooth powder/toothpaste and snuff.

During the review of literature, it was found that majority of studies on the use of tobacco and alcohol were conducted in adolescent and youngsters and focused on the prevention of these problems. There were fewer studies conducted in geriatric population regarding the use of these substances. A few community-based rural studies[7,8] have reported the prevalence of 31-42% and 10% for the use of tobacco and alcohol, respectively, in the geriatric population. As per the estimates, three-fourth of geriatric population is residing in the rural area of India, and it is imperative to know the prevalence rates of tobacco and alcohol in this group of population. Educational efforts directed toward the cessation of tobacco and alcohol use have the implication of slowing down the incidence of cardiovascular, pulmonary, malignant as well as mental health problems.

It was in this context that the present study was conducted in rural geriatrics to know the prevalence of smoking and alcohol and to find their association with various sociodemographic factors.

MATERIALS AND METHODS

After taking prior approval from the Institutional Ethics Committee, this community-based cross-sectional study was conducted in the villages of RS Pura block of Jammu District of Jammu and Kashmir State, India, for a duration of 6 months (January-June 2013). The RS Pura block is a field practice area of Community Medicine Department, Government Medical College, Jammu, Jammu and Kashmir, India.

Eight villages of RS Pura block were selected using multistage random sampling technique. Men and women aged 60 years and above, residing in the village for a period of 1 year, and willing to participate were included in the study. During house-to-house visit if participants were found to be absent, the second visit was made within 5 days. Those who could not be contacted even after second visit were excluded from the study. Elderly with cognitive defects were also excluded from the study. Personal interviews were conducted in the local dialect in the respective homes of the respondents. Wherever necessary, the participants were referred for further examination/investigation and treatment.

All the participants were interviewed using predesigned and pretested questionnaire which included questions pertaining to demographic characteristics and tobacco and alcohol consumption history.

Smoking status was defined according to the WHO classification.[9] Ex-smokers were defined as persons who have smoked daily for at least 6 months and did not smoke at the time of the survey. Current smokers who smoked 1 beedi/cigarette/day, 5 beedis/cigarettes/day, 6-20 beedis/cigarettes/day, and >20 beedis/cigarette/day were classified as daily or regular smokers, light smoker, moderate smoker, and heavy smoker, respectively.

Alcohol users were classified as past and current users. Past users were defined as persons who had consumed alcohol at least once during their lifetime but had not done so for a period of 1 year preceding the survey. Current users were those who had consumed alcohol at least once during the past 1 year preceding the time of the interview. Current users were further classified as occasional and regular users. Occasional users were defined as persons who consumed alcohol less often than once a week. Individuals who had consumed alcohol at least once a week, or several times a week, or on a daily basis, and more than one time in a day were classified as regular users. The data so collected were compiled, tabulated, and analyzed using appropriate statistical tests.

RESULTS

A total of 518 persons were interviewed of whom 53.5% were females.

Tobacco Smoking

Of the total respondents, 33.20% were smokers and 11.39% ex-smokers. The prevalence of smoking was high in males as compared to females (54.35% vs. 14.81%), and this difference was found to be statistically significant ($P < 0.01$). Only 7.47% of the men and 6.86% were current tobacco chewers (Table 1).

Alcohol Use

The results have revealed that majority of the respondents (76.45%) had never consumed alcohol in their life. 19.30% respondents were found to be current alcoholics, whereas 4.25% were ex-alcoholics. Among the current alcoholics, 38.59% were males and only 2.53% were females and this difference was found to be statistically significant ($P < 0.01$) (Table 1).

Patterns of Smoking

The results show that 22.14% of the males were smoking cigarettes in comparison to 4.88% of the females (Figure 1). As far as beedi smoking was concerned, it was seen as a prominent habit among the females (87.80%). Hookah/chillum was used by 9.92% and 7.32% by males and females, respectively. The association between type of smoking and sex of respondents was statistically significant ($P < 0.05$).

Level of Smoking in Relation to Age and Sex

Majority of the smokers in both sexes were found in the 60-69 years age group, and there was a progressive decline in a number of smokers with advancing age. Majority of men were moderate-to-light smokers (42.75% and 37.40%, respectively) and only 19.85% were heavy smokers (Table 2). The proportion of heavy smokers decreased from 21.74% in 70-79 years age group to 16.67% in >80 years of age. However, there was an upward trend in light smokers from 30.38 in 60-69 years age group to 66.67% in >80 years age group. Majority of the females were limited to light smoking (48.78%).

Table 3 shows the relationship between current tobacco use and various sociodemographic variables. There was a decline in the proportion of participants consuming tobacco as the age increased. Lower literacy levels, lower middle socioeconomic status, people living in joint families, married as well as widow were found to be consuming tobacco in higher proportion in contrast to others. This difference was statistically significant for literacy levels and marital status ($P < 0.05$). When similar relationship for alcohol was observed, it was found to be statistically significant for literacy, family type, and marital status ($P < 0.05$).

DISCUSSION

The prevalence rate of 33.20% for smoking was found in the current study, and rate of smoking was four times higher in males in comparison to females. Smoking is a common phenomenon in the rural hinterlands of India among the male folks,[7,8,10,11] and high rates of smoking have also been reported in other developing nations.[12-14] Our results are in agreement with those reported by Udayar et al.[15] who reported a prevalence of 37.21% of tobacco smoking. Higher rates of smoking in males have been ascribed to early initiation of smoking habits, influence of peer pressure, and social norm of offering beedis/cigarettes at gatherings in rural areas. Another important aspect of rural smokers is that while working in their fields, they take a break and go for an interaction as well as smoking. Only 9.92% of male smokers and 7.32% of female smokers were hookah smokers which were once a more prevalent custom in the chaupals of Indian villages but now showing a discernible declining trend.

Table 1: Prevalence of tobacco and alcohol use among study population

Type and mode of consumption	*N* (%)			*P* value
	Males	Females	Total	
Tobacco smoking				
Nonsmokers	74 (30.71)	213 (76.89)	287 (55.41)	<0.01
Current smokers	131 (54.35)	41 (14.81)	172 (33.20)	
Ex-smokers	36 (14.94)	23 (08.30)	59 (11.39)	
Tobacco chewing				
Never consumed	217 (90.04)	248 (89.53)	465 (89.77)	0.74
Currently consuming	18 (07.47)	19 (06.86)	37 (07.14)	
Past history of consumption	6 (02.49)	10 (03.61)	16 (03.09)	
Alcohol use				
Nonalcoholic	128 (53.12)	268 (96.75)	396 (76.45)	<0.01
Current alcoholic	93 (38.59)	7 (02.53)	100 (19.30)	
Ex alcoholic	20 (8.29)	2 (00.72)	22 (04.25)	

Table 2: Pattern of current smoking in different age groups

Age group	*N*	Light	Moderate	Heavy
Males				
60-69	79	24 (30.38)	40 (50.63)	15 (18.99)
70-79	46	21 (45.65)	15 (32.61)	10 (21.74)
>80	6	4 (66.67)	1 (16.66)	1 (16.67)
Total	131	49 (37.40)	56 (42.75)	26 (19.85)
Females				
60-69	26	14 (53.85)	8 (30.77)	4 (15.38)
70-79	10	5 (50.00)	3 (30.00)	2 (20.00)
>80	5	1 (20.00)	3 (60.00)	1 (20.00)
Total	41	20 (48.78)	14 (34.15)	7 (17.07)

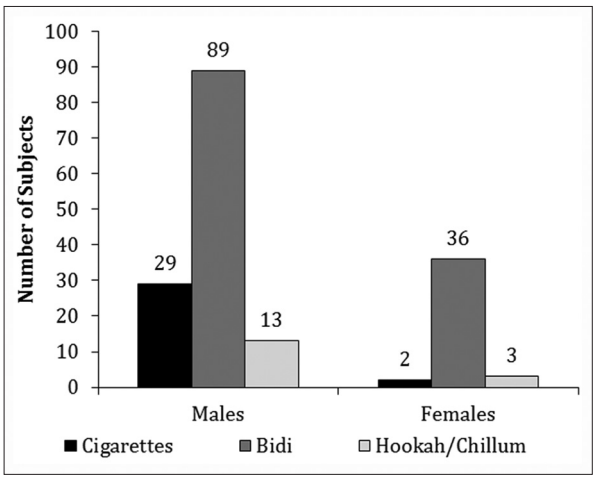

Figure 1: Smoking patterns in the study population

The data have shown a progressive decline in a number of smokers as the age advances. Half of the males in 60-69 years were moderate smokers, whereas 53.85% of females in 60-69 years age group were light smokers. The results

Table 3: Association between current tobacco use and various sociodemographic factors

Sociodemographic variables	Current tobacco use *N* (%)				Current alcohol use *N* (%)			
	Yes	No	χ^2	*P* value	Yes	No	χ^2	*P* value
Age (years)								
60-69	130 (41.67)	182 (58.33)	0.58	0.74	68 (21.79)	244 (78.21)	3.12	0.20
70-79	66 (38.15)	107 (61.85)			27 (15.61)	146 (84.39)		
≥80	13 (39.39)	20 (66.61)			5 (15.15)	28 (84.85)		
Education								
Illiterates	152 (44.44)	190 (55.56)	7.92	0.047	43 (12.57)	299 (87.43)	29.45	0.000
Up to middle	37 (35.24)	68 (64.76)			33 (31.43)	72 (68.57)		
Up to matric	13 (28.89)	32 (71.11)			15 (33.33)	30 (66.67)		
HSC and above	7 (26.92)	19 (73.08)			9 (34.62)	17 (65.38)		
Socioeconomic status								
Upper	11 (30.56)	25 (69.44)	6.15	0.187	8 (22.22)	28 (77.78)	2.09	0.187
Upper middle	65 (35.52)	118 (64.48)			35 (19.13)	148 (80.87)		
Lower middle	97 (44.91)	119 (55.09)			37 (17.13)	179 (82.87)		
Upper lower	29 (46.03)	34 (53.97)			15 (23.81)	48 (76.19)		
Lower	7 (35.00)	13 (65.00)			5 (25.00)	15 (75.00)		
Family type								
Nuclear	54 (42.52)	73 (57.48)	0.32	0.56	36 (28.35)	91 (71.65)	8.82	0.002
Joint	155 (39.64)	236 (60.36)			64 (16.37)	327 (83.63)		
Marital status								
Married	107 (31.19)	236 (68.81)	42.7	0.000	45 (13.11)	298 (86.89)	27.31	0.000
Un-married	15 (46.88)	17 (53.12)			13 (40.63)	19 (59.37)		
Widow/widower	79 (64.75)	43 (35.25)			35 (28.69)	87 (71.31)		
Divorcee	8 (38.09)	13 (61.91)			7 (33.33)	14 (66.67)		

concur with those reported by Goswami et al.[16] Cessation of smoking due to respiratory problems could be one reason for the declining trend of smoking with age. Another possible reason could be disparity due to higher mortality among smokers or higher survival of nonsmokers.

In the current study, 19.30% of the geriatrics were found to be currently consuming alcohol. Similar results were reported by Gupta et al.[17] from a study in Western India. However, lower rates to the tune of 4% were reported by Mini et al.[18] and 8.5% by Goswami et al.[16] In contrast, a rural Iowa study reported a very high prevalence of alcohol use (51%) among elderly.[19] These differences in the current alcohol intake are best explained due to variations in sociocultural milieu across the world.

Sex-wise intake of alcohol was 38.59% and 2.53% for males and females, respectively. Goswami et al.[16] reported 16.3% of the men and 0.8% of the women consumed alcohol. Udayar et al.[15] reported 28.7% and 0.9% as the current alcohol use among the male and female geriatrics in his study. This gender difference could be due to social factors and perception of alcohol being a means of recreation after hard labor in the fields. Furthermore, alcohol intake is a taboo among Indian females, more so in rural areas.

Majority of smokers and alcoholic geriatrics were with low literacy levels, widower, and belonged to lower middle class. This indicates the role of various sociocultural as well as economic factors which have a bearing on the burden of addiction problem among the elderly in rural areas.

Limitations

The current study is a cross-sectional one and sample size being small lacks generalizability. Further underreporting by the respondents may be another limitation along with possibility of recall bias among elderly.

CONCLUSION

High rates of smoking as well as alcohol consumption in the rural geriatrics in the current study are a cause of concern. An environment needs to be created to help those who want to quit smoking and alcohol, e.g. provision, of cessation services. It is imperative that health workers make aware the people about ill effects of smoking and alcohol by individual and group discussions at community levels and encourage them to adopt healthy lifestyles. The role of religious preachers to quit smoking and drinking has greater influence, more so in rural areas. More knowledge needs to be acquired about

factors that have a bearing on cessation. Medical support needs to be prov16.28 pt

ided to those willing to quit and to overcome withdrawal symptoms. It would be pertinent to add the pivotal role provided by the family in overcoming smoking as well as alcohol consumption.

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