A study of tobacco and alcohol consumption among the elderly population residing in field practice areas of a Tertiary Care Institute

Manish Jain¹, Kapil Garg², Rohit Jain³, Manoj Dudi⁴, Pankaj Kumar Gupta⁵

ABSTRACT

Introduction: Tobacco and alcohol use are serious public health problems in many countries including India because of the associated health hazards. It is essential to bring down the health related risk behaviors among elderly population for promotion and prolongation of healthy life.

Objective: To assess health related risk behaviors viz. smoking, alcohol and tobacco consumption among the geriatric population and making comparison of rural and urban elderly people.

Material and method: A pretested, semi-structured questionnaire pertaining to socio-demographic information and three common risk behaviour practices i.e. smoking, smokeless tobacco use and alcohol consumption was used for data collection.

Results: Overall, 9.6% rural and 6.8% urban elderly were current alcohol users. 19.6% rural and 12.8% urban elderly were current smokers while 20.4% rural and 14.0% urban elderly were current smokeless tobacco users. Proportions of males were significantly higher among tobacco user elderly participants in both rural and urban areas. Proportions of rural elderly were significantly higher among tobacco chewers.

Conclusion: Overall prevalence of health risk behaviors was high among the study population. No significant difference found between rural and urban elderly people in relation to habit of smoking and alcohol consumption.

Key Words: Tobacco, Alcohol, Smoking, Risk Behaviors

Introduction

Tobacco and alcohol use are serious public health problems in many countries including India because of the associated health hazards. Smoking causes a vast spectrum of diseases, many of which could result in death. There are over 50 diseases that are caused, increased or exacerbated by smoking.¹

World Health Organization reports that the consumption of tobacco has been growing at the rate of 2% to 5% per annum and six million people are currently estimated to die annually from tobacco use. Tobacco use accounts for 7% of all female and 12% of all male deaths globally and it is projected to increase to 8 million deaths per year by 2030, or 10% of all deaths projected to occur that year.²

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There is a casual relationship between alcohol consumption and more than 60 types of diseases and injury. 20%–30% of esophageal cancer, liver cancer, and cirrhosis of the liver, homicide, epilepsy and motor vehicle accidents are caused by alcohol use. Worldwide, 1.8 million deaths and 58.3 million DALYs are attributed to the use of alcohol.

Ageing is a natural and inevitable process. For the past century and more mankind has been adding years to life. Approximately 142 million people or 8% of the population of WHO's South-East Asia Region are above the age of 60 years. The number of aged people will double by 2025 and triple by 2050 compared to 2000. According to the 2011 census, India has 104 million elderly persons (defined as 60 years and above), constituting 8.6% of the total population. The expectancy of life at birth in India during 1996-2001 was 62.3 years for males and 63.39 years for females. The projected data for the periods 2011-2016 are 67.04 and 68.8 years respectively for males and females.

It is essential to bring down the health related risk behaviors among elderly population for promotion and prolongation of healthy life. Most of the studies on health risk behaviors have been carried out among adolescents and adults. Studies focusing on the smoking, alcohol and tobacco consumption among geriatric populations are infrequent and limited. With this background, the present study was conducted to assess health related risk behaviors viz. smoking, alcohol and tobacco consumption among the geriatric population and making comparison of rural and urban elderly people in southern Rajasthan.

**Material and Method**

A Cross-sectional study was conducted from January, 2015 to December, 2015 at Rural and Urban health training centers of Department of Community Medicine, RNT Medical College, Udaipur, Rajasthan. Urban Health Training Center is located 2 km away from RNT Medical College in Dhanmandi area and Rural Health Training Center is located 38 km away from RNT Medical College in Vallabhnagar area. Study population comprised of elderly people aged 60 years or more, residing for a period of six months in rural area Vallabhnagar and urban area Dhanmandi. Overall 250 elderly persons aged 60 years and above, attending outpatient departments of Rural and Urban health training centers and who were willing to participate in the study, were selected from each field practice area for the present study. Study participants were fully explained in detail about the nature of the study and written informed consent was also obtained. A pretested, semi-structured questionnaire was used for collection of socio-demographic data and information about three common risk behaviour practices i.e. smoking, smokeless tobacco use and alcohol consumption. Study was anonymous and full audio visual privacy was maintained during data collection.

**Ethical** approval was obtained from the Institutional Ethical Committee before the study. Current smokers were defined as all those who gave the history of smoking any tobacco product either daily or occasionally at the time of survey. Those who had given up smoking for more than one year were labeled as past-smokers. Never smokers were defined as persons who never smoked a tobacco product in their lifetime. Similarly, current smokeless tobacco users were defined as those who were consuming chewable tobacco products: khaini (tobacco-lime mixtures), gutkha (tobacco with betel nut, lime, and flavorings), naswar (snuff), or zardapaan or any other form of tobacco either daily or occasionally. Current alcohol users were defined as who at the time of...
survey consume alcohol either daily or occasionally. Past users were defined as persons who had consumed alcohol in past but had not done so for a period of one year preceding the survey. Data was entered in MS excel 10 and analyzed using epi info 7 software. Chi square test was applied as statistical test and p value <0.05 was considered as statistical significant

**Results**

Among 250 elderly from urban area 133 (53.2%) were male and 117 (46.8%) were female. Out of 250 rural elderly people, 153 (60.8%) were male and 97 (39.2%) were female. Among rural participants, 24 (15.7%) males were current alcohol users either regular or occasional. 21 (13.7%) males reported alcohol consumption in past but currently they were not consuming alcohol since at least 1 year. Among urban geriatric participants, 17 (12.8%) males were current alcohol users and 19 (14.3%) males were past alcohol users. None of the elderly female participants reported alcohol consumption either in past or in current in both rural and urban area. No significant difference found between rural and urban elderly people in relation to habit of alcohol consumption (Table 1).

**Table -1: Distribution of study subjects according to habits of alcohol consumption**

<table>
<thead>
<tr>
<th>Alcohol Users</th>
<th>Rural (n=250)</th>
<th>Urban (n=250)</th>
<th>Total (n=250)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (%)</td>
<td>Female (%)</td>
<td>Male (%)</td>
</tr>
<tr>
<td>Never</td>
<td>108 (70.6)</td>
<td>97 (100.0)</td>
<td>205 (82.0)</td>
</tr>
<tr>
<td>Current</td>
<td>24 (15.7)</td>
<td>0 (0.0)</td>
<td>24 (9.6)</td>
</tr>
<tr>
<td>Past</td>
<td>21 (13.7)</td>
<td>0 (0.0)</td>
<td>21 (8.4)</td>
</tr>
</tbody>
</table>

$\chi^2 = 1.488; \text{ df } = 2; \text{ p = 0.475}$

Among the rural participants, 43 (28.1%) males and 8 (8.2%) females were chewing tobacco at the time of study either daily or occasionally. 24 (15.7%) males and 3 (3.1%) females were past users of smokeless tobacco. Among urban geriatric participants, 28 (21.1%) males and 7 (6.0%) females were current tobacco chewers while 16 (12.0%) males and 2 (1.7%) females were past smokeless tobacco chewers. Proportions of males were significantly higher among tobacco chewers elderly participants as compared to female elderly participants in both rural and urban areas (p<0.05). Proportions of rural elderly were significantly higher among tobacco chewers as compared to urban elderly (p<0.05) (Table 2).

**Table -2: Distribution of study subjects according to smokeless tobacco use**

<table>
<thead>
<tr>
<th>Smokeless Tobacco consumption</th>
<th>Rural (n=250)</th>
<th>Urban (n=250)</th>
<th>Total (n=250)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (%)</td>
<td>Female (%)</td>
<td>Male (%)</td>
<td>Female (%)</td>
</tr>
<tr>
<td>Never</td>
<td>86 (56.2)</td>
<td>86 (88.7)</td>
<td>172 (68.8)</td>
<td>89 (66.9)</td>
</tr>
<tr>
<td>Current</td>
<td>43 (28.1)</td>
<td>8 (8.2)</td>
<td>51 (20.4)</td>
<td>28 (21.1)</td>
</tr>
<tr>
<td>Past</td>
<td>24 (15.7)</td>
<td>3 (3.1)</td>
<td>27 (10.8)</td>
<td>16 (12.0)</td>
</tr>
</tbody>
</table>
Among rural elderly, 42 (27.5%) males and 7 (7.2%) females were current smokers while 16 (10.5%) males and 2 (2.1%) females were past smokers while among urban geriatric participants, 30 (22.6%) males and 2 (1.7%) females were current smokers while 19 (14.3%) males were past smokers. Proportions of male smokers were significantly higher as compared to female smokers among geriatric study participants in both rural and urban areas (p<0.05). No significant difference found between rural and urban elderly people in relation to habit of smoking (Table 3). Figure 1 depicts distribution of study subjects according to current habits of alcohol use, smoking and smokeless tobacco consumption.

Table 3: Distribution of study subjects according to smoking habits

<table>
<thead>
<tr>
<th>Smoking habit</th>
<th>Rural</th>
<th>Urban</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (n=153)</td>
<td>Female (n = 97)</td>
<td>Total (n=250)</td>
</tr>
<tr>
<td>Never</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Current</td>
<td>42</td>
<td>27.5</td>
<td>7</td>
</tr>
<tr>
<td>Past</td>
<td>16</td>
<td>10.5</td>
<td>2</td>
</tr>
</tbody>
</table>

Discussion

The present study was conducted to assess health related risk behaviors among the geriatric population and making comparison of rural and urban elderly people. 250 elderly people were assessed from each area in present study to make comparison in health risk behavior practices among rural and urban elderly people.
In present study, overall, 9.6% rural and 6.8% urban elderly were current alcohol users while 8.4% rural and 7.6% urban elderly were past alcohol users. All rural and urban elderly female participants reported that they didn’t take alcohol ever. No significant difference found between rural and urban elderly people in relation to habit of alcohol consumption. In contrast to our study, a study by Srinivasan et al (2010)\(^8\) in Bengaluru revealed that among males, 65.5% in rural areas as compared to 55.6% in urban areas gave history of alcohol intake. However, similar to our study, there was no intake of alcohol among females. 47.50% respondents were consuming alcohol in the study by Barman et al (2014)\(^9\) in urban area of Kishanganj, Bihar.

In present study, overall, 20.4% rural and 14.0% urban elderly were currently chewing tobacco while 10.8% rural and 7.2% urban elderly were past tobacco users. Proportions of males were significantly higher among tobacco chewers elderly participants as compared to female elderly participants in both rural and urban areas (p<0.05). Proportions of rural elderly were significantly higher among tobacco chewers as compared to urban elderly. In contrast to our study, 30.0% rural elderly were chewing tobacco in the study by Barman et al\(^9\). In study by Bhatt et al (2011)\(^10\), 26.60% urban elderly were addicted to different forms of tobacco. Durgawale PM et al (2012)\(^11\) reported that 75% of rural people were addicted to tobacco, of which majority being female population (43%) and minority being male (32%).

Overall, 20.4% rural and 14.0% urban elderly were currently chewing tobacco while 10.8% rural and 7.2% urban elderly were past smokers in present study. Proportions of male smokers were higher as compared to female smokers among geriatric study participants in both rural and urban areas (p<0.05). No significant difference found between rural and urban elderly people in relation to habit of smoking. In contrast to our study, 36.6% of the study population was smokers (38.5% in rural areas and 34.7% in urban areas) in a study by Srinivasan K et al (2010)\(^8\).

Survey report of the research project, Building a Knowledge Base on Population Ageing in India (BKPAI)\(^12\) revealed that prevalence of risky health behaviors is quite high among the elderly. Around 30 per cent of the elderly were currently smoking, chewing tobacco or drinking alcohol and the incidence was particularly high among males in their reports.

**Conclusion**

Overall prevalence of health risk behaviors was high among the study population. No significant difference found between rural and urban elderly people in relation to habit of smoking and alcohol consumption.

**Recommendations**

Awareness must be increased among the elderly group by IEC activities regarding detrimental effects of health risk behaviors. Anti-tobacco programmes need to be initiated early in life for better health in old age. Counseling is needed for de-addiction of elderly. This study highlights the need of longitudinal studies with a large sample in order to ascertain the problems of the risk behaviors among elderly as well as among adults and their association with health problems.
Limitation of the study: Since the subjects included in the study were elderly people attending the outpatient departments of rural and urban health training centres, the study findings cannot be generalized to the community at large.

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Authors Contribution:
Manish Jain contributed in study design, data collection, analysis and management. Kapil Garg, Manoj Dudi, Rohit Jain contributed in data collection, literature search and manuscript study concept, study design and manuscript editing and review.

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References

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