Original Article

A Cross Sectional Study to Determine the Prevalence of Tobacco Usage Among Adult Population of Kodagu District

Mahesh S Hoolageri[1], Kruthika K[2], Rajashree Kotabal[3], Jayashree KS[4]

[1]Associate Professor, [2,3]Assistant Professor, [4]Statistician, Department of Community Medicine Kodagu Institute of Medical Sciences Madikeri.

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Abstract

Background: Use of tobacco constitutes the single largest source of preventable deaths worldwide, accounting for over 7 million deaths on a yearly basis. The economic impact of tobacco consumption is enormous, yet tobacco remains the most widely available and legally purchasable addictive substance. **Methodology:** A cross sectional study was conducted among households aged 15 and above who were staying at Kodagu district. **Results:** Majority of the study population were between the age group of 26-35 years. 26% of the study populations were daily smokers, around 24% of the study population used smokeless tobacco daily and television was the major source of information of dangers of smoking cigarettes. 87% of study population noticed health warnings on cigarette packages. **Conclusion:** Tobacco use in India is clearly a big burden in terms of its magnitude and use in different forms. The higher prevalence of tobacco use was noticed among males and the uneducated people. As these people even lack the resources to combat the morbidity associated with tobacco use. **Recommendations:** Investment in tobacco control media campaigns needs to be enhanced and implementation of the tobacco-free film and television policy needs to be further strengthened and continued. Efforts should be made to make the warning labels more impact full by providing information leaflets about diseases caused by tobacco, including cancer, stroke, heart disease, lung disease etc.

Keywords: Tobacco, Prevalence, Smoking, Smokeless.

Introduction

Use of tobacco constitutes the single largest source of preventable deaths worldwide, accounting for over 7 million deaths on a yearly basis[1]. On an average, those who consume tobacco lose around 15 years of their life. Up to half of all tobacco users die prematurely due to tobacco related causes by any year or time estimation. Most of these deaths are in middle and low-income nations, which accounts for almost 80 percent of all tobacco related deaths[2]. The economic impact of tobacco consumption is enormous, totaling more than US $ 1.4 trillion in health care costs; 1.8 percent of the world's GDP in terms of lost productivity; and over 40 percent of what the world

Corresponding Author: Rajashree Kotabal, Assistant Professor, Department of Community Medicine, Kodagu Institute of Medical Sciences Madikeri.

E-mail: rajashree743@gmail.com

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spends on school education[3]. Yet, tobacco remains the most widely available and legally purchasable addictive substance. The scenario around tobacco use in India is even more of a challenge. India is the third largest tobacco producer and second largest consumer of tobacco worldwide. Mortality due to tobacco use in India is estimated at upwards of 1.3 million [4,5]. The link between tobacco use and mortality in India is well established, and resonates with global experience regarding tobacco use. A striking feature in India is the high incidence of oral cancer, as opposed to lung cancer, among tobacco users. In fact, India alone accounts for almost half of all oral cancer cases in the world[6]. The link between Tuberculosis (TB)-related mortality and smoking is also well-established. Smoking increases the risk of TB disease by more than two-and-a-half times[7]. All this makes it imperative to accelerate efforts for tobacco control at the global as well as national levels. Tobacco control is already part of the United Nations Agenda on Sustainable Development Goals (SDGs), included in the third goal on good health and well-being. Curbing the use of tobacco is seen as an effective means to achieve the SDG target that calls for bringing down premature mortality, deaths due to non-communicable diseases (NCDs) by one-third; the list of such diseases includes cardiovascular diseases, cancers and chronic obstructive pulmonary disease. The World Health Organization's Framework Convention on Tobacco Control (WHO FCTC), and the target for strengthening its implementation, is also a key part of concerted global action against tobacco[8]. With over 180 members, the WHO FCTC covers more than 90 percent of the world's population [9]. The FCTC has put in place regulatory measures, price and tax restrictions, product packaging, education, and elimination of tobacco advertising in order to reduce the demand for tobacco[10]. The WHO MPOWER approach, the global strategy for tobacco control, was drawn up in 2008. It delineates the following six tobacco control actions that must be taken by governments: 1) Monitor tobacco use and prevention policies, 2)Protect people from tobacco smoke, 3) Offer help to quit tobacco use, 4) Warn people about the dangers of tobacco use, 5) Enforce bans on tobacco advertising, promotion and sponsorship and 6) Raise taxes on tobacco. The Global Adult Tobacco Survey (GATS) is the global standard for systematically monitoring tobacco use (smoking and smokeless) and keeping track of all key tobacco control indicators. GATS is a household survey that monitors tobacco use among adults aged 15 or above[11]. India has been at the forefront in implementation of the WHO FCTC and tobacco control surveillance activities in line with the Global Tobacco Surveillance System (GTSS). India was one of the first nation to ratify the WHO FCTC in 2004. The Government of India's legislative initiatives for tobacco control pre-date this milestone. The legislative action for tobacco control began in 2003 with the enactment of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA). The first round of Global Adult Tobacco Survey, India (GATS 1) was carried out in 2009-2010[12]. GATS 1 revealed that 34.6 percent adults in India were using tobacco in some form or the other. While 9 percent said they only smoked tobacco, 21 percent consumed tobacco in the smokeless form. Five percent of those surveyed said they used smoked as well as consumed smokeless tobacco. The prevalence of overall tobacco use among males was reported as 48 percent among them 24 percent males were smokers. Compared to this, tobacco use was prevalent only among 20 percent of females, and only 3 percent were smokers. GATS 1 provided a robust baseline on the many dimensions of tobacco use and control and made way for increased attention on the challenge of tobacco control and the requirement of further measures. One of the big changes brought in by GATS 1 was sharper recognition of the problem of smokeless tobacco and the varied rates of prevalence and forms of tobacco use across states. Seven years after GATS 1 and the focused tobacco control measures that followed, the second round of the survey was required to measure the effectiveness of the said measures and inform course correction efforts. GATS 2 revealed that 19.0% of men, 2.0% of women and 10.7% (99.5 million) of all adults currently smoke tobacco. 29.6% of men, 12.8% of women and 21.4% (199.4 million) of all adults currently use smokeless tobacco. 42.4%

of men, 14.2% of women and 28.6% (266.8 million) of all adults currently use tobacco (smoked and/or smokeless tobacco)[13]. So the present study is an attempt to estimate the prevalence and the socioeconomic and demographic correlates of tobacco consumption at Kodagu district.

Materials and Methods

A cross sectional study was conducted among households aged 15 and above who were staying at Kodagu district. Kodagu district was divided into three blocks as per three Talukas (Madikeri, Virajpet and Somvarpet). Demographic information regarding the age, sex, education, parental education level and occupation was collected. Information regarding smoking and use of smokeless tobacco among household adults was ascertained using a questionnaire derived from the Global Adult Tobacco Survey (GATS) and modified it to suit the present study. Ethical clearance was obtained by the Institutional Ethics Committee Kodagu institute of Medical Sciences, Madikeri dated 10/05/2018 with reference number: KoIMS/IEC/09/18-19.

The data was collected by personal interview method by house to house visit after taking informed consent. Ascertainment of tobacco exposure was done using the terminologies suggested by GATS. Considering the overall prevalence of Tobacco usage as 22.8%, the sample size was 1330($n=4pq/d^2$, p=22.8%, q=77.2%, d=2.3). Cluster sample of Kodagu District was done representing three Talukas i.e. Madikeri, Virajpet and Somavarpet. 450 adults were interviewed in each Taluka and which was again divided into Rural and Urban block. 225 samples from each block were covered to get the total sample of 1350. Descriptive statistics were used to analyze the data. Statistical analysis was performed using epidata software.

Results

A total of 1350 participants were interviewed in the present study. Table 1 reflects that the socio demographic characteristics of study population. Majority of the study population were in the age group of 26-45 years, 67% of the population were males.

Table 1: Socio Demographic characteristics of study population

Characteristic	Frequency	Percentage
Age group		
<15	7	0.52
16-25	155	11.48
26-35	368	27.26
36-45	318	23.56
46-55	264	19.56
56-65	193	14.30
>66	45	3.33
Sex		
Male	908	67.26
Female	442	32.74
Level of education		
No formal schooling	115	8.52
Less than primary school completed	215	15.93
Secondary school completed	389	28.81
High school completed,	468	34.67
College/University completed post graduate degree completed	163	12.07
Occupation		
Government employee	757	56.07
Non-government employee	321	23.78
Self employed	208	15.41
Student	35	2.59
Homemaker	16	1.19
Retired	10	0.74
Unemployed able to work	2	0.15
Unemployed unable to work	1	0.07

Table 2 shows the use of smoke and smokeless tobacco among study population. 31% of study populations were smokers of which 26% smoked daily and 5% less than daily. Nearly 34% of study population used smokeless tobacco of which 24% consumed daily and 10% less than daily.

Table 2: Distribution of use of smoke and smokeless tobacco among study population

Characteristic	Frequency	Percentage
1. Current smoking pattern		
Daily	351	26
Less than daily	64	4.74
Not at all	935	69.26
2. **Current use of smokeless tobacco**		
Daily	323	23.93
Less than daily	143	10.59
Not at all	884	65.48

Table 3 reflects the source of information and noticing health warnings on cigarette packages among study population. Television was the major source of information about the dangers of smoking and use of smokeless tobacco followed by newspapers/magazines and radio. Around 87% of the study population observed health warnings on cigarette packages.

Table 3: Distribution of source of information and noticing health warnings on cigarette packages among study population

Characteristic	Frequency	Percentage
1. Source of information about dangers of smoking cigarettes		
In newspapers or in magazines	623	46.15
On television	914	67.7
On the radio	580	42.96
On billboards	109	8.07
Somewhere else	16	1.19
2. Noticing any health warnings on cigarette packages		
Yes	1169	86.59
No	176	13.04
Did not see any cigarette packages	3	0.22
Refused	4	0.3

Table 4 shows use of counseling and other modes to quit smoking among study population. Less than 1% of the study population used either counseling at cessation clinic or nicotine replacement therapy or quit line or smoking telephone to quit stop smoking.

Table 4: Distribution of use of counseling and other modes to quit smoking among study population

Characteristic	Frequency	Percentage
1.Use of counseling at cessation clinic to try to stop smoking		
Yes	7	0.52
No	1340	99.26
Refused	3	0.22
2.Use of nicotine replacement therapy		
Yes	9	0.67
No	1339	99.19
Refused	2	0.15
3.Use of quit line or smoking telephone to try to stop smoking		
Yes	8	0.59
No	1339	99.19
Refused	3	0.22

Discussion

This study shows high prevalence of tobacco use among the study population of Kodagu district. The prevalence of current smoking pattern was 31% and use of smokeless tobacco was 34%. Global Adult Tobacco Survey in India, 2009-10 reported relatively lower prevalence of 34.6% for any form of tobacco use among 15 years and older as compared to our study[12]. Study revealed that the consumption of smokeless tobacco was more predominant than the smoked form. Similar results were found by Surendra et al from Kundam block of Jabalpur[14]. However, Khan et al from Gajipur, Bangladesh found results contrary to our findings that smoking was more prevalent than smokeless tobacco consumption[15]. Data gathered for Uttar Pradesh by Rani and Bonu et al. showed that the prevalence of tobacco smoking ranges from 28.2–35.4%[16]. Another study at Mumbai showed the prevalence of the smoked form of tobacco was 24% and prevalence of the smokeless form of tobacco was 49.77%[17].

Conclusion

The study concludes that there is clearly a higher prevalence of tobacco use. Nearly 31% of study populations were current smokers and 34% used smokeless tobacco. Television, newspaper/ magazines and radio were predominant source of

information about the dangers of smoking cigarettes or that encourages quitting. Less than 1% of study population used counseling at cessation clinic to try to stop smoking, nicotine replacement therapy to try to stop smoking tobacco, quit line or smoking telephone to try to stop smoking.

Recommendations:

1. Awareness generation regarding harms of exposure to tobacco smoking and smoke free
2. laws need further strengthening. Mass media campaigns in tobacco control programs require spotlighting an array of diseases that are induced by smoking and smokeless tobacco use.
3. The large pictorial health warnings need to be continued; images and messages need to be changed periodically to ensure sustained impact. Efforts should be made to make the warning labels more impact full by providing information about diseases caused by tobacco, including cancer, stroke, heart disease, lung disease etc. All tobacco users who are willing to quit should be provided with necessary support interventions. At the same time, efforts to motivate tobacco users to quit should be intensified. Tobacco awareness should be part of school/college curriculum. Engaging youth in campaigns and peer to- peer networks would also discourage tobacco use amongst youth.

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