

Study on tobacco consumption patterns and its determinants in an urban slum in New Mumbai

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ABSTRACT

Background and aims: India has a high burden of tobacco usage and its related morbidity and mortality. Almost 30% of the above 15 years of age of the Indian population use some forms of tobacco. Men usually use smoked tobacco, while women more likely use smokeless (chewed) tobacco. Tobacco usage has been identified as a risk factor for non-communicable diseases (NCDs) among slum dwellers in urban cities. This study explored the tobacco consumption patterns and its determinants in an urban slum community of New Mumbai.

Methods: This was a cross-sectional descriptive study. Study methods included review of secondary literature and policy documents on tobacco control. Primary data were collected from the Turbhe slum community in New Mumbai using semi-structured interview schedules. Cluster sampling followed by simple random sampling technique was used to achieve the sample size of 300 households.

Results: The prevalence of tobacco consumption in Turbhe slums was very high. Twenty five percent of tobacco consumers initiated tobacco use before 18 years old. Peer pressure emerged as a major factor for initiation of tobacco consumption. Smokeless tobacco was the predominant form of consumed tobacco. Though television is the most viewed medium, newspapers and magazines were the most impactful media for quitting tobacco.

Conclusion: Tobacco consumption is a major public health challenge in urban slums of New Mumbai. Absence of effective legislation on curbing availability of tobacco products and poor community awareness on the harmful effects of tobacco creates a vicious cycle contributing to the rising burden NCDs in India.

Keywords: Tobacco use, Urban slum, Smokeless tobacco.

Original article

INTRODUCTION

Tobacco consumption (smoked and smokeless) is one of the leading causes of preventable morbidity and mortality.¹ According to the World Health Organization (WHO), there are nearly one billion smokers in the world. Smoking kills 6 million people each year. These include mostly current smokers and ex-smokers (5 million approximately). Each year, however, nearly

600,000 people die due to hazards of second hand smoking as well. Two-thirds of the world's smokers live in low and middle-income countries. Smoking leads to premature death and is a huge economic burden on health systems and families of smokers; especially in developing countries with already limited resources.² The rising burden of smoking in these countries is

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attributed to aggressive marketing strategies of large multinational tobacco companies.³ There are about 1.3 billion active smokers (of which 12% are women). In India, smokeless tobacco is a very common form of tobacco consumption and its usage is increasing, more so in younger generations. About 10-25% of people incomes are spent on tobacco consumption.⁴ India have a high burden of tobacco usage and its associated morbidity and mortality. Almost, 30% of the above 15 years old in the Indian population use some forms of tobacco. Men typically use smoked tobacco, while women use smokeless (chewed) tobacco.⁵ Approximately 16.6% (182 million people) of the total smokers worldwide live in India.⁶ Several studies in India have shown that tobacco usage is strongly linked to mortality⁷⁻⁹ due to non-communicable diseases (NCDs) like cancer, cardiovascular diseases, and etc. The total projected annual deaths due to tobacco usage were one million in 2010.¹⁰ Tobacco usage as a risk factor for NCD has been shown not only in rural India but also among the urban poor living in slums.¹¹

The urban-slum population has emerged as a new section in the society, which is known to fare very poorly on issues related to health.¹² The proportion of the urban-slum population is also increasing at a rapid rate. India's urban population has grown from 62 million in 1951 to 377 million in 2011,¹³ with a future projection of about 535 million by 2026.¹⁴ The 58th National Sample Survey (NSS) round reported that one in seven urban residents is a slum dweller in India.¹⁵ The slum population more than doubled from 43 million in 2001 to 93 million in 2011 and is projected to grow at 5% per year, adding 2 million every year. Maharashtra is one of the states leading in urbanization and has over than 50% of its population in urban areas.¹³ In Maharashtra, the projected growth of slum population is 13.3% (2011-17),¹⁶ of which

the main contributor is believed to be the Mumbai Metropolitan Region Development Area (MMRDA), which includes the area of New Mumbai. In New Mumbai, the slum population is concentrated around the locality known as Turbhe. While there are epidemiological studies on tobacco usage in rural India there are very few studies on tobacco usage in urban slum population and none for New Mumbai area. Hence, this study addresses the gap in knowledge that exists on tobacco use and its determinants in urban-slum population. The study findings will be useful for planning and implementing effective tobacco consumption cessation strategies in this population.

Objectives were to explore the types of tobacco usage among the urban-slum community of Turbhe, New Mumbai; to identify the determinants (income, education, age, employment, etc) associated with tobacco usage and knowledge regarding its harmful effects in this community.

The independent variables like income, education, age of individuals, employment status, etc are not associated with tobacco use and knowledge regarding harmful effects of tobacco.

METHODS

The study site was the largest urban slum in New Mumbai at Turbhe. The study was conducted from December 2014 to June 2015 using a cross-sectional descriptive study design. Study methods included review of secondary literature on tobacco usage and policy/program documents on tobacco control in the state of Maharashtra in India where the study site is located. A rapid community survey was conducted among 600 households in Turbhe to understand the prevalence of tobacco consumption in this community. The survey found 517 households (86.16%) having at

least one person currently consuming tobacco in some forms. A sample of 300 individuals who were currently consuming tobacco from these 517 households was contacted for exploring the pattern of tobacco consumption and its association with the determinants mentioned above. Cluster sampling followed by simple random sampling technique was used to reach these 300 individuals who were current consumers of tobacco. No blood or biological sample collection was done. Primary data was collected using a pre tested semi structured interview schedule. The interview schedule was prepared using the WHO STEPS instrument for chronic disease risk factor surveillance.¹⁷ The STEPS instrument was modified and translated in the local language (Marathi) and pilot tested in the community. The variables studied included- triggers for tobacco use onset, dynamics of regular tobacco usage, knowledge regarding harmful effects of tobacco and factors that motivate the users to quit tobacco. The pattern of tobacco using (smoking and smokeless) among slum population (male and female) and factors associated with it (age, marital status, literacy, type of work, religion, birth place, household income, etc.) was assessed through face-to-face interviews in the community. The study only included persons in the age of 15-59 years and having permanent residence in Turbhe. The scientific and ethical components of the study were approved by the Tata Institute of Social Sciences (TISS) Research Council. Oral informed consent was taken from all participants in this study. The informed consent form as approved by the TISS Institutional Review Board (IRB) was used for this study. Analysis was done using excel and non-parametric statistical tests like chi-square test applied to test association between education levels, age of initiation, per capita income, type of employment with tobacco use.

RESULTS

There were 155 males (52%) and 145 (48%) females in the sample population. Eighty for percent of the sample population were in the age group of 26-55 years. Fifty two percent of females and 17% of males had no education. Sixty percent of female respondents were not employed, 42% of males respondents were self- employed and 40% were employed in the private sector. Eighty five percent of the sample populations were married. Sixty one percent of respondents' annual family income was INR 1,000,000 or lesser. Seventy two percent of the households had an annual per capita income of INR 25,000 or less with 51% households having only one earning member in their families.

Majority of respondents (64%) consumed tobacco for the first time between 18-30 years of age. There were more female (15%) late onset initiators (post 30 years) of tobacco use than males (5%). Thirty percent of males respondents were children or adolescents when they consumed tobacco for the first time compared to 21% of females respondents. Overall, approximately 26% of respondents consumed tobacco for the first time before 18 years old (Table 1). Hence, males were early initiators of tobacco users as compared to females. The most common reason quoted for consuming tobacco for the first time was peer pressure or along with friends. Approximately 71% of male respondents and 44% female respondents consumed tobacco for the first time with friends or after seeing friends. Tobacco was popular amongst female respondents for getting relief from toothache. Majority of respondents, i.e. 89% consumed only smokeless tobacco. Excepting one female respondent, all female respondents consumed only smokeless tobacco. Approximately, 12% of male respondents consumed both smoking and smokeless type of tobacco. Regarding the

impact of media messages on harmful effects of tobacco on quitting, television is the most noticeable medium but newspapers and magazines turned out to be the most

impactful media. 60 for present respondents who noticed tobacco quitting messages in newspapers/magazines thought of quitting tobacco (Table 2).

Table 1: Age of initiation of tobacco use

Age at First Consumption of Tobacco	Females	Males	Total
Children (<11 years)	3(2%)	5(3%)	8(3%)
Adolescents (11-17 years)	27(19%)	42(27%)	69(23%)
Young Adults (18-21 years)	34(23%)	43(28%)	77(26%)
22-30 years	59(41%)	56(36%)	115(38%)
31-40 years	19(13%)	8(5%)	27(9%)
41-49 years	3(2%)	1(1%)	4(1%)
Total	145	155	300

Table 2: Impact of warning messages on quitting tobacco

Impact of Warning Messages	Thought of quitting	Did not think of quitting	Total
Noticed warnings in newspapers/magazines	110(64%)	61	171
Noticed warnings on television	131(48%)	141	272
Noticed warnings on tobacco packets	128(52%)	118	246
Noticed all the above types of warnings	109(66%)	57	166

The higher the education levels are the higher the proportion of individuals noticing messages in different types of media. Also, higher the education levels, higher the proportion of individuals being aware about the harmful effects of tobacco. However, this awareness did not translate into action as none had quit tobacco consumption. Although majority of respondents had noticed the dangers of tobacco advertised on different platforms like newspapers/magazines, television, tobacco packet warnings, etc only 42 (14%) respondents tried to quit tobacco in the past 12 months. Of these 42, eleven respondents were self-motivated to leave tobacco; eleven tried to leave it due to illness

while eight tried quitting due to doctor's advice. Other reasons were given for attempting quitting including: Motivation by friends/family members, shortage of money and warning advertisements. Approximately 73% respondents spent INR 25 or less on their last purchase of tobacco products. The amount spent was dependent on the type of product purchased. Packets of smoked tobacco products like cigarettes and beedi's cost more than packets of smokeless products. Chi Square test did not find any significant association between education levels, age of initiation, per capita income, type of employment of individuals and tobacco use. Hence, null hypothesis is accepted.

DISCUSSION

Studies have shown high prevalence of tobacco consumption in rural India, but this study shows that tobacco consumption is highly prevalent among the urban slum populations. Lack of education as a determinant for smoking has been identified in various studies in South East Asia.¹⁸⁻²² This might be due to lack of awareness about the adverse effects of tobacco products.¹⁸⁻²⁰ This study also found that higher the level of education translated into higher awareness about harmful effects of tobacco.

Another determinant associated with tobacco using is poverty.^{19,20,23} However, a study in Pakistan found the association with income was secondary to confounding with education and lack of awareness.²⁴ Age of individual has also been identified as a determinant for tobacco using especially smoking.^{19,24,25} Lower prevalence in younger age groups might suggest a shift in taking up smoking toward older age groups. A study by Jha et al. also suggested that smoking starts at a later age in India as compared to Europe and North America, which could also be due to under-reporting by younger respondents.²⁶ Also, the cultural acceptability of smoking for older individuals as compared to younger individuals was shown in a qualitative study.²⁷ In this study prevalence of smoking was very less (11%) as smokeless tobacco as the predominant form of tobacco consumption. However, almost one third of the males and one fifth of females had started consuming smokeless tobacco before reaching 18 years. Males were early initiators of tobacco users as compared to females in this population. Also, it was found that many females started consuming tobacco after marriage, which suggests the role and influence of the husband in the initiation of tobacco consumption. Studies have looked at the adverse health effects of

passive smoking, especially in young children in households where adults smoke.²⁸ Also, children are prone to poor health and malnutrition when their fathers spend their limited income on buying cigarettes.²⁹ In this study, a large majority (89%) consumed smokeless tobacco. So, the effect of passive smoking is limited in this population. Also, the immediate economic impact on the household is less, as the smokeless tobacco products are very cheap as compared to cigarettes. However, with the habit continuing and the potential of smokeless tobacco to cause to serious life threatening conditions like Oral Cancer, the economic consequences of smokeless tobacco consumption would be catastrophic for such poor households. A study by Rooban T et al. using secondary data found statistical significance within the various demographic parameters (age 15-49 years, secondary education, religion, household structure, and marital status) and tobacco use in a study population.³⁰ Chockalingam K et al. in their study found tobacco use prevalence to be significantly higher in rural areas, slum dwellers, males and older age groups in the Chennai region of South India.³¹ A study among adolescents in Bhubaneswar slums in the state of Odisha found an overall prevalence of tobacco use of 28.7%, which was associated with peer pressure and tobacco use by family members.³² Peer pressure for young adolescents and family member (husbands) use of tobacco was associated with initiation of tobacco use in this study.

CONCLUSIONS

The prevalence of tobacco consumption in this urban slum community was found to be very high. In order to control the tobacco epidemic, WHO recommends 6 evidence-based

measures called MPOWER, which are: monitoring of tobacco use and prevention strategies, protection of people from tobacco smoke, offering help to smokers for quitting, warning public about adverse effects of tobacco, enforcing bans on tobacco advertisement and promotion, and raising taxes on tobacco products.³³ For the population studied none of the above seemed to be effective as tobacco consumption was and the major consumption was for smokeless tobacco. Tobacco advertisement and promotion is restricted in India and there is a legal ban on sale of gutka packets (most popular type of smokeless tobacco) in the state of Maharashtra, where New Mumbai and Turbhe are located. However, this study shows clearly that the ban is not being enforced properly. Gutka is now sold loose and not in a packet form resulting in smokeless tobacco being available at cheaper prices. Hence, to effectively address consumption of smokeless tobacco a strong initiative is required by the government to ban the cultivation of tobacco and manufacture of smokeless tobacco products. Apart from this supply side measure, community interventions are required to create awareness about the harmful effects of tobacco and curb the demand for tobacco. Both these supply and demand side strategies need to operate to address the tobacco challenge faced by the urban poor in India. In addition monitoring of tobacco using is an important strategy, which can track the tobacco burden as well as gauge the effect of preventive strategies.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

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