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Journal of Science Foundation
July 2020, Vol. 18, No. 2, pp. 31-36
ISSN (Print) 1728-7855; ISSN (Online) 1728-788X
DOI: https://doi.org/10.3329/jsf.v18i2.52774

Original Article

Distribution of Socioeconomic Factors in Use of Tobacco among Population in Lalmonirhat in Bangladesh

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Abstract

Background: Tobacco consumption has been identified as the single biggest cause of inequality in morbidity and mortality. Understanding pattern of socioeconomic equalities in tobacco consumption in Lalmonirhat will help in designing targeted public health control measures. **Objectives:** The aimed and objectives was to estimate the association between socioeconomic status (income, occupation and education) and multiple measures of smoking behaviors among population of Lalmonirhat. **Methodology:** This cross sectional study was conducted in National Institute of Preventive and Social Medicine, Mohakhali, Dhaka, Bangladesh from January 2010 to June 2010 from Patgram upazila under Lalmonirhat District in Bangladesh. Respondent were selected and a pre-tested questionnaire was used to collect data. **Results:** A total of 272 respondents of 1572 households were studied in Patgram Upozila in Lalmonirhat district to find out age, sex, marital status, education, occupation, income in this group and living status, to identify health problems associated with tobacco use and to find out the cost involvement among tobacco users. Majority 164 (60.3%) of the respondents were in between 20-40years of age and male respondents 186(68.4%) were more than female and most 210(77.2%) of the respondent were married. Out of 272 respondents 78(28.7%) were illiterate and their occupation were business 78(28.7%).Most of the 140(51.5%) were monthly income of less than 5000 taka and live in khacha house. **Conclusions:** Poverty and poor education are strong risk factors for both forms of tobacco consumption in Lalmonirhat. Public health policies, therefore, need to be targeted towards the poor and uneducated. [*Journal of Science Foundation, July 2020;18(2):31-36*]

Keywords: Smoking; Socioeconomic status; cost

*[**Reviewed:** 3 March 2020; **Accepted on:** 10 April 2020; **Published on:** 1 July 2020]*

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Introduction

Consumption of tobacco is a complex and multidimensional problem faced by all countries (Vinita 2007).Tobacco use is the single largest cause of prevent- able premature death in the United States (McGinnis JM 1993;National Cancer Institute Smoking and Tobacco Control Program 1997; Rockville 1989), and exposure to environmental tobacco smoke (ETS) is a preventable cause of significant morbidity and mortality (California Environmental Protection Agency 1997). Smoking-attributable mortality (SAM) is a serious public health concern in the 21st century which now out numbers that from human immunodeficiency virus (HIV), tuberculosis, and malaria combined (Alshishtawy 2013).

According to the 2013 World Health Organization (WHO) report on the global tobacco epidemic, tobacco use accounts for millions of premature deaths and billions of dollars of economic damage every year (WHO 2013). Apart from the health issues, tobacco use has significant bearings on socioeconomic status, quality of life and general well-being. Some of the common impacts of tobacco use include direct expenses to purchase tobacco products, medical expenditure for treating tobacco-related illnesses and lower workplace productivity, which can contribute substantially to household poverty, poor nutrition and low education, particularly in low-and middle-income countries (Haustein 2006).

The numbers of smokers will increase mainly due to expansion of the world's population. By 2030 there will be at least another 2 billion people in the world. Even if prevalence rate fall, the absolute number of smokers will increase. The expected continuing decrease in male smoking prevalence will be offset by the increase in female smoking rates, especially in developing countries (New York Times1925). Socioeconomic status has been considered an important determinant of smoking behaviors (Lanta et al.,1998). However, while smoking prevalence has declined in many developed countries, it remains high in others and is increasing among women and in developing countries. Between one-fifth and two-thirds of men in most populations smoke. Women's smoking rates vary more widely but rarely equal male rates. Hence, reducing the use of tobacco at the population level remains a key imperative from both healthcare and national development aspects.

Methodology

This cross-sectional study was conducted in National Institute of Preventive and Social Medicine, Mohakhali, Dhaka, Bangladesh to determine the pattern of tobacco consumption among the household members of Patgram upazila under Lalmonirhat District in Bangladesh. The study was carried out over a 180 days period of 1st January 2010 to 30th June 2010 and their questionnaire were used as source of date. Respondents were selected from household selected randomly. The household members who were available during the time of data collection were included in the study. From the district Patgram upazila every 4 household were selected randomly and one individual is randomly selected from each household, Finally 272 respondent from 272 households were randomly chosen from 1527 households. The data were collected by direct face to face interviewing the workers who fulfilled the selection criteria. The interview was taken by researcher himself at the place of study without disturbing their routine works. The data were collected by prepared pre- tested questionnaire. The purpose and objects of the study was explained to the respondents before interview. Assurance was given regarding confidentiality and secrecy of the information they provided. Prior to the commencement of this study, participants was clearly informed about the scope and limitation of the study. This study aimed to estimate the association between socioeconomic status like income, occupation and education and multiple measures of smoking behaviors among population of Lalmonirhat. The aims and objectives of the study along with its procedure, risks and benefits of this study were explained to the patients in easily understandable local language and then informed consent were taken from each participant. Neither this study was involved any invasive procedure; nor any experimental medications or placebos was administered as part of the study.

Result

A total of 272 respondents of 1572 house hold were studied in Patgram Upazilla in Lalmonirhat district to find out age, sex, marital status, education, occupation, income in this group and living status, to identify health problems associated with tobacco use and to find out the cost involvement among tobacco users. The

researcher used detailed questionnaire covering the various aspects of the tobacco consumption behavior of the respondents. The data were compiled, analyzed and were distributed in to different groups of variables. The study findings were as follows.

Table 1: Distribution of the Respondents by Age (n=272)

Age Group	Frequency	Percent
Less Than 20 Years	32	11.8
20 to 40 Years	164	60.3
More Than 40 Years	76	27.9
Total	**272**	**100**

The table 1 showed distribution of the respondents according to age. Majority 164 (60.3%) of the respondents were in between 20 to 40 years if age.

Table 2: Distribution of the Respondents by Sex (n=272)

Sex	Frequency	Percent
Male	186	68.4
Female	86	31.6
Total	**272**	**100.0**

The table 2 showed distribution of the respondents by sex. Out of 272 respondents 186(68.4%) were male and 86 (31.4%) were female.

Table 3: Distribution of the Respondents by Marital Status (n=272)

Marital Status	Frequency	Percent
Married	210	77.2
Unmarried	48	17.6
Widow /widower	14	5.1
Total	**272**	**100.0**

The table 3 showed distribution of the respondents by marital status and most of the respondents were married.

Table 4: Distribution of the Respondents by Educational Qualification (n=272)

Educational Qualification	Frequency	Percent
Illiterate	78	28.7
Primary	76	27.9
Secondary	36	13.2
SSC	18	6.6
HSC	18	6.6
Graduate	24	8.8
Masters	22	8.1
Total	**272**	**100.0**

The table 4 showed distribution of the respondents by educational qualification and most of the respondents were illiterate primary education completed.

Table 5: Distribution of the respondents by Current Occupation (n=272)

Occupation	Frequency	Percent
Agriculture	24	8.8
Service	36	9.6

Business	78	28.7
Housewife	44	16.2
Student	20	7.4
Day labour	46	16.9
Driver	4	1.5
Teacher	20	7.4
Others	10	3.7
Total	**272**	**100.0**

The table 5 showed distribution of the respondents by occupation and out of 272 respondents' 78(28.7%) respondents were businessman.

Table 6: Distribution of the Respondents by Income in Group (n=272)

Monthly Income	Frequency	Percent
<5000	140	51.5
5000-8000	91	33.5
>8000	41	15.1
Total	**272**	**100.0**

The table 6 showed distribution of the respondents by income in group and out of 272 respondents most of them 140(51.5%) cases had monthly income of less than 5000 taka.

Table 7: Distribution of the respondents by condition of living house (n=272)

Housing Condition	Frequency	Percent
Kancha	172	63.2
Semi-pacca	80	29.4
pacca	20	7.4
Total	**272**	**100.0**

The table 7 showed distribution of the respondents by condition of living house and out of 272 respondents most of them 172 (63.2%) had kacha house.

Discussion

This study was conducted among 272 individual of 1527 household of patgram upozila of Lalmonirhat District. This study aimed to estimate the association between socioeconomic status (income, occupation and education) and to find out the types of tobacco use, to identify the health problems associated with tobacco use and to fine out the cost involvement for tobacco use and multiple measures of smoking behaviors among population of Lalmonirhat. It was a cross sectional descriptive type of study. Data were collected by face-to-face interview of the respondents using questionnaire.

In a study done by Yunus, on tobacco prevalence in Bangladesh started that three-fourth of male and than half of female respondents were found to use tobacco products in their later years of lives. While tobacco prevalence was high at 80 percent for the rural male respondents, the same was 69 percent among their urban counterparts. Prevalence was found to be the highest at 79 percent for male respondents and 63 percent for female respondents (Yunus 2001). This study showed 186(68.4%) cases male and (31.6%) cases female were tobacco consumers which support the previous study. Data from three studies (two from India and one from Sri Lanka) suggest that 47.0% to 51.0% cases of male smokers and 52.0% to 95.0% of female smokers smoke bidis. This study showed most of the respondents 210(77.2%) cases were married, 48(17.6%) cases were unmarried and rest 14(5.1%) cases were widow/widower whereas the previous study showed that prevalence was found to be the highest among the widow/widower followed by married and separated/divorced categories (Yunus 2001). In a study prevalence was found to be the highest among the illiterate groups in rural areas. Religion does not appear to be a factor in explaining tobacco prevalence

among the respondents. This study showed that most of respondents 51.5% were poor. They live in kacha house 172(63.2%) cases. They had monthly income of less than 5000 taka. Male are more prone to tobacco consumption, majority of them (60.3%) were in between 20 to 40 years of age. In another study it has been suggested that men aged 35 to 49 years have the highest smoking prevalence at 70.32% and smoking prevalence is highest among the poorest (Debra et al., 2001). The highest rate (58.2%) was among men with a household income of less than $ 24/month. Smoking prevalence declines proportionally as income increases, with the lowest rate, 32.3%, being for men with a monthly and this study showed majority of consumers were businessmen, another study by Yunus (2001) suggested that though prevalence was higher among respondents in occupations requiring physical efforts, no systemic relationship between prevalence and monthly household income. The most prevalent form (>80%) was bidi smoking both in men women.

This study has been revealed that out of 216 respondents most of them 122(56.5%) respondents had developed the habituation of tobacco by self. It was seen that most of the respondents people had knowledge of harmfulness of tobacco and majority of them get the information from TV and radio and few from others source. A study in Delhi showed that the knowledge about harmful effects of tobacco among study subjects (Vankhuma 2019). The most common source of information about harmful effect was parents (349%) followed by teacher (27.9%), friends (18.6%), radio (16.3%), doctor (14.0%), neighbour (9.3%), sibling (2.3%), police (2.3%), books (2.3%) and poster/banner (2.3%) (Malhotra 2007). In this study (79.4%) respondents had the habit of consumption of both smoking and smokeless tobacco products. A report title by impact of tobacco-related Illnesses in Bangladesh World Health Organization 2007 claimed that altogether, 62.0% of men and 41.0% of women (52.0% for sexes combined) either smoked or chewed tobacco products.9% of the participants examined at households had at last one of eight selected tobacco-related diseases (ischemic heart disease, lung cancer, stroke, oral cancer, cancer of the larynx, chronic obstructive pulmonary disease, pulmonary tuberculosis, or Buerger's disease). 41% of them were attributable to tobacco. Hospital data indicated that 29% of inpatients (of the same age group) were hospitalized due to this diseases (WHO 2007). In this study the tobacco consumers had to spend a considerable amount of money to purchase tobacco items every day. The mean cost from tobacco products was 16.33 with SD of ± 18.91 taka BDT per day among which (35.9%) respondents had visited doctor/hospital for medical service. In this study found that (52.8%) respondents had decided to leave tobacco usage above 1 year, (29.2%) respondents had decided to leave tobacco usage within 6 month, (12.5%) respondents had decided to leave tobacco usage within 1 month and rest (5.6%) respondents had decided to leave tobacco usage within year. This study found that illiterate was poorer to tobacco consumption. Motivation was one of the major principal to combat the situation. Further studies are required to their investigation.

Little is known about changes in tobacco use over time by socioeconomic status (SES) in Bangladesh. This evidence is important from three perspectives. First, economic growth, rising incomes and urbanization have increased access to tobacco products, for example, cigarettes are becoming more affordable across social strata. This may manifest in earlier initiation and access to tobacco products, which could vary by income or education (Reddy 2005; Bhan 2012). Second, increases in innovative marketing, packaging and promotion of tobacco products may differentially impact vulnerable populations. For instance, tribal populations may respond to innovative marketing by switching from traditional tobacco products like snuff, hookah, kimam to mass-market forms of tobacco like bidis and cigarettes (Neufeld 2005; Agrawal 2013). Finally, in other contexts, nearly half of premature mortality between SES groups has been attributed to tobacco use (Jha et al., 2006). In Bangladesh, where multiple forms of tobacco exist, social patterning of tobacco will be an important driver of inequalities in morbidity and mortality from non-communicable diseases (NCDs) going forward. Tracking changes in the socioeconomic inequalities in tobacco use may aid in understanding the directions of this change, thereby identifying gaps in existing interventions in order to avert future disease burdens.

Conclusion

Poverty and poor education are strong risk factors for both forms of tobacco consumption in Lalmonirhat. Health behaviours and the inequitable distribution of determinants of population health like socioeconomic status, influence the future incidence of common chronic diseases and thus have a considerable impact on health status, public health policies, therefore, need to be targeted towards the poor and uneducated.

References

Agrawal S, Karan A, Selvaraj S, Bhan N, Subramanian SV, Millett C, et al. Socio-economic of patterning tobacco use in Indian states. Int J Tuberc Lung Dis 2013;17(8):1110-17

Alshishtawy MM. Tobacco Smoking: Facts and actions. Sultan Qaboos Univ Med J 2013;13:341 344

Bhan N, Srivastava S, Agrawal S, et al. Are socioeconomic disparities in tobacco consumption increasing in India? A repeated cross-sectional multilevel analysis. BMJ Open 2012;2(5):e001348

California Environmental Protection Agency. Health effects of exposure to environmental tobacco smoke—final report and appendices. Sacramento, CA: California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, 1997

Debra E, Saifuddin A Joy T, Syed MA, Amit RD, RS, Bipbpb D, et al. Hungry for Tobacco: An Analysis Of The Economic Impact OF Tobacco Consumption On The Poor In Bangladesh,2001.

Haustein KO. Smoking and poverty. Eur J Cardiovasc Prev Rehabil 2006,13,312-318

Impact of Tobacco related Illness in Bangladesh World Health Organization 2007

Jha P, Peto R, Zatonski W, Boreham J, Jarvis MJ, Lopez AD, et al. Social inequalities in male mortality, and in male mortality from smoking: indirect estimation from national death rates in England and Wales, Poland, and North America. Lancet 2006;368 (9533):367-70

Lantz PM, House JS, Lepkowski JM, Williams DR, Mero RP, Chen J *et al*. Socioeconomic factors, lifestyles and mortality:results from a nationally representative prospective study of US adults. JAMA 1998;279:1703-08

Malhotra C, Malhotra R, Singh MM, Garg S, Ingle GK. A Study of Tobacco use among Street Children of Dehli. Indian Journal Of Community Medicine 2007;329(1)58-59

McGinnis JM, Foege WH. Actual causes of death in the United States. JAMA 1993;270:2207–12

National Cancer Institute Smoking and Tobacco Control Program. Changes in cigarette related disease risks and their implication for prevention and control. Smoking and Tobacco Control Monograph 8. Bethesda, MD: National Institutes of Health, National Cancer Institute, 1997

Neufeld KJ, Peters DH, Rani M, Bonu S, Brooner RK. Regular use of alcohol and tobacco in India and its association with age, gender, and poverty. Drug Alcohol Depend. 2005;77(3):283-91

Reddy KS, Arora M. Tobacco use among children in India: a burgeoning epidemic. Indian Pediatr 2005;42(8):757-61

Short, snappy, easily attempted, easily completed or just as easily discarded before completion-the cigarette is the symbol of the machine age. New York Times, 1925

US Department of Health and Human Services. Reducing the health consequences of smoking: 25years of progress. A report of the Surgeon General. Rockville, MD: U.S. Department of Heath and Human Services, Public Health Service, Centers for Disease Control and Prevention, 1989 (DHHS Pub. No. [CDC] 89-8411)

Vankhuma C, Basu S, Sharma N, Kumar S. Tobacco use patterns and tobacco-related awareness in medical students of Delhi. Clinical Epidemiology and Global Health. 2020;8(1):83-6

Singh V, Pal HR, Mehta M, Kapil U. Tobacco consumption and awareness of their health hazards amongst lower income group school children in National Capital Territory of Delhi. Indian pediatrics. 2007;44(4):293-95

World Health Organization. WHO Report on the Global Tobacco Epidemic: Enforcing Bans on Tobacco Advertising, Promotion and Sponsorship; World Health Organization: Geneva, Switzerland, 2013

Yunus M, Craving for Nicotine: A Study OnTobacco Prevalence In Bangladesh. Final report. Bangladesh Institution of Development 2001 Dec, Available in URL:http://209.61.208.233/Link Files/Regional Surveillance System Sentinel Bangladesh.pdf