



ATTITUDE OF CIGARETTE SMOKING IN KHULNA CITY CORPORATION AREA: DOES ANTI-SMOKING ADVERTISEMENT MATTER?

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Abstract: This study deals with the impact of anti-smoking advertisement on intensity of cigarette consumption in four Wards of Khulna City Corporation (KCC) in Bangladesh. The sample size was 80 and following a convenient sampling procedure, data had been collected through a structured questionnaire. Major findings suggest 48 percent respondents started smoking in between 13-16 years of age. Among the respondents, 51percent started smoking through the inducement of the peers while 34percent started smoking to overcome depression. Results further suggest 14percent respondents suffered from cardiac complicacies, fourteen percent suffered from respiratory disease and 6percentsuffered from diabetes of whom 49 percent needed formal health care. Incorporation of Graphical Health Warning (GHW) on cigarette packets has been made mandatory from 2015 in Bangladesh. However, empirical results suggest that only 20percent respondents noticed GHW label on the packet. Furthermore, among the aforementioned respondents, 38percentagreed that GHW have changed their smoking behaviour and 27percent reduced their smoking intensity. Eleven percent could not understand the message of GHW while 6percent became worried about the negative health impact noticing the message of GHW. The regression analysis concludes that family pattern, occupation, per stick price of cigarette, mental depression and understandability of GHW of the users significantly influence the intensity of cigarette consumption. Regression results further suggest that such intensity is higher with the people living in nuclear family and having higher mental depression. Conversely, people who could understand the GHW label consumes less number of cigarettes.

Keywords: Anti-smoking attitude, Graphical Health Warning (GHW), cigarette consumption

Introduction

Graphical Health Warning (GHW) labels have been used to educate smokers about the health effects of tobacco and to provide information on assistance for quitting. Implementation of GHW on tobacco product packets is a non-price measure to reduce tobacco demand. The government of Bangladesh to comply with the FCTC Article 11, has made it mandatory to print GHW on tobacco packets covering upper fifty percent of packets and containers by amending the tobacco control law in 2013. In March, 2015, the government finalized the rules of the issue. Tobacco companies were given a period of twelve months for preparation. After lots of struggling and numerous ups and downs, finally printing of GHW began in March 19, 2016 on all types of tobacco product packets (Nargis et al., 2015).

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Bangladesh is among the top ten countries of the world that have high smoking prevalence and the smoking prevalence among male is higher than the world average (Nargis et al., 2015). Tobacco use pattern varies within the countries and a study showed that people in Bangladesh are used to smoking cigarette, use *gul* (powdered tobacco) and chewing raw tobacco. Such habits are higher among males than females in Bangladesh (Flora et al., 2009). WHO is predicting that by 2050, 175 million people will be killed by tobacco (WHO, 2008). In Bangladesh, about fourteen percent of men and five percent of women died of tobacco-caused disease in 2010 (Nargis et al., 2015).

So the prevalence of smoking and the related mortality data predicted by WHO clearly depicting that intervention is required to prevent the probable epidemic caused by smoking. Moreover, adolescents are at risk as they are mostly getting habituated to smoking at their early age. The probable influential factors supported by literature include peer influence, mental depression, and parental relationship. To protest the spread of smoking, the factors should be identified and then anti-smoking measures should be adopted. Making GHW mandatory on packet or container of cigarette is relatively new intervention in Bangladesh. The authors strongly believe that the impact should be measured and tried to identify the probable determining factors along with the impact of introduction of GHW on intensity of cigarette.

Many smokers are unable to recall specific health effects and most tend to underestimate the scope of these effects (Weinstein et al, 2004). GHW label has long been used demonstrating the negative consequence in the form of fear appeals to generate attention and motivation in attempts to persuade users to change destructive behaviours (Worden and Slater, 2004). Hammond et al. (2006) found that smokers who noticed the warnings were significantly more likely to endorse health risks, including lung cancer and heart disease. Shanahan found that nearly half of all respondents claimed that health warnings was very effective on reducing smoking (Shanahan, 2000). Pictorial warnings were more effective for attracting and holding attention, eliciting stronger cognitive and emotional reactions, eliciting more negative attitudes toward packs or brands and to smoking, and increasing intentions to quit or not start smoking (Noar et al., 2016). Indeed, research has demonstrated that fear and other negative emotions elicited by pictorial warnings are associated with greater impact from health warnings, including intentions to quit, thinking about health risks and engaging in cessation behaviour (Emery et al., 2014). Both smokers and non-smokers, warnings that combine strong, graphic pictures with compelling verbal information are perceived as the most helpful (O'Hegarty et al., 2007). Canadian labels produce a greater negative response for both U.S. smokers and non-smokers without any signs of defensive reactions from smokers (Peters et al, 2007). Graphical Health Warnings on packages enhance the knowledge of health risk among adult consumers (Wilson et al., 2009). Although India has pictorial warning labels, studies during 2009–2011 on warnings found they were poorly understood and ineffective, particularly among illiterate tobacco users (Arora et al., 2012). Canadian warnings style gives substantial cessation benefits and enjoy widespread support among smokers (Hammond et al., 2004).

Parent-child relationship is expressed through the psychological consequences among child and parents (Arnold, Eysenck and Meili, 1979). It is evident that parent-child relationship played vital role on the socialization process of the child and also behavioural contexts like smoking (Agrawal et al., 2005). Adolescents' peer relationship has been identified as one of the key factor to be engaged in smoking (Greene and Banerjee, 2009; Kobus, 2003). Smoking is such a habit normally considered to be a way of social interaction among the adolescents and a denial to smoking sometimes treated as a sense of social exclusion (Kimberly, 2003). Peer induced smoking starts implicitly (Friedman, Lichtenstein and Biglan, 1985). Apart from peer influence, personal attitude like self-perceived life pattern and internal factors like self-esteem also provoke adolescent's to risky health behaviours like smoking (Topolski, et al., 2001). Study found that adolescents who got accustomed to smoking at a

very early age showed higher prevalence of depressive symptoms (Audrain et al., 2004). Theories suggest that people having anxiety or mental distress are used to become smoker to get rid of anxiety or depression (Petraitis et al., 1995). A number of studies have been done on the price of cigarette and on cigarette consumption. Lewit and Coate (1982) found that the price of cigarette influences the decision to be smoker than on the intensity of cigarette consumption.

Prior research on the impact on GHW label on cigarette packaging were mainly confined in developed countries like North America and Europe. But as a new introduction, the implication of GHW on smoking habit of the smokers in Bangladesh is mostly unexamined. This study aimed to find out whether the newly introduced GHW on cigarette packets has been able to impel any impact on consumption behaviour of the smokers in Bangladesh.

Materials and Methods

The study is primary data based that covered 18, 19, 25 and 26 No. wards among 31 wards under Khulna City Corporation. In this back drop, household with at least one smoker were selected as sample. Data were collected through a structured interview schedule where convenient sampling technique was applied. The sample size of the study was 80.

To measure the determinants of intensity of cigarette consumption, an Ordinary Least Square Regression is used which is given below in equation 1.

$$Y_i = \beta_0 + \beta_1 x_i + \beta_2 D_i + \beta_3 Z_i + u_i \dots \dots \dots (1)$$

The explanations of each of the variables are given in Table 01.

Table 01: Variables specification

Variables	Description of Measurement
Y_i	Number of sticks consumed per day per person
x_1	Income of the respondent measured in BDT per month
x_2	Price of cigarettes measured in BDT
x_3	Educational status of the respondent (Year of schooling)
x_4	Sex of the household head Dummy, male-1, female-0
x_5	Educational attainment of the household head
D_1	Sex of the Household head (A dummy variable, 1 if male and 0 if Female)
D_2	Occupation of the respondent (A dummy variable, 1if service holder and 0 if others)
Z_1	Opinion of the smokers whether mental depression increases intensity (1= yes, 0= no)
Z_2	Ties with friends increases the intensity (1= yes, 0= no)
Z_3	Whether GHW was understandable or not (1= yes, 0= no)

The number of sticks consumed per day is the dependent variable (Y_i) that represents the smoking intensity. While the explanatory variables include sex and educational attainment of the household head, income, occupation and educational attainment of the respondents and price of cigarette. To measure the impact of depression and peer influence on smoking habit, perceived opinion of the smokers has been considered. Finally to measure the impact of GHW, the relative GHW has been measured and regressed this factor with the intensity, the impact has been measured.

Results

Smoking behaviour of the respondents: Findings suggest that the age of the respondents varies from 15 to 74 years. Forty eight percent of the respondents reported to start smoking within 13-16 years of age whereas thirty two percent did it at the age between 17-20 years. In quest of finding out the reason of starting smoking, fifty one percent smokers started smoking through the inducement of the friends, thirty four percent replied that they got habituated to smoking to overcome depression and fifteen percent confirmed that they started smoking to meet up curiosity. The intensity of cigarette smoking varies among the samples. Ninety five percent are regular smoker whereas five percent smoke occasionally like once or twice a week. Daily consumption of stick varies from 5 to 20 where forty one percent consumes 5-9 sticks per day, thirty three percent consumes 10-14 sticks and five percent consumes more than 20 a day. The intensity of cigarette consumption has been presented in Fig. 01.

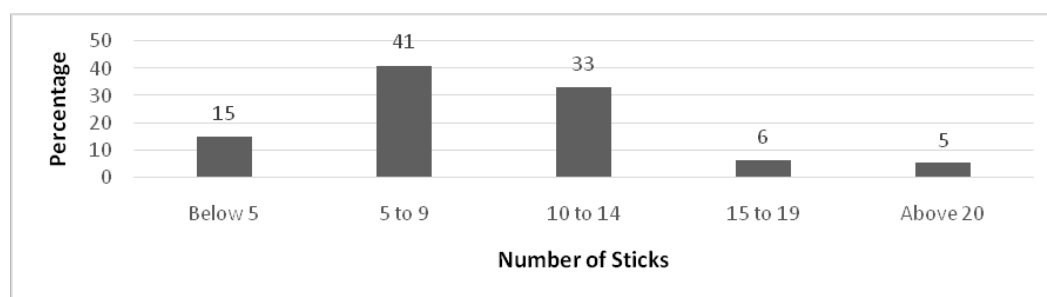


Fig. 01: Number of cigarette consumption *per* day

Sixty three percent of the smoker prefers multiple brands and thirty seven percent are confined in a single brand. As the study concentrated on the cigarette smoker, the study also found that they are not only addicted to cigarette but also used to other types of tobacco. Thirty nine percent are taking tobacco with betel leaf and fifteen percent are used to chewing tobacco. Daily cigarette cost ranges between 20 -160 where forty percent of the smoker spend BDT 21-40 per day on cigarette, twenty five percent spends about BDT 20 per day. Per day expenditure of cigarette has been presented in Fig. 02.

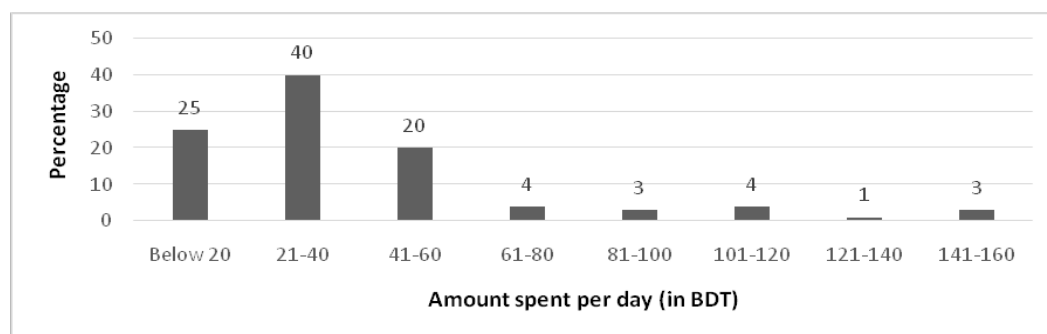


Fig. 02: Expenditure of cigarette consumption per day

The main health problems from which smoker suffered from in last six months were cardiac complications (fourteen percent), respiratory disease (fourteen percent) of whom forty nine percent

smokers met doctors, thirty two percent went to pharmacy and nineteen percent used some self-treatment.

Impact of anti-smoking advertisement: Health warnings on tobacco packaging are common form of warning advertisement which conveys health information to its user. The study is confined to GHW. A GHW label is used to induce people to quit smoking through creating health awareness regarding the probable health risks. Printing of GHW has been made mandatory in 2015 and the implementation started in 2016. The study tried to find out the attitude of the smokers towards GHW. The respondents were asked whether they noticed the warning or not, does it impacted on their smoking and finally does it reduce their intensity of consumption which has been depicted graphically in Fig. 03.

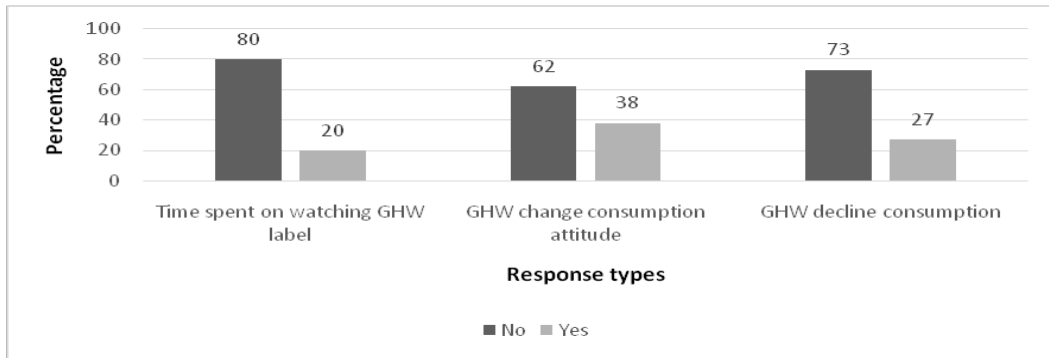


Fig: 03: Attitude towards graphical health warning system

The result shows that twenty percent only concerned about GHW but eighty percent was not concerned in this regard. Thirty eight percent respondents (who concentrated on the GHW label) agreed that GHW system have changed their smoking behaviour. Twenty seven percent respondents agreed that observing GHW label on the packet, they have reduce their per day cigarette consumption but seventy three percent denied any positive impact on their smoking intensity. Eleven percent opined that they did not understand the label, and four percent opined that the information was quite clear. The findings has been presented graphically in Fig. 04.

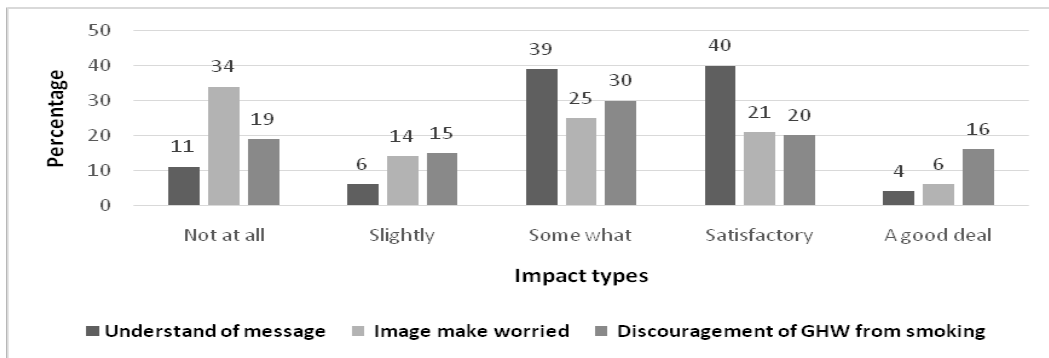


Fig: 04: Impact of graphical health warning system

Thirty four percent of the respondents respond that GHW did not make them worried at all and only six percent opined that GHW made them worried about the health effect of smoking.

Regression analysis on intensity of cigarette smoking: The result of the regression analysis has been presented in Table 02.

Table 02: Regression Analysis of Intensity of Cigarette Smoking

Variables	Coefficient
Year of Schooling of respondent (In Year)	-0.00281
Family pattern (Base Group = Nuclear Family)	-0.71*
Service (Base Group = Other Occupation)	-1.487**
Ln(income of respondent)	-0.468
Household Head of Family (Dummy, 1= Male, 0= Female)	-0.242
Educational Status of Household Head (In Year)	-0.0194
Cigarette Stick Price (In BDT)	0.0776***
Level of mental depression (Base Group= Not at all)	2.416**
Level of Close ties with Friend (Base Group= Not at all)	0.700
Level of understandability of GHW(Dummy, 1= Yes, 0= No)	-2.665**
Constant	-3.232
R-squared	0.874

Dependent Variable: Number of cigarette consumption; Total Number of Observation: 80; Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The estimates found that if family pattern switch from nuclear to joint family, the number of cigarette consumption decrease by 0.71 units. The result is statistically significant at 10 percent level. If the occupation changes from other occupation to service holder, the number of cigarette consumption decrease by 1.49 units. The result is statistically significant at 5 percent level. If the cigarette sticks price increases by one unit then the frequency of cigarette consumption increase by 0.078 units. This finding implies that cigarette is a *Giffen goods* for the smokers in this study as the finding contradicts with law of demand (as price increases, the demand for that good decreases and vice versa holding other things constant). The result is statistically significant at 10 percent level. As a result, with the increase in cigarette stick price, cigarette consumption also increases. GHW message by smoker is an important factor for implementation of GHW. The estimates found that if smoker sunder stand GHW message then intensity of smoking decreases by 2.67units. The result is statistically significant at 10 percent level. Mental depression is one of the main factors that promotes smoking. Mental depression influences the intensity of cigarette consumption. The result is statistically significant at 5 percent level. Though year of schooling of respondent, income of the respondent, household head of the family, educational status of household head, level of ties with friend were found as an influential factor for intensity of smoking, no statistically significant impact was found in terms of number of cigarette consumption.

Discussion

Majority of the respondents started smoking at early age which implicates that the teen aged groups are in danger. Normally the teen agers are highly influenced by the behaviour of the peers. So, the spread of smoking could be massive through peer influence. If we concentrate on the intensity of

consumption, it is considerably high. The money spent on smoking ranges from 20-160 per day. If we consider the socioeconomic background of the people on average, such expenses that brings about nothing but illness, must be reconsidered. Smokers also informed that they are addicted to other form of tobacco like consuming raw tobacco with betel leaf and chewing raw tobacco regularly. Respiratory and cardiac complications are the major type of health risk smokers suffer from. So, medicine cost and consultancy fees are incurring for such health problem for which they are liable to themselves. But this is one part of the story. If we consider the impact of smoking on the family, on the peers and on the environment, the cost could not be measured. Second hand smoking affects family members, especially, the children and the pregnant woman that seriously damage their health which sometimes give rise to serious health damage. So, the social cost of smoking is far higher than the personal cost of smoking.

GHW inclusion made mandatory in Bangladesh in 2015 expecting that will reduce the intensity of cigarette consumption. But majority (eighty percent) of the smoker did not concentrate on GHW. Those who noticed GHW, eleven percent did not understand the message and a few of them were worried about that. The regression result identified some determinants that have significant impact on intensity of stick consumption like depression as one of the main promoters of cigarette addiction. Family pattern is playing a vital role on smoking, people from nuclear families are showing higher intensity. Though fifty one percent opined that they started smoking being influenced by their friends but statistically the link was not significant. But it is a matter of hope that those who could understand the GHW message, the intensity of smoking was lower among them which was found to be significant in regression analysis.

Conclusion

The purpose of this study was to examine the impact of GHW label on cigarette smoker as it is a very important way to improve health awareness among smokers. The study result is showing that people are being addicted at the teen age and most of them are getting into smoking through peer influence. The regression results identified statistically significant relation of intensity of smoking with family pattern, occupation of the respondent, stick price of cigarette. Urban nuclear family structure is also playing role here. The reason behind this causation might be the teen aged are spending lesser time with families and longer time with friends. Parents are not checking the friend list or of their whereabouts. And in many cases, loneliness results in depression and smoking is spreading at an alarming rate. So, rectification need to be started from the root, from the family. Parents should concentrate on their child. Stick price is showing a positive relation with intensity which reflects that if government taxation policy continues, still it might not control the spread of smoking. GHW has been introduced but its effectiveness highly depends on the literacy level, knowledge, consciousness and overall the good will of the smokers which also demand care and attention from the family. The sample size was very much limited and the study was mainly confined in GHW apart from which many other anti-tobacco advertisements are being practiced worldwide and even in Bangladesh. To get a more specific picture, further study should concentrate on other anti-smoking measure encompassing larger sample area.

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