



Effects of Pictorial Health Warnings (PHWs) on Smoking Behavior of Educated Adult Urban Population of Islamabad

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Abstract

Background: This study was conducted to determine the impact of pictorial health warnings (PHWs) on smoking behavior among the adult urban population of Islamabad.

Methods: A total of 384 participants were enrolled including students and general public who were interviewed using a pre designed questionnaire. The respondents were approached at their study/work places and enrolled using non-probability convenient sampling technique. The collected data were entered, cleaned and analyzed by using statistical software IBM SPSS Statistics 23.0.

Results: Of the total 384, n=241(62.8%) were male while n=143(37.2%) were female and majority of them were aged between 18 to 33 years. The ratio of smokers and non-smokers were n=310 (80.7%) and n= 74 (19.3%) respectively. Of the 310 smokers, 42% had made an attempt to quit smoking after seeing the pictorial health warning on cigarettes' packs and among them 23% were successful in quitting smoking. Of the total 384, n=293 (76.3%) responded that family environment influence children towards smoking. Similarly, n=126 (32.98%) reported the role of peer pressure in smoking while n=330 (85.98%) participants believed that media have significant role in modifying cultural norms.

Conclusion: Over all positive response of pictorial health warnings on cigarettes 'packs was seen for quitting smoking.

Keywords: Tobacco, smoking, health, pictorial, media

Introduction

Tobacco is the single largest cause of death in the world, which kills about 6 million people each year. This total figure includes 600,000 people which are not smokers but dying from the effects of second-hand smoke also.(1) It was estimated that globally approximately 40% children, 35% of female non-smokers and 33% of male non-smokers were exposed to second-hand smoke resulting in about 1% of the global burden.(2)

The SAARC Countries consist of more than 1.5 billion population of the world and have massive tobacco

burden.(3) Comparison of Tobacco consumption among adults in Pakistan, India and Bangladesh revealed that overall tobacco consumption was significantly high in Bangladesh 43.3%, followed by India 34.6% and Pakistan 19.1%, respectively. (4) According to the Vital Strategies (World Lung Foundation) tobacco kills around 160,100 persons every year in Pakistan. Moreover, Pakistan bears economic cost of smoking Rs143 to 208 billion every year.(5)

Approximately 1200 Pakistani children between age of 6 & 15 start smoking every day (Pakistan Health Education Survey, 1999).(6) Global Adult

Tobacco Survey (GATS) 2014 revealed that in Pakistan almost 24 million (19.1%) adults currently use tobacco in any form that accounts for 15.6 million (12.4%) adults who currently smoke tobacco, including 3.7 million adults using water pipes, hookah or shisha, and another 9.6 million (7.7%) adults who use smokeless tobacco.(7) Tobacco smoking is strongly linked with ill-health, disability and death from non-communicable chronic diseases.(8) Tobacco consumption has become as a serious health issue in Pakistan, and now Pakistan is among the top four countries of the world with having a rapidly growing tobacco market.(9) Pakistan is one amongst the fifteen countries of the world which have heavy burden of tobacco-related diseases.(10)

Due to poor implementation of graphic health laws and use of tobacco smoking as acceptable norm, the tobacco control system does not work effectively. Sustainable and cost effective interventions are required to control tobacco smoking in middle income countries like Pakistan. Pictorial health warning is the cheapest way for creating awareness among general public about risks of tobacco use and it can be one of the few options for sustainable interventions.

Smokers and high risk individuals (family/friends of smokers) repeatedly see tobacco packaging; a chain smoker usually sees health warning labels on cigarette packets approximately 7300 times annually.(11) The WHO Framework Convention on Tobacco Control (FCTC).(12) Mandates that all types of tobacco packages should have prominent health warnings and recommends joining text health warnings with pictures.(13) Pictorial warnings are meant to demonstrate the adverse health effects of smoking, often showing diseased body parts and/or surgical procedures. A number of studies have reported that the addition of a picture to the text warning has increased the effectiveness of tobacco health warnings, even though the effect seems to be short-lived. (14,17) Limited local literature is available on the impact of pictorial health warnings on cigarette packs with decrease in smoking or quitting smoking. The present study was conducted to assess the response of urban, adult and educated residents of Islamabad towards pictorial health warnings.

Methodology

It was a cross-sectional observational study conducted from October 2017 to June 2018 in Islamabad. A total of 384 participants in the age group 18-57 years were enrolled in the study, including smokers and non-smokers. Sample size of 384 was determined by using sample size calculator from Calcutor.net, assuming population i.e. 50%, 95% confidence interval with 5% margin of error. Ethical approval was taken from Research and Ethics Committee of the Riphah International University. Participants were enrolled from different colleges, universities, local markets, public libraries and public sector offices of Islamabad by non-probability convenient sampling technique, after obtaining written informed consent.

Pre-designed study questionnaire was developed consisting of three major sections. The first section consisted of the items related to the demographics of the respondents that included information about age, gender, education, occupation and ethnicity. The second section of the questionnaire had questions about the effectiveness of pictorial warnings and attitude towards quitting smoking. The last section of the questionnaire had been designed to inquire the opinion of respondents about the enforcement of pictorial health warnings on cigarette pack. The questionnaire was pretested for reliability and validity by randomly enrolling 10 participants from a public office. Minor changes were done in the language of questionnaire. Participants enrolled for pre-testing were not included in main sample of the study. Data were collected on pre-designed questionnaire. Interviews of participants were conducted at their places and questionnaires were filled by the researcher. Interviews of participants from universities and public/private offices were conducted during their break time. During the interviews, cigarettes packs with pictorial health warning and with the text only warning were also shown to the individuals to get their opinion about which type of warning is more effective. Chi square tests were applied to assess the association among the variables graphic health warning and smoking attitude in form of the percentages. The P-value less than 0.05 was considered as significant

Results

Among 384 respondents, there were 241 males and 143 females. Male smokers were more 207 (53.9%) as compared to female smokers 103 (26.8%). Non-smokers male participants were 34 (8.9%) and non-smoker female participants were 40 (10.4%). Age group of majority of study participants was 18 to 33 years. Regarding qualification, 112 (29.2%) respondents had high school education, 143 (37.2%) were graduates, 122 (31.8%) had masters, and 07 (1.8%) had PhD degrees.

In the current study 42.2% respondents were employed, 22.7% were unemployed, 2.1% house wives, 32.0% students, and 1.0% having their own business. In this study 56.8% respondents were Punjabi, 11.2%, respondents were Sindhi, 29.7%, respondents were Pashtun, 2.1% respondents were Balochi, and 3.0% respondents were Balti. Whether family environment leads children towards smoking or not; out of 384 respondents, 293(76.3%) answered yes. About role of peer pressure in smoking, 126 (33.0%) respondents answered that they had no peer pressure whereas, 218 (57.1) said they had peer pressure. According to our findings there was no significant association between peer pressure and smoking. (P-value 0.510)

What is your perception about the power of media, could it play role in changing cultural smoking values in the country? In response of this question, 54(14.1%) participants responded no while, 330(85.9%) participants responded yes. Media had significant role (P-Value 0.000) in modifying cultural norms. Awareness about pictorial health warning. Among 384 participants 381 participants 72.7% responded that were aware about the pictorial health warning message. Among 384 participants 310 participants, 42.0% responded that they have made attempt to quit smoking after seeing the pictorial health warning on cigarettes' packs and 23.2% have success in quitting smoking.

Table 1. Impact of Pictorial Health Warnings on Smoking Behavior

	Smokers Frequency (%)	Non-smokers Frequency (%)	Total Frequency (%)	p-value
Family smoking environment leads children toward cigarette smoking? (n=384)				
Yes	230(59.9)	63(16.4)	293(76.3)	0.030
No	80(20.8)	11(2.9)	91(23.7)	
Peer pressure leads to smoking (n=382)				
Yes	100(26.2)	26(6.8)	126 (33.0)	0.510
No	181(47.4)	37(9.7)	218(57.1)	
Don't know	29(7.6)	09(2.4)	38(9.9)	
What is the role of media in smoking (n=384)				
Yes	256(66.7)	74(19.3)	330(85.9)	0.000
No	54(14.1)	0.0(0.0)	54(14.1)	
Pictorial health warning leads to change in smoking behavior (n=310)				
Strongly agree	58(18.7)	38(12.3)	96(31.0)	0.000
Agree	43(13.9)	66(21.3)	109(35.1)	
Neutral	12(3.9)	57(18.4)	69(22.3)	
Disagree	02(0.6)	20(6.5)	22(7.1)	
Strongly disagree	02(0.6)	12(3.9)	14(4.5)	
Pictorial health warning leads to quit smoking (n=378)				
Strongly agree	96(25.4)	10(2.6)	106(28.0)	0.049
Agree	109(28.8)	27(7.1)	136(36.0)	
Neutral	69(18.3)	24(6.3)	93(24.6)	
Disagree	22(5.8)	04(1.1)	26(6.9)	
Strongly disagree	14(3.7)	03(0.8)	17(4.5)	

Discussion

This study was conducted to assess the impact of pictorial health warning, smoking attitude and role of culture in the city Islamabad, with the sample size of 384 participants in the age group 18-57 years, with the qualification of high school education to PhD level including smokers and non-smokers. Finding of the study shows significant relation between pictorial health warnings and quitting smoking. Moreover research reveals, the family smoking environment inspires children towards initiating smoking. In addition to this, study reveals that media plays significant role in changing smoking cultural norms.

Pictorial health warning on the cigarettes pack is a cheap and effective way to communicate general public about the risks of tobacco use. It keeps smoker to think about quitting and dispirit the non-smokers to initiate smoking. Pictorial warnings play important role, especially in conveying health risks to the populations with lower literacy rates.(18) Some scholars suggested that particular care should be taken while selecting the pictorial image for use in low literacy populations, without supporting text messages, pictorial warning of smoking could give an image against the warning of its harms.(18,19) The research study explores that effectual warning labels enhance knowledge about risks connected with smoking and can affect future decisions about smoking. Large pictorial health warning can stimulate smokers to quit and discourage nonsmokers from starting, and keep ex-smokers from starting again. (20) The first scientific publication on pictorial tobacco warnings appeared in 2003 and was followed by other studies, especially by public health researcher. (21)The other research explores that smoker potentially sees a cigarette packet 20 times in a day, and almost 7300 times in a year. Cigarettes packs with graphic message create awareness of risk factors. Such types of anti-tobacco communications are really cheapest rather than other mass media campaigns.(22) Moreover, warning on cigarette packs is the *Warn Policy of the World Health Organization (WHO-FCTC)* which make obligatory execution of large (30% and preferably 50% of packet).(23)

Health warning message became compulsory in many countries during the 1970s, at this time, warnings tended to be small, text-only and conveyed one general health warning message such as (Smoking is injurious for health). The large and comprehensive warnings on cigarette packages are noticed effective

by smokers and, rotation in health warnings are also linked with increased effectiveness 2007. (24)

The statistical review of the study revealed a significant decline in smoking prevalence after the introduction of pictorial health warning in Canada in comparison to Unites States. Research study explored the implementation of PHWs in Canada, decreased smoking rates by 2.87 to 4.68 percentage points.(25) Similarly, it was revealed that in Singapore cigarette smoking was reduced by 28% due to implementation of pictorial health warnings in 2004.(26) Moreover, pictorial health warning in Australia increased smoking quitting inspiration among 60% of the smokers (R Borland, 2009).(27) In our study among 310 participants, 42.0% responded that they have made attempt to quit smoking after seeing the pictorial health warning on cigarettes' packs. And 23.2% have success in quitting smoking. Findings of our study are consisting with these research studies. As a cultural difference in terms of advertisement appeal researchers have found that advertising appeals are different by culture. Such as, advertisements from Asian countries are more emotional than American advertisements and different appeals have a different impact on people. (28)

Mostly two types of messages are used in advertisement, such as advertising for social value and advertising for personal value. Social value promotes the values of society in general (for example, messages on consumers' contributions when they purchase a product), and personal value promotes the benefits an individual consumer will receive. (29)

An exploratory research on the link of tobacco advertising with marketing regulations and youth in Pakistan was held in, 2012 in the district Rawalpindi. In this study the researcher has examined young children's awareness and understanding of health warnings on cigarette packs to get support in designing anti-tobacco interventions and creating message for counter-marketing campaigns and for upcoming health warnings. (30)

A qualitative research study which was conducted through trained South Asian community researchers using different local languages, thorough focus group and semi structured interviews approach targeting Bangladeshi and Pakistani adults. Findings shows in men smoking was linked with a strong sense of social acceptance, social connection, norm and male personality. Smoking in Bangladeshi male was more intensely socially inbuilt than in Pakistani men. In

other way, smoking in Bangladeshi and Pakistani female was linked with a strong sense of cultural outlawed, dishonor, and non-acceptance and was considered to affect a woman's likelihood of marrying. Smoking was more tolerable in older men, and to a lesser scope in older women. While, smoking in youth was considered bad-mannered and affected by fellow's pressure and was kept secreted from elders.(31)

Various and contradictory opinions subsisted on the acceptability of tobacco using within the Muslim religion. However, most of the respondents considered smoking in a mosque as unacceptable. Under the research, culture, tradition and the family appeared important in structuring and cultivating norms and values associated with smoking. Moreover, four factors were extremely interrelated in context of smoking attitudes and behavior of Pakistani and Bangladeshi adults, gender, age, religion, and tradition.(32) According to results of the present study, 85.9% respondents answered yes there is significant relation between media and changing smoking culture whereas, 14.1% respondents answered that there is no relation between media and changing smoking culture. In an international study it was reported that in smokers after exposure to more than two hundred antismoking advertisements over a period of two years, as estimated by televised gross ratings points (GRPs). The odds of having quitting smoking at follow-up increased by 11% with each 10 additional potential advertisement exposures (per thousand points, odds ratio [OR] = 1.11; 95% CI= 1.00-1.23; $P < 0.05$). Higher exposure to advertisements containing exceedingly emotional contents and personal experiences drove this effect (OR = 1.14; 95% CI 1.02-1.29; $P < .05$), which was greater among smokers belonging to low and middle-socioeconomic group than among smokers of high-socioeconomic status.(32)

In context of Pakistan, keeping in view the international best practices Pakistan has also introduced first pictorial health warning on cigarettes packs in 2010, with text covering 40% of front and back, both of the all packages.(33) In 2015, the government announced new warning with increase in size from 40% to 85% of the package. English text will come out on the back and Urdu text will come out on the front of the pack, all cigarette manufacturers and importers were required to display the 85% picture-based warnings on all cigarette packets by March 30,

2015. Unfortunately, tobacco industry challenged this in court and it becomes Sub judice matter. Now phased approach has been recommended from 1st June, 2018 with 10% increase in pictorial health warning.

According to results of current study, out of 384 respondents 76.3% answer yes family environment influence children towards smoking while, remaining (23.7%) responded no. Similarly, a systematic review of the 58 studies have revealed that relative odds of initiate of smoking in young children were expanded considerably in situation of single parent smoked (OR 1.72, 95% CI 1.59 to 1.86), more smoking by the mother (OR 2.19, 95% CI 1.73 to 2.79) than the father (OR 1.66, 95% CI 1.42 to 1.94), and in situation of both parents smoked (OR 2.73, 95% CI 2.28 to 3.28) and smoking by any household member by 1.92 (95% CI 1.70 to 2.16).(34)

Strengths and Limitations

This study would be helpful for health professionals and tobacco control advocates, in formulating tobacco control policy for the country however this article based on findings of the study covered a limited population of Islamabad due to limited resources, to get more reliable results required huge group of population to cover the whole country's population.

Conclusion

Over all positive response was shown by general population for implementation of pictorial health warnings on cigarettes 'packs. Majority of the respondent were strongly agreed for strong pictorial warnings. Family and cultural environment have significant role in changing smoking behavior.

Recommendations

Further research in this area is required to understand the various complex issues relating to pictorial health warnings on tobacco packets.

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Effects of Pictorial Health Warnings (PHWs) on Smoking Behavior of Educated Adult Urban Population of Islamabad

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