

Evaluation of awareness regarding pictorial warning on tobacco packets and its effect on cessation among tobacco users in Lucknow

ABSTRACT

Introduction: Tobacco use has been identified as the leading cause of the preventable death worldwide and estimates that it currently causes 5.4 million deaths/year. In fact, India is suffering a phase of tobacco epidemic.

Aim: The aim of the study was to evaluate the awareness regarding pictorial warning on tobacco packets and its effect on cessation among tobacco users.

Materials and Methods: A study was conducted among 200 patients having tobacco habit, attending the outpatient department of Public Health Dentistry, KGMU, Lucknow. A self-structured questionnaire was made in English and Hindi language, pertaining to demographic details, type of tobacco products used, frequency, duration of tobacco habits, and awareness regarding pictorial warning.

Results: Use of multiple tobacco habits was most prevalent 61 (30.5%) across all age groups, majority 185 (92.5%) of subjects had seen the tobacco warnings, and 113 (56.5%) participants had seen both types of warning (pictorial and written warning). One hundred and ten (55%) of subjects said that warning should be on both sides. Eighty-two (41%) study participants had never tried to quit tobacco habits, 43 (21.5%) of participants tried to quit tobacco habits because of peer pressure and 75 (37.5%) subjects said that after seeing a warning on tobacco packets, they will think to quit tobacco habit.

Conclusion: Majority of study participants have observed the warnings on tobacco packets and most of them believe that they could recognize and understand warnings. The study participants believe that warnings on tobacco packets create alertness about various deleterious effects of all tobacco habits and help in dropping or give up these habits. Pictographic warnings were more effective than text warnings.

Keywords: Cessation, pictorial warning, tobacco

INTRODUCTION

The World Health Organization Framework Convention on Tobacco Control, the world's first public health agreement, demands for warning labels to be shown as large and clear warnings that should cover 30%–50% of the packets in pictorial form, signs, or text. Every person should be educated for the health outcomes, addiction, and fatal results because of tobacco products and tobacco products smoke.^[1] A research has recognized that pictorial warnings are effective in bringing tobacco cessation among users,^[2] informing people about adverse health concerns of tobacco use,^[3] and exciting negative emotions such as fear and repulsion.^[4] The WHO has identified tobacco as the principal cause of the

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preventable death^[5] worldwide and estimates that it currently causes 5.4 million deaths/year.^[6] Rate of smoking has declined in developed countries in comparison to developing countries where it is continuously rising.^[7]

Of the 1.1 billion people who smoke globally, 182 million (16.6%) live in India. In fact, India is suffering a phase of tobacco epidemic.^[8] Tobacco control laws in India dates back to 1975, when the Cigarettes (Regulation of Production, Supply, and Distribution) Act, 1975, required the demonstration of statutory health warnings on advertisements, cartons, and cigarette packets.^[9] Collaborating the dangerous effects of smoking remains a key objective in the tobacco control policy. Section 7 of the Cigarettes and Other Tobacco Products act, 2003 (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, and Supply and Supply and Distribution) in India requires all tobacco products to accept pictorial warning, which must cover 40% of the principal display area of the front section of tobacco pack.^[10]

The recent health warnings on cigarette packs contain a picture of diseased lungs or a radiograph of lungs with cancer for smoked tobacco.^[7] Countries such as Brazil, Thailand, Singapore, Hong Kong, Chile, Australia, and Canada have successfully executed pictorial warning on tobacco product packets. Pictorial warning was found to be most effective for the people with low socioeconomic status.^[11] During pilot survey investigator got to know that many patients attending dental outpatient department of public health dentistry, KGMU, Lucknow, want to quit tobacco habit, but they did not know the availability of facilities and got to know that these patients who want to quit have some factors for quitting such as fear of cancer, got some lesion, and money. Limited literature exists which reveal the effectiveness of pictorial health warnings (PHWs) on tobacco products in India. Therefore, the present study was conducted to evaluate the awareness regarding pictorial warning on tobacco packets and its effect on cessation among tobacco users in Lucknow.

MATERIALS AND METHODS

Study design

The study design was a cross-sectional design.

Setting

The study was conducted at hospital-based study.

Participants

Patients attending the outpatient department of Public Health

Dentistry, KGMU, Lucknow, were included. Written consent was acquired from all the study participants.

Variables

A self-structured questionnaire (Cronbach's alpha = 0.866) was made in English and Hindi language, pertaining to demographic details, type of tobacco products used, frequency, duration of tobacco habits, and awareness regarding pictorial warning. In India, for smoking type of tobacco products, an image of radiographic lung cancer is being used as a pictorial warning, and the person who had said picture portrays lung problems or lung cancer or injurious to health was considered as correct reply to that pictorial warning. Similarly, for smokeless tobacco form, a picture of scorpion or oral cancer is used as a pictorial warning.

Study size

$$n = Z^2 P (1 - p) e^2$$

Where n is the estimated minimum sample size, α is the type I error, $Z/2 = 1.96$, P is the proportion of tobacco user, 1-p is the proportion of subjects, and e is the relative precision. In pilot study around 30% were tobacco user. Accepting Type I error equal to 0.5 and precision equal to 3%, a sample size of 200 was calculated.

The study was conducted among 200 patients having the tobacco habit.

Ethical

Ethical clearance obtained from Research cell, King George's Medical University, Lucknow with reference no. 911/ethics/R. Cell-18 and dated 03.07.2018.

Statistical methods

Data were analyzed using the Statistical Package for the Social Sciences (SPSS for window version 18, SPSS Inc., Chicago, Ill., USA) and number and percentage distributions were used to express the data.

RESULTS

Table 1 describes the demographic details of the study population. Table 2 describes the use of tobacco use with age group. Table 3 shows the frequency of tobacco intake. The duration of using tobacco habits is described in Table 4.

Table 5 describes about study subjects seen the tobacco warnings, majority 185 (92.5%) of subjects had seen the tobacco warnings, and only 15 (7.5%) subjects had never seen the tobacco warnings.

Table 6 is about which kind of tobacco warnings seen by study subjects, more than half 113 (56.5%) of the study subjects had seen both types of (pictorial and written warning) warnings, followed by 65 (32.5%) had seen only pictorial warnings, only 7 (3.5%) had seen written warnings, and 15 (7.5%) of subjects seen none of the tobacco warnings.

Table 1: Demographic profile

Demographic variables	Frequency (%)
Age groups (years)	
<24	21 (10.5)
25-34	60 (30)
35-44	47 (23.5)
45-54	40 (20)
55-100	32 (16)
Locality of residence	
Urban	83 (41.5)
Rural	117 (58.5)
Education	
Illiterate	54 (27)
Literate	146 (73)
Socioeconomic status	
Upper class	20 (10)
Upper middle	30 (15)
Lower middle	50 (25)
Upper lower	45 (22.5)
Lower	55 (27.5)

Table 7 depicts about which kind of warnings were more understandable. Majority 108 (54%) of study subjects accept that both (pictorial and written warning) warnings are most understandable, followed by 71 (35.5%) subjects said pictorial warnings, 14 (7%) subjects said written warnings, and 7 (3.5%) study subjects believe that none of the warnings are understandable.

According to Table 8, more than half 110 (55%) of subjects said that warning should be on both sides. Twenty-six (13%) of study subjects believe that warning should be on one side, whereas 64 (32%) subjects do not know about where the tobacco health warnings should be placed on tobacco packets.

Table 9 depicts about study subjects, if they had ever tried to quit tobacco habits, if yes then why. Eighty-two (41%) of the study subjects had never tried to quit tobacco habits, 43 (21.5%) of subjects tried to quit tobacco habits because of peer pressure, 29 (14.5%) of subjects tried to quit after suffering from any illness, and 22 (11%) subjects tried to quit due to various other reasons. Nineteen (9.5%) of subjects tried to quit tobacco habits after seeing pictorial warnings and a very small proportion 5 (2.5%) of study subjects had tried to quit the habit after seeing written warnings.

Table 2: Prevalence of use of tobacco among patients according to age groups

Age	Cigarette (%)	Bidi (%)	Gutkha (%)	Khaini (%)	Pan masala (%)	Multiple tobacco habits (%)	Total (%)
1-24	1 (0.5)	1 (0.5)	6 (3)	1 (0.5)	10 (5)	2 (1)	21 (10.5)
25-34	13 (6.5)	4 (2)	14 (7)	2 (1)	13 (6.5)	14 (7)	60 (30)
35-44	8 (4)	3 (1.5)	8 (4)	3 (1.5)	14 (7)	11 (5.5)	47 (23.5)
45-54	6 (3)	5 (2.5)	3 (1.5)	5 (1.5)	4 (2)	17 (8.5)	40 (20)
55-100	2 (1)	4 (2)	6 (3)	1 (0.5)	2 (1)	17 (8.5)	32 (16)
Total	30 (15)	17 (8.5)	37 (18.5)	12 (6)	43 (21.5)	61 (30.5)	200 (100)

Table 3: Frequency of intake of tobacco habits

Age	Daily (%)	Sometimes (%)	Once in a week (%)	Left habit (%)	Total (%)
1-24	6 (3)	12 (6)	0	3 (1.5)	21 (10.5)
25-34	38 (19)	16 (8)	3 (1.5)	3 (1.5)	60 (30)
35-44	27 (13.5)	13 (6.5)	3 (1.5)	4 (2)	47 (23.5)
45-54	31 (15.5)	6 (3)	2 (1)	1 (0.5)	40 (20)
55-100	18 (9)	11 (5.5)	0 (0.5)	3 (1.5)	32 (16)
Total	120 (60)	58 (29)	8 (4)	14 (7)	200 (100)

Table 4: Duration of using tobacco habits

Age	0-1 years (%)	1-5 years (%)	5-10 years (%)	>10 years (%)	Total (%)
1-24	14 (7)	5 (2.5)	1 (0.5)	1 (0.5)	21 (20.5)
25-34	8 (4)	34 (17)	9 (4.5)	9 (0.5)	60 (30)
35-44	4 (2)	22 (11)	5 (2.5)	16 (8)	47 (23.5)
45-54	2 (1)	11 (5.5)	12 (6)	15 (7.5)	40 (20)
55-100	7 (3.5)	9 (4.5)	6 (3)	10 (5)	32 (16)
Total	35 (17.5)	81 (40.5)	33 (16.5)	51 (25.5)	200 (100)

Table 10 describes about what kind of impact they had by seeing the warning on tobacco packets, 75 (37.5%) of study subjects said that they will think to quit tobacco habit, 58 (29%) of subjects said they will think to decrease their tobacco habit, 46 (23%) subjects said that they will think twice before starting tobacco habits, and only 21 (10.5%) of study subjects said that they will think before opening a tobacco packet.

DISCUSSION

As we know pictures can speak better than text, pictorial warnings and image help users to imagine the nature of tobacco-related problems. The pictures on tobacco products should make people alert for serious illnesses and fatal nature. In a country like India with its diverse languages and diverse cultural communities, a pictorial warning can break linguistic, cultural barriers. Furthermore, when a large percentage of the Indian population is not educated, only text warnings may be ignored, due to which pictorial warnings are compulsory.

According to Table 2, in our study, around 46% of subjects used smokeless form of tobacco, around 23.5% of subjects used smoking form of tobacco and 30.5% practice both types

of tobacco habits. However, in a study conducted by B. Rekha *et al.*,^[7] 65% of the patients smoked tobacco, while 34.2% were using a smokeless form of tobacco.

Furthermore, in our study, the use of all types of tobacco products was found to be higher in the age group of 25–34 years as compared to other age groups, but in a study done by Rekha *et al.*,^[7] they found tobacco consumption higher in 15–24 years of age group. According to the study by Bhardwaj *et al.*,^[12] maximum number of patients who were using any form of tobacco products were 35–44-year-old.

According to the results obtained in Tables 5 and 6 and 9, 92.5% of study subjects saw the warning on tobacco packet, out of which 32.5% of subjects noticed pictorial warning and 9.5% of study subjects tried quitting tobacco habit after seeing the pictorial warnings. Similar results were found in the study by Hammond *et al.*^[2] in year 2003 where 91% of study subjects reported that they had noticed the warning labels. The results of our study were also found to be in accordance with the study done by Karinagannanavar *et al.*^[13] Nearly 72.5% had seen the pictorial warnings and 14.5% had tried to reduce or quit tobacco consumption. However, according to the study by Rekha and Anjum,^[7] 21.9% of the study subjects tried to quit their tobacco-related habits after the introduction of pictorial warnings. This difference could be due to the reason (in accordance with the results of the study done by Oswal *et al.*)^[14] that the pictorial warnings do not help the purpose intended and the subjects find it difficult to understand. The scorpion sign is not understood by the subjects and they find it difficult to interpret the X-rays of lung. Furthermore, some manufacturers avoid using the

Table 5: Do you see any warning on tobacco packets

Age	Yes (%)	No (%)	Total (%)
1-24	20 (10)	1 (0.5)	21 (10.5)
25-34	57 (28.5)	3 (1.5)	60 (30)
35-44	43 (21.5)	4 (2)	47 (23.5)
45-54	37 (18.5)	3 (1.5)	40 (20)
55-100	28 (14)	4 (2)	32 (16)
Total	185 (92.5)	15 (7.5)	200 (100)

Table 6: Which kind of warning seen on tobacco packets

Age	Pictorial warning (%)	Written warning (%)	Both (%)	None (%)	Total (%)
1-24	3 (1.5)	2 (1)	15 (7.5)	1 (0.5)	21 (10.5)
25-34	19 (9.5)	4 (2)	35 (17.5)	2 (1)	60 (30)
35-44	15 (7.5)	1 (0.5)	26 (13)	5 (2.5)	47 (23.5)
45-54	17 (8.5)	0 (0.5)	21 (10.5)	2 (1)	40 (20)
55-100	11 (5.5)	0 (0.5)	16 (8)	5 (2.5)	32 (16)
Total	65 (32.5)	7 (3.5)	113 (56.5)	15 (7.5)	200 (100)

Table 7: Which kind of warning was more understandable

Age	Pictorial warning (%)	Written warning (%)	Both (%)	None (%)	Total (%)
1-24	5 (2.5)	1 (0.5)	14 (7)	1 (0.5)	21 (10.5)
25-34	19 (9.5)	1 (0.5)	38 (19)	2 (0.5)	60 (30)
35-44	18 (9)	1 (0.5)	22 (11)	6 (3)	47 (23.5)
45-54	18 (9)	1 (0.5)	17 (8.5)	4 (2)	40 (20)
55-100	11 (5.5)	0 (0.5)	17 (8.5)	4 (2)	32 (16)
Total	71 (35.5)	14 (7)	108 (54)	7 (3.5)	200 (0.5)

pictures of diseased lungs on the packet. Another reason, as seen in the study done by Arora M et al.,^[15] can be that more illiterates when compared with literates found it difficult to get motivated by seeing the pictorial warnings.

According to Table 10 regarding the impact of warnings on tobacco packet, 37.5% of the study participants across all age groups agreed that the warning encourages one to quit the habit of tobacco which fell in line with the findings of previous studies done by Karinagannanavar et al.^[13] and Kumar A and Puranik.^[15,16] However, study by Rahman et al.^[17] showed that majority of the study subjects had perceived awareness on PHWs, but the smokers thought that this was not adequate to make them quit smoking.

Haddad and Petro-Nustas^[18] coined that quitting smoking is a multifaceted process and rely on various physiological, psychological, environmental, and social factors.

Limitation and recommendation

The self-reported questionnaire that was used may cause social desirability bias and also the sampling method used may also have added to the bias. Further studies can be done

with a longer duration as time interval for the present study is very small for assessment of a sustained effect to reduce tobacco product use among tobacco user. We do not know what effects pictorial warnings would have over a longer period of time,

PHWs on tobacco packages are a cost-effective means to increase public awareness about the dangers of tobacco use and should mandate full color pictures or pictograms, in their packaging and labeling.

CONCLUSION

In the present study, majority of study participants have observed the warnings on tobacco packets and most of them believe that they could recognize and understand warnings. The study participants believe that warnings on tobacco packets create alertness about various deleterious effects of all tobacco habits and help in dropping or give up these habits. Pictographic warnings were more effective than text warnings.

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Conflicts of interest

There are no conflicts of interest.

Table 8: Do you think warning should be on both sides

Age	One side (%)	Two side (%)	Don't know (%)	Total (%)
1-24	2 (1)	13 (6.5)	6 (3)	21 (10.5)
25-34	7 (3.5)	38 (19)	15 (7.5)	60 (30)
35-44	9 (4.5)	21 (10.5)	17 (8.5)	47 (23.5)
45-54	6 (3)	20 (10)	14 (7)	40 (20)
55-100	2 (1)	18 (9)	12 (6)	32 (16)
Total	26 (13)	110 (55)	64 (32)	200 (100)

Table 9: Have you ever tried to quit tobacco habit, if yes then why

Age	After seeing pictorial warning (%)	After seeing written warning (%)	After suffering from illness (%)	Peer pressure (%)	Any other cause (%)	Never tried to quit (%)	Total (%)
1-24	0	0	1 (0.5)	3 (1.5)	3 (1.5)	14 (7)	21 (10.5)
25-34	7 (3.5)	2 (1)	9 (4.5)	11 (5.5)	7 (3.5)	24 (12)	60 (30)
35-44	5 (2.5)	3 (1.5)	4 (2)	13 (6.5)	4 (2)	18 (9)	47 (23.5)
45-54	7 (3.5)	0	7 (3.5)	7 (3.5)	5 (2.5)	14 (7)	40 (20)
55-100	0	0	8 (4)	9 (4.5)	3 (1.5)	12 (6)	32 (16)
Total	19 (9.5)	5 (2.5)	29 (14.5)	43 (21.5)	22 (11)	82 (41)	200 (100)

Table 10: What kind of impact was given by the warning on tobacco packet?

Age	They will think twice before starting habit (%)	They will think to decrease their tobacco habit (%)	They will think before opening tobacco packet (%)	They will think to quit tobacco habit (%)	Total (%)
1-24	6 (3)	4 (2)	2 (1)	9 (4.5)	21 (10.5)
25-34	15 (7.5)	17 (8.5)	8 (4)	20 (10)	60 (30)
35-44	12 (6)	11 (5.5)	4 (2)	20 (10)	47 (23.5)
45-54	8 (4)	14 (7)	3 (1.5)	15 (7.5)	40 (20)
55-100	5 (2.5)	12 (6)	4 (2)	11 (5.5)	32 (16)
Total	46 (23)	58 (29)	21 (10.5)	75 (37.5)	200 (100)

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