

Motivated to Quit: Impact of Health Warnings Depicted on the Tobacco Packets on Adults from Sub-Himalayan Himachal Pradesh

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Abstract

Background: Warning labels on tobacco products are considered effective to make the people aware of the consequences of tobacco use, and to bring about a behavioral change like quitting and reducing tobacco use.

Material and Methods: A cross-sectional study was carried out in the town of Kangra in Himachal Pradesh using a house to house survey (using Krish grid framework) to assess the effectiveness of the warnings on tobacco products with help of a questionnaire earlier used in the GATS India survey, 2010.

Results: Amongst the 98% of smokers who had seen the advertisement, 64% of males had thought about quitting whereas among females 100% of smokers contemplated quitting on noticing the warnings. This association, however, was not found to be statistically significant. Sensitivity towards the warnings was higher among those above 70 years of age with 66% of the smokers contemplating quitting after seeing the warnings and among those between 10-29 years of age, 52% of the smokers thought about quitting after seeing the warnings. This again was not found to be statistically significant. Among smokeless tobacco users too only 63.9% male users thought about quitting after seeing the warnings whereas 100% female users thought about quitting after seeing the warnings.

Conclusion: The effectiveness of warnings can be enhanced by making the warnings bigger, clearer with visible color contrast and easily interpretable so that the 35% population who do not contemplate quitting after seeing these warnings are also reached out.

Keywords: Motivated; Quit; Impact; Health warnings; Tobacco packets

Introduction

The practice of smoking tobacco dates back to as early as 5000 B.C.-3000 B.C. [1]. Over the centuries the use of tobacco has taken roots across continents to become a major cause of premature deaths and disease today.

Currently causing over 5 million deaths annually, the mortality is expected to rise to 8 million annually by 2030. In India 8-9 lakh people die of tobacco use each year.

The use of tobacco in India varies from smoking in bidis, cigarettes, hukkas etc., to chewing of tobacco, available at different prices to suit people from various socioeconomic and demographic patterns [2].

In an effort to make the people aware of the consequences of tobacco use, and to bring about a behavioral change like quitting and reducing tobacco use, warning labels on tobacco products are considered effective [3].

Some countries have introduced standardized packaging, also known as plain packaging that requires all logos graphics and colors to be removed from the pack [4]. Research shows that plain packaging makes the cigarette pack less appealing and increases attention to cigarette pack health warnings [5].

In India, mandatory pictorial health warnings are one of the key features of Cigarette and Other Tobacco Products Act (COTPA). The current health warnings appear as a picture of a scorpion on smokeless forms of tobacco and a picture of diseased lungs or an X-ray of lungs with cancer for smoking forms [3].

The Union Ministry of Health and Family Welfare have mandated an increase in the size of pictorial warnings from the current 40% in front of the packet to 85% on both sides with an effort from 1st April 2016 [6].

Methodology

This cross-sectional study was carried out in the town of Kangra in Himachal Pradesh with the help of a questionnaire earlier used in the GATS India survey, 2010. The questionnaire consisted of nine questions asking about the tobacco use, the age of initiation, about the warnings on the packets of cigarettes and chewable tobacco and the effect of these warnings on the user and finally a question on awareness through advertisements.

To calculate the sample size, the prevalence of tobacco use in Himachal Pradesh was taken as 40% (NFHS-3) [7]. The population of Kangra town is about 10000 [8]. With the design effect of 1, at a CI of 99.9% using Epi info version 7 the sample size was calculated as 261.

However, a sample of 300 was taken to accommodate for refusal to participate. The study was carried out from April 2016 to through

August 2016. The Kangra town is geographically divided into 9 municipal wards. Thirty-three people were randomly picked up for the study from each of the eight wards; whereas 36 people were interviewed in the ninth ward to complete a sample of 300. On reaching the main square in each ward, facing northward the interviewer picked the first house to his right.

The participants for the study were chosen using the Kish Grid method wherein all the members above ten years of age were listed and allotted a number and then the study participant was chosen using the Kish Grid table.

Thereafter every fifth house in the ward was included in the study and the participant chosen as described above, till the required sample size was achieved. Tobacco users were taken as those who were currently using tobacco whereas those who had quit for the last 6 months were considered as non-users.

Statistical Analysis

The data was analyzed using Epi info version 7 and presented in form of proportion and means according to the type of data. Chi-square test was used to arrive at statistical significance with p-value less 0.05 taken as a significant difference.

Results

Of the total 300 participants included in the study 223 (74.3%) were males and 77 (25.7%) were females. More than half (52.3%) of the participants were between 30-49 years of age. The mean age of the participants was 37.25 ($\pm$ 12.6) years for males and 37.22 ($\pm$ 14.25) years for females (Table 1).

	Number	Percentage (%)
Sex		
Male	223	74.3
Female	77	25.7
Age Groups (Years)		
Oct-29	92	30.7
30-49	157	52.3
50-69	42	14
$\geq$ 70	9	3

Table 1: Demographic characteristic of the study population (300=total).

The proportion of tobacco users amongst the total study population was 38.3% (115/300) of which majority was males 96.5% (111/115) and this difference in proportion among males and females was statistically significant (p=0.00).

Of the 111 male tobacco users, 102 (91.9%) were smokers whereas smokeless tobacco users were 37 (33.3%). Amongst female tobacco users, 50% (2/4) were smokers whereas 75% (3/4) were smokeless tobacco users.

Maximum use of tobacco was reported by the age group of 30-49 years, where 40.1% (63/157) were smokers and 14.7% (23/157) were smokeless tobacco users (Table 2).

	Smokers n (%)	P value	Smokeless users n (%)	P value	Tobacco users n (%)	P value
Sex						
Male (223)	102 (45.8)	0	37 (16.6)	0.003	111 (49.8)	0
Female (77)	2 (2.6)		3 (3.9)		4 (5.2)	
Total (300)	104 (34.6)		40 (13.3)		115 (38.3)	
Age groups						
10-29 (92)	25 (27.2)	0.2	14 (25.2)	0.36	31 (33.7)	0.32
30-49 (157)	63 (40.1)		23 (14.7)		68 (43.3)	
50-69 (42)	13 (31.0)		2 (4.8)		13 (31.0)	
$\geq$ 70 (9)	3 (33.3)		1 (11.1)		3 (33.3)	
Total	104 (34.6)		40 (13.3)		115 (38.3)	

Table 2: Proportion of tobacco users from the study population.

The mean age of initiation among smokers was 22.6 ($\pm$ 7.42) years, with a minimum age of initiation as 7 years and maximum age of initiation being 40 years. Among smokeless tobacco users, the mean age of initiation was 20.5 ($\pm$ 8.01) years with a minimum age of 10 years and a maximum age of 40 years.

Health warnings on the cigarette packs were noticed during the last thirty days by 97% of smokers and 97.5% of smokeless tobacco users, and 63.5% (smokers) and 65% (smokeless tobacco users) of these had thought about quitting tobacco after seeing the warning.

Amongst the 98% of smokers who had seen the advertisement only 64% of males had thought about quitting whereas among females 100% of smokers contemplated quitting on noticing the warnings.

This association, however, was not found to be statistically significant (p=1.0). Sensitivity towards the warnings was higher among those above 70 years of age with 66% of the smokers contemplating quitting after seeing the warnings and among those between 10-29 years of age, where 52% of the smokers thought about quitting after seeing the warnings.

This again was not found to be statistically significant (p=0.57). Among smokeless tobacco users too only 63.9% male users thought about quitting after seeing the warnings whereas 100% of female users thought about quitting after seeing the warnings (p=1.0).

In smokeless tobacco use, 100% of users above 70 years of age thought about quitting and 73.9% of those in the age group of 30-49 years thought about quitting after seeing the warnings. However, this

association was not found to be statistically significant (p=0.59). Information regarding the dangers of tobacco use through mass media was observed by 98.1% smokers and 92.5% of smokeless tobacco users (Table 3).

	Observed warning in last 30 days on the pack	P value	Thought quitting	Not thought of quitting	P value	Information received through mass media	P value
Smokers (104)	101		66			102	
Sex							
Male	99 (100)	1	64 (64.6)	35 (35.4)	1	100	1
Female	2 (100)		2 (100)	0		2	
Age groups							
10-29 (92)	25 (24.8)	0.57	13 (52)	12 (48)	0.12	25	0.72
30-49 (157)	60 (59.4)		46 (76.7)	14 (23.3)		61	
50-69 (42)	13 (12.9)		5 (38.5)	8 (61.5)		13	
≥ 70 (9)	3 (2.9)		2 (66.7)	1 (33.3)		3	
Smokeless (40)	39		26			37	
Sex							
Male	36 (100)	1	23 (63.9)	13 (36.1)	1	34	1
Female	3 (100)		3 (100)	0		3	
Age groups							
10-29 (92)	13 (33.3)	0.59	7 (53.8)	6 (46.2)	0.62	14	0.49
30-49 (157)	23 (60.0)		17 (73.9)	6 (26.1)		20	
50-69 (42)	2 (5.1)		1 (50)	1 (50)		2	
≥ 70 (9)	1 (2.6)		1 (100)	0		1	

Table 3: Observation of Health warnings and thinking to quit among the study population.

Discussion and Conclusion

The GATS India survey in 2010 has revealed that 35% of adults in India use tobacco in one or the other form [2]. Globally prevalence of smoking according to the WHO Global report on trends in tobacco smoking is 22.1% [9]. In the current study, we observed that 38.3% of the population was tobacco users. Hence the prevalence of tobacco use in the town of Kangra is reflecting the national level figures. The mean age of initiation is 22.6 years in our study whereas in India it is 17.8 years and in Himachal Pradesh, it is 20.5 years [2]. A systematic review of smoking initiation among Asian adolescents shows the age of initiation ranging between 10-14 years [10].

Of the 97% of smokers who noticed the cigarette warnings on the packets, only 63.5% had considered quitting. Amongst the smokeless tobacco users, only 65% had considered quitting after seeing the warnings. These results cannot be considered as satisfactory since the remaining 35% of tobacco users who were not affected by the warnings on the tobacco packs, would amount to lakhs of people who did not respond to all the efforts being made by the government in their drive against tobacco use. This large cohort of tobacco users needs to be targeted when planning the design of the warnings on the tobacco product packages. Research shows that larger graphic designs have a

greater impact on users [11]. Similar observations were reported by a study on bus drivers in Mangalore, India with 98% noticing warning labels on tobacco packages and these labels even convinced about 70% to quit [12]. Hammond et al in his survey among the smokers of the most affluent and highly educated countries reported that two-thirds of smokers cited cigarette packages as a source of health information [13]. Above studies have also reported that warning labels made respondents not only think about the health risks of smoking but also made them think about quitting smoking [12,13].

The Government of India has issued a notification which makes the size of warnings 85% on both sides of the packet mandatory w.e.f 1st April 2015 [6]. This decision although faced the ire of the tobacco industry would certainly increase the effectiveness of the warnings.

In a study conducted by Oswal et al in India, although most of the people had seen the warnings they were not able to interpret them correctly. Very few could relate the images to the ill effects of tobacco. People preferred depiction of human body images as compared to the chest X-ray image or the image of the scorpion [3]. This ignorance of the people, as well as the ambiguity of the pictures on the packet, could be one of the reasons for the ineffectiveness of the warnings.

Theories in social and health psychology supported by empirical studies have demonstrated the superiority of using pictures and images over text-only messages [14]. Graphic warnings produced a stronger cognitive response and a greater trend towards quitting than the text-only messages [11]. This may also be more relevant in the Indian society where a large number of population is illiterate or less educated, hence unable to read the text messages, which many a time are written in the English language. 73-75% of people in the study by Oswal et al preferred the warnings to be in Hindi or their local languages. Moreover, the youth who are more susceptible to tobacco addiction [15], do not have the patience to read the small print, however, in the process of taking a cigarette out of the pack, the flip cover opens from the front and hence the picture in the front gets greater attention. These graphics warnings if are large enough and with contrasting colors, elicit an emotional engagement which drives a user to quit [11]. Also, the graphic warning labels on tobacco packages should be on a rotation basis that can educate smokers regarding various health risks of tobacco usage not only lung cancer or oral cancer [12]. Current warning models suggest that an effective warning should engage a person's cognitive capacities, beliefs, and attitudes, which is only possible if they are seen for an adequate period of time [4].

Hence the warnings on the tobacco products are an important and integral part of COTPA and we need to enhance their effectiveness. This can be achieved by making the warnings bigger, clearer with visible color contrast and easily interpretable so that the 35% population who do not contemplate quitting after seeing these warnings are also reached out to. The introduction of standardized 4 packaging that has been adopted by several countries could perhaps be the next step forward for India too as it could prove to be a deterrent for the youth who are attracted by the fancy packaging of tobacco products.

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