


**ORIGINAL ARTICLE****IMPACT OF PICTORIAL HEALTH WARNING LABELS ON PEOPLE CONSUMING TOBACCO PRODUCTS IN SMOKING FORM**Dimplejit Singh Mangat<sup>1</sup>, Harinder Singh Mangat<sup>1</sup>, Karanprakash Singh<sup>2</sup><sup>1</sup>BDS, Genesis Institute of Dental Sciences and Research, Ferozepur, India, <sup>2</sup>Reader, Department of Public Health dentistry, Luxmi Bai Institute of Dental Sciences & Hospital, Patiala, India**ABSTRACT:**

**Objective:** Tobacco is the main risk factor for cancer and its incidence is increasing day by day. So government authorities are trying attentively to decrease the sale of tobacco products by implementing pictorial warnings on the cigarette packets. This study was conducted to verify the impact of pictorial health warning labels on smokers. **Material and Methods:** This cross sectional study was conducted among patients coming to a dental OPD. Those subjects aged 15 years and above and were established smoker (who smoke at least one cigarette per day at the time of the survey were selected. A total of 320 subjects were investigated using a pretested, self administered multiple choice and close ended questionnaire Descriptive statistics were obtained and frequency distribution, means, standard deviation were calculated. The significance of difference was set at  $p < 0.05$ . **Results:** 81.6% of the participants had noticed health warning pictures on the cigarette packets and 59.4% had discussed regarding these warning effects with other people. Mostly people want warnings in their local lingua franca and also government should improve the quality graphic warnings. More than half of the respondents gave positive response in quitting this adverse habit. **Conclusion:** It was found that majority of the participants have noticed the health warning labels on the cigarette packets. Mostly people recognized the graphic warnings and still some were confused due to its clarity and wanted government to improve its quality.

**Key words:** Health warnings, Pictorial Warning, Smoking, Tobacco cessation.

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**INTRODUCTION**

Tobacco products both in smoking and smokeless form kill people. According to the Million Death Research, Smoking form of tobacco alone leads to 10% of all deaths. One among five adult male deaths and one among twenty adult female deaths in middle age group are due to smoking only.<sup>1</sup> In India, around 800,000 deaths annually are related to the use of tobacco, out of which 700,000 are due to smoking only.<sup>2</sup> Mostly people are not aware regarding the extent of damage that tobacco can cause. Being one of the most important preventable causes of many complicated diseases, it is extremely vital to communicate information concerning the harmful effects of tobacco use among people.<sup>3</sup> Cigarette warning labels provide means of informing smokers about the health hazards associated with smoking. Warning labels are unique among tobacco control initiatives in that they are delivered at the time of smoking.

Pictorial warning labels have benefits over only text matter labels as they increase the attention, as well as the recall of messages, and also lead to motivation to quit smoking. Recent studies have publicized that they are additional effectual in reducing passion to smoke, principally among youth smokers.<sup>4-7</sup>

The framework convention on tobacco control requires signatory countries to implement health warning on cigarette packs that are at a minimum large, clear and cover at least 30% of pack surface.

Indian Parliament passed the Cigarette and Other Tobacco Products under Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution Bill for implementing pictorial warning on tobacco products. And the same was finally implemented on 31<sup>st</sup> May, 2009.<sup>2</sup>

Since there is limited data regarding the impact of newer warning labels on smoking cessation in India. So, this

study was planned to recognize the impact of pictorial health warning labels on smokers.

**MATERIALS AND METHODS**

This cross sectional study was conducted among patients coming to the Department of Oral Medicine & Radiology in Ferozpur city, India to examine the impact of the introduction of graphic health warnings on cigarette packs on adult smokers.

Those subjects aged 15 years and above and were established smoker (who smoke at least one cigarette per day at the time of the survey) were selected. Individuals who used smokeless form of tobacco and were not willing to participate were excluded.

A total of 320 subjects were investigated using a pretested, self administered multiple choice and close ended questionnaire including demographic profiles, information regarding number of cigarettes smoked per day, method of buying, health warning label's impact on health, willingness to change (time and the quantity of cigarettes they plan to decrease per day in quitting) and improvement in warning labels.

**DATA ANALYSIS**

Data was analyzed using SPSS version 16.0. Descriptive statistics were obtained and frequency distribution, means, standard deviation were calculated. Student's t test and One way ANOVA were used to find the significance of difference at  $p < 0.05$ .

**RESULTS**

The study was conducted among 320 participants including 288 males and 32 females. According to the education status, 61 were illiterate, 107 completed primary education and 152 had education above primary level.

In this study, 81.6% of the participants had noticed health warning pictures on the cigarette packets and 59.4% had discussed regarding these warning effects with other people. Regarding the method of buying cigarettes, 43.4% said that they prefer to buy full packets and 56.6% usually buy loose cigarettes. 73.4% of the study subjects mentioned that statutory warnings on tobacco packets should be written in the local language so people can easily understand. 65.6% participants recommended that the health warning proposed by the government should be improved to convey very serious diseases like cancer (Table 1).

The data stated that most of the study participants (40.6%) consume between 5 to 10 cigarettes per day followed by more than 10 cigarettes/day (31.9%) and 1 to 5 cigarettes/day (27.5%) as shown in Graph 1.

When it was asked about the warning status on the cigarette packet, mostly people observed that the picture depicts about the Lung (59.7%) and Oral (24.1%) cancer. However, very few participants pointed out about Heart diseases (5.9%) and Tuberculosis (2.2%). Around 8.1% said that the picture was not giving idea about any serious condition (Graph 2). When asked about reducing the number of cigarettes, more than half of the sample ready to decrease 1 cigarette/day, 16.8% ready to reduce 2 cigarettes/day, 8.3% ready to reduce 3 cigarettes/day and 3.2% ready to reduce 4 cigarettes/day. However 20.3% did not give any positive response for lessening the frequency of cigarette smoking (Graph 3).

Regarding the response of the participants to quit smoking, 56.9% said that they will quit in the coming six months and 4.6% answered that they will quit within a month. Whereas 16.3% were having no idea regarding giving up of tobacco (Graph 4).

**Table 1:** Response of the participants regarding Impact of graphic warnings on cigarette packets

Sr no	Questions	Number	Percentage
1	Do you buy Full packets of cigarettes	139	43.4%
2	Have you ever noticed pictures on the cigarette packs?	261	81.6%
3	Have you ever talked about the warning labels with other people?	190	59.4%
4	Should statutory warnings on tobacco packets be written in local language?	235	73.4%
5	Should health warning proposed by the government be improved to convey very serious diseases like cancer, caused by tobacco?	210	65.6%

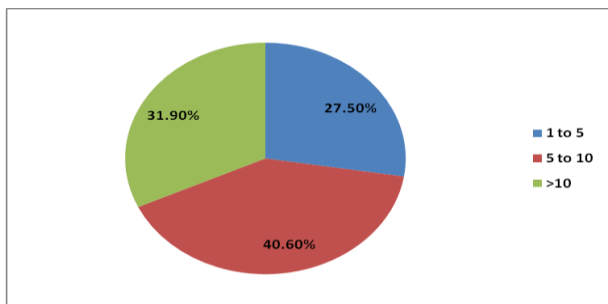
**Table 2:** Mean scores of the participants regarding Impact of graphic warnings on cigarette packets according to sex

Sex	No	Mean	SD	p-value
Males	288	2.76	1.140	
Females	32	2.93	1.016	.032

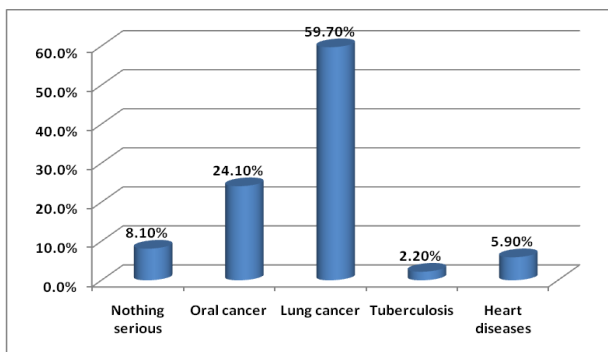
**Table 3:** Mean scores of the participants regarding Impact of graphic warnings on cigarette packets according to Education level

Education level	No	Mean	SD	F-value	p-value
Illiterate	61	2.50	1.206	3.297	.032
Up to primary level	107	2.75	1.096		
Above primary level	152	2.99	1.063		
Total	320	2.80	1.110		

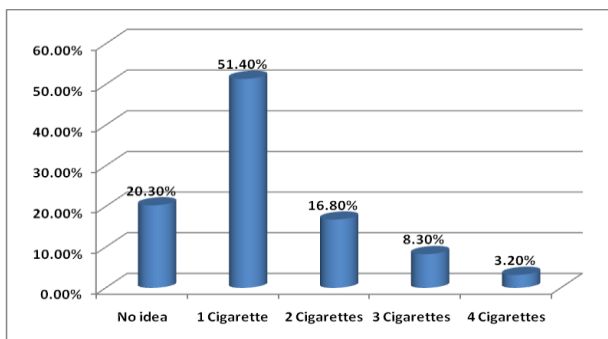
**Graph 1:** Showing number of Cigarettes smoked per day



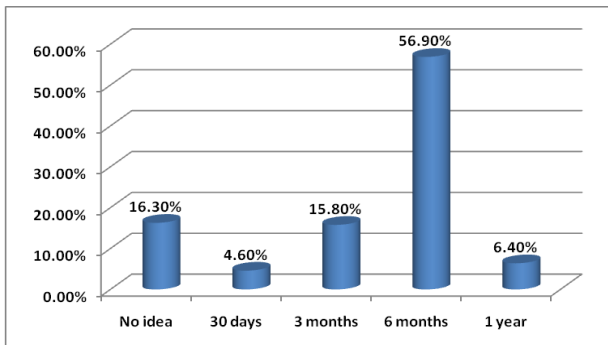
**Graph 2:** What do you think that the warning on the cigarette packet has to say



**Graph 3:** If you plan to reduce smoking, then how many cigarettes do you plan to lessen in a day?



**Graph 4:** If you consider completely quitting smoking, are you going to quit seriously in the next?



**DISCUSSION**

There is a famous Chinese proverb saying that “If I hear and I forget, I see and remember, I do and I understand. It means that a picture speaks thousand words. When a person sees something with their own eyes, it will remain in their memory forever.”

The present findings stated that 81.6% of the participants had seen health warning labels on the cigarette packets. Similarly Shah VR et al found that out of 776 tobacco users, 561 (72.3%) had observed warning over the tobacco products.<sup>8</sup> In an another study done by Karinagannanavar A et al, findings were almost similar as 72.5% of total participants had seen the graphic warnings.<sup>9</sup> However, study conducted by Talreja K et al observed that 97.5% people had idea of the pictorial warnings on cigarette packs and 18.2% of them were not able to understand the clear picture of pictorial warning.<sup>10</sup> These results were similar to the study conducted by Karibasappa GN et al, the reason behind not recognizing the warning label could be due to smaller size of packaging of the product.<sup>11</sup>

The present study also showed that 59.4% of the study participants discussed about the health warning labels on tobacco packets with other people (including their family members and friends).

Pictorial warning labels do have an impact on changing behavior pattern of the smokers as around 80% of the participants were planning to reduce the frequency of smoking by one to four cigarettes per day. When they were asked about absolutely quitting this adverse habit, around 85% gave a positive response. These findings were in accordance with the study conducted by Karibasappa GN et al in people consuming both smokeless and smoking form of tobacco.<sup>11</sup> Similarly, Shah VR et al mentioned that 82.2% of the study participants had reduced the number of cigarettes after noticing the warning labels.<sup>8</sup>

It was revealed in the study that Impact of graphic warnings on cigarette packets increased with the advancing education level i.e. from illiterates to above primary level. Another comparable study mentioned that illiterates were not aware about the warning labels and as the level of education increases number of smokers with positive impact of warning labels increases.<sup>11</sup> Similarly stratification based on education mentioned that only 27.7% of illiterate participants have seen pictorial warning on smoked tobacco manufactured goods.<sup>12</sup> Talreja K et al also said that 87.6% of the people needed education for proper understanding of ill effects due to tobacco.<sup>10</sup>

Mostly the study participants were willing to see the warnings printed on the tobacco packets in their own mother tongue like Hindi. The results were comparable to the study by Oswal et al in an Indian community showing 73 to 75% people favor the pictorial warning message to be in regional language (Hindi and Marathi respectively).<sup>12</sup>

The authors stated that 65.6% of the participants suggested that government should improve the quality of warning

graphs to convey very serious illness like cancer. In a harmony to this a study done by Arora M in five states of India (Delhi, Rajasthan, Himachal Pradesh, Tamil Nadu, Mizoram) observed that the current health warnings status was not effective for educating the public.<sup>13</sup>

In Canada, impact of warning labels was high more than 40% of Canadian smokers reported that the pictorial warnings have motivated them to quit smoking.<sup>6</sup> In countries like Australia HWL occupies 90% at the back 30% in the front, in Brazil it is 100% on either.<sup>14</sup> Tobacco consumers are more probable to recall larger pictures as they associate the size of the warning with the size of the health hazard associated with the product.<sup>15</sup> Whereas in USA pictorial warnings were poorly depicted compared to the above mentioned countries. The health warning labels on the cigarette packs in USA provide less information than many other countries.<sup>16</sup>

Borland suggested that the graphic warnings could also be used to address knowledge discrepancy in other parts, such as filter ventilation, low-tar cigarettes, and the effects of reverse smoking.<sup>17</sup>

India is ranked at 136<sup>th</sup> position among 198 countries according to the clarity and size of pictorial warnings.<sup>10</sup> In India, approximately 5,500 youngsters commence using tobacco every day. So the warnings would have greater impact on the population to control the incidence of smoking.<sup>12</sup> As this is an easy and economical method to create awareness among the illiterate people.

## CONCLUSION

The findings concluded that majority of the participants have notice the health warning labels on the cigarette packets. Smokers mostly observed that the picture depicts about the Lung and Oral cancer, but still some were confused with Heart diseases and Tuberculosis due to poor quality of packaging. Therefore government should strictly recommend that the health warning must be improved to convey very serious diseases like cancer and also statutory warnings on tobacco packets should be written in the local dialect.

## REFERENCES

1. Sitas F, Urban M, Bradshaw D, Kielkowski D, Bah S, Peto R. Tobacco attributable deaths in South Africa. *Tobacco Control* 2004; 13:396–399.
2. Raute L, Pednekar MS, Gupta PC. Pictorial Health Warnings on Cigarette Packs: A Population Based Study Findings from India, *Tobacco Use Insights*, Libertas Academica, 2009.
3. World Health Organization. An international treaty for tobacco control, 12 August 2003. [<http://www.who.int/features/2003/08/en>].

4. Hammond D, Fong GT, McNeill A, et al. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. *Tob Control* 2006; 15:19–25.
5. Fong GT, Hammond D, Jiang Y, et al. Perceptions of tobacco health warnings in China compared with picture and text-only health warnings from other countries: an experimental study. *Tob Control* 2010; 19:69–77.
6. Hammond D, Fong GT, Borland R, et al. Communicating risk to smokers: the impact of health warnings on cigarette packages. *Am J Prev Med* 2007; 32:202–9.
7. Strasser AA, Tang KZ, Romer D, et al. Graphic warning labels in cigarette advertisements: recall and viewing patterns. *Am J Prev Med* 2012; 43:41–7.
8. Shah VR, Dave VR, Sonaliya KN. Impact of anti-tobacco warning labels on behavior of tobacco users in one of the cities of Gujarat, India. *J Prev Med Hyg* 2013; 54: 109-113.
9. Karinagannanavar A, Raghavendra B, Hemagiri K, et al. Awareness about pictorial warnings on tobacco products and its impact on tobacco consumers in Bellary, India. *Asian Pacific J Cancer Prev* 2011;12 2485-89.
10. Talreja K, Rajpurohit L, Thawani P. Effect of Statutory and Pictorial Health Warning among People Consuming Tobacco Products in Pune City, India – A Questionnaire Study. *The Journal of Community Health Management* 2016; 3(2):75-79.
11. Karibasappa GN, Nagesh L, Usha GV, et al. Assessment of awareness about pictorial warnings on tobacco products among 15 years and above age in Davangere City, Karnataka, India – a cross sectional survey. *Indian J Stomatol* 2011; 2:227-32.
12. Oswal KC, Raute LJ, Pednekar MS, Gupta PC. Are Current Tobacco Pictorial Warnings in India Effective? *Asian Pacific J Cancer Prev* 2011; 12, 121-124.
13. Arora M, Advocating the implementation of pictorial health warning on tobacco products in India. 2010. [www.iuhpeconference.net/downloads/en/.../PDFs/Arora-Monika.pps.pdf](http://www.iuhpeconference.net/downloads/en/.../PDFs/Arora-Monika.pps.pdf).
14. Cunningham R. Cigarette package warning size and use of pictures: international summary. Ottawa: Canadian Cancer Society, 7 July 2009. Available from: <http://www.tobaccolabels.ca/labelima/healthwarning> last accessed on 5th Oct 2015.
15. Strahan EJ, White K, Fong GT, et al. Enhancing the effectiveness of tobacco package warning labels: a social psychological perspective. *Tob Control* 2002 11:183-90.
16. Hammond D, Fong GT, Borland R, Cummings KM, McNeill A, Driezen P. Text and Graphic Warnings on Cigarette Packages Findings from the International Tobacco Control Four Country Study. *Am J Prev Med* 2007; 32(3):202–209.
17. Borland R, Yong HH, King B, et al. Use of and beliefs about ‘light’ cigarettes in four countries: findings from the International Tobacco Control Policy Evaluation Survey. *Nicotine Tob Res* 2004; 6:311–21.

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