

Assessment of Awareness about Pictorial Warnings on Tobacco Products Among 15 Years and Above Age in Davangere City, Karnataka, India - A Cross Sectional Survey

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Abstract

Aim: The present study was aimed to investigate the awareness and impact of pictorial warnings on tobacco products among 15 years and above in Davangere city.

Study design: A descriptive cross sectional survey.

Method: A total of 1000 subjects were randomly selected from different locations of Davangere city like bus stand, railway station, near construction work, hotels and near cinema theatre etc. Data was collected by a self designed, close ended structured questionnaire which comprised of 22 questions related to demographic details, awareness and impact of pictorial warning present on tobacco products. Questionnaires were distributed and collected on the same day. If the participant was an illiterate questions were read and explained by the investigator to collect the data pertaining to the study. Data so obtained was subjected to statistical analysis using Chi Square test.

Results: Results of the study revealed that a majority of the participants (72.7%) were aware of statutory and pictorial warning present on the cigarette pack. 69.6% said they can understand pictorial warning given on the cigarette pack and 50.8% said pictorial warning on tobacco products encourage them to quit tobacco habits.

Conclusion: It can be concluded that pictorial warning on tobacco products is more impactful than statutory warning in creating awareness. The opinion was highest among older age and upper class people.

Keywords: Tobacco products, statutory warning, pictorial warning.

Introduction

"Thank you for Not Smoking. Cigarette smoke is the residue of your pleasure. It contaminates the air, pollutes my hair and clothes, not to mention my lungs. This takes place without my consent. I have a pleasure, also. I like a beer now and then. The residue of my pleasure is urine. Would you be annoyed if I stood on a chair and pissed on your head and your clothes without your consent?"

~Sign from Ken's Magic Shop

Tobacco is an agricultural product processed from the leaves of plants belonging to genus *Nicotiana*, which can be consumed in different forms like smoking, chewing, snuffing or dipping tobacco. As with any other material tobacco too has pros and cons. Pros of tobacco are temporary stress relief, increased rate of metabolism, suppresses appetite, carbon monoxide released in small amounts can prevent blood clots and tobacco industries provide job for many. But the list of cons grows endlessly from simple bronchitis to impotence among men and encompassing death in its fist. As the list of cons outweighs the pros, the use of tobacco should be curbed.

"Tobacco is the only legally available product that kills people, and 1.2 million people die from tobacco use in our region annually. An effective tobacco control strategy is, therefore, not just a programmatic necessity but also a moral imperative," as said by Dr. Samlee Plianbangchang, WHO.¹ The World Health Organisation (WHO) has estimated that India has the second largest number of smokers in the world after China.²

Many approaches and strategies are being tried to prevent, control and cease tobacco use both at individual and community level. At individual level withdrawal clinics, medication, behavior modification, self-help materials, multiple-component programs are being appreciated.

Increased tobacco costs, anti-tobacco media campaigns, declining social acceptability of smoking, limitations on where smoking is allowed and restricted access for minors are all the methods approached through community.

Unlike many other products, tobacco packaging is not removed and discarded but is used as a container until the contents have been consumed; it thus remains highly visible and is frequently exposed to users (and others). As a result, it delivers brand messages, reinforces brand rivalry, and maintains brand salience.³

Pollay⁴ exposed the extensive research undertaken to design cigarette brand livery, while Hammond⁵ explained how this reassures smokers who feel anxious about the medical consequences of their addiction. Mahood⁶ also warned that sophisticated pack design elements, such as aspirational brand names, colours and designs, reduce the visibility and impact of health warnings.⁷ Rootman and Flay⁸ reported that young people regarded plain packages as old fashioned and boring, and thought fewer people would smoke if cigarettes were sold in plain packages. Hence packages can be used to impart knowledge. Such knowledge can be either through wordings or pictures.

It is said that picture can speak thousand words. Pictorial warnings and images are meant to help users to visualize the nature of tobacco-related diseases. They should make them aware that tobacco use can cause serious illnesses and can kill the user. In a country like India with its multilingual and multicultural communities, a pictorial warning can break cultural, regional and language barriers. Moreover, when a large proportion of the population is illiterate, written warnings may be ignored, which is why pictorial warnings are necessary. Canada was the first country to introduce pictorial warnings way back in 2001 followed by Brazil.⁹ The Government of India gave an undertaking in

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the Supreme Court that pictorial health warnings on packages of tobacco products would be mandatory from 31 May 2009. Under COTPA (Cigarette and Other Tobacco Products Act) India is planning to implement three different types of graphic warnings covering 40% of the front of all tobacco product packages.¹⁰

Review of literature revealed that no studies have been conducted to assess the awareness and impact of pictorial warning on tobacco product in South India. Hence this study has been taken up as an opportunity to throw some light in this regard. Present study is intended to investigate the awareness and impact of pictorial warnings on tobacco products among 15 years and above in Davangere city. South India is used in the sentence only to emphasize the dearth of studies and need for research in such an area. Davangere is a small town selected for such a study. Our sampling frame is 15 year and above people in Davangere city, for whom the results can be generalized.

Methodology

The present study is a descriptive cross sectional survey, conducted to assess the awareness and impact of pictorial warnings on tobacco products among general population from age group 15 years and above in Davangere city. Permission was obtained from the ethical review board of Bapuji Dental College and Hospital, Davangere to conduct the study. Written informed consent was obtained from study subjects before the questionnaire was distributed. For the illiterates, consent form was read and explained by the investigator and their thumb impression was taken as consent.

A self designed structured questionnaire both in English and local language (Kannada) was constructed based on the previous study done by Lucknow University and on objectives of the current study. Questionnaire consisted of 22 close ended questions related to-

- Demographic details which included occupation, education level and income. Socioeconomic status was derived from Kuppaswamy's socioeconomic scale- 3 questions
- One section only for those respondents who were tobacco users on their tobacco use history - 4 questions
- Awareness about pictorial and statutory warning on tobacco products - 4 questions
- Awareness about consequences of tobacco use on general and oral health - 4 questions
- Perceived opinion about pictorial and statutory warning - 7 questions

Questionnaire validity was checked by Chronbach's alpha (0.8). Pilot study was carried out on 100 subjects from different areas of Davangere city to know the feasibility and validity of the questionnaire before the main study. Based on pilot study sample size was estimated for main study.

Data collection was scheduled in the middle of academic year (August 2009). The study was conducted at various areas of Davangere city to cover all sections of society (bus stand, railway station, near construction work, hotels and near cinema theatre). The questionnaire was distributed randomly to those who were relatively free and sufficient time was given to read, understand and answer the questionnaire. For the illiterates questions were read and

$$N = \frac{d^2}{4pq}$$

$$= \frac{4 \times 70 \times 30}{(3.5)^2}$$

$$= 685 + 137 = 822$$

investigator helped them to complete the same. The participants were requested to answer the questions with interest and concentration, so as to obtain valid results. Twenty five minutes was given to each person to fill the questionnaire. Such filled questionnaire was collected on the same day. The data so obtained was fed into Excel sheet, tabulated and analyzed by applying Chi Square test using SPSS software (version 16).

Results

Demographic details

One thousand people of Davangere city constituted the sample. Among them 88.3% were males and the remaining 11.7% were females. Participants of the study were in the age group of 15-75 years, out of which 22.1% were of 15-24 years, 32.6% were of 25-34 years, 24.7% were of 35-44 years, 14.9% were of 45-54 years and 5.7% belonged to 55 years and above age group. 64.3% were married and 35.7% were unmarried. 32.5% belonged to lower class, 61.1% to middle class and only 6.4% belonged to upper class. 89.4% participants were literates and remaining 10.6% were illiterates.

20.3% were cigarette smokers followed by 18.6% gutka, 14.5% beedi, and remaining 37.1% were users of all the above. A majority of them 22.5% were into the habit of tobacco consumption between 1-5 years followed by 16.2% between 5-10 years, 15% more than 10 years and only 9.3% were using tobacco for less than 1 year. In 37% of people stress was the main reason for tobacco consumption followed by 12.6% due to elders' effect, 4.5% due to smoking in movies 4.5% and 14.5% combination of all (i.e., stress, elders' effect, smoking in movies).

Majority of them (73.4%) were aware about the presence of pictorial warning given on the cigarette pack. 70.4% said they can understand pictorial warning given on the tobacco products. 29.8% said tobacco consumption in any form is harmful followed by 27% cigarette, 16% gutka and 15.9% beedi. 81.5% subjects said that statutory warning should be present and 57.1% of the subjects acknowledged that pictorial warnings on tobacco products create awareness about hazards on health. 73.9% of the subjects revealed that pictorial warnings help them to quit the habit. A total of 68.7% subjects answered that they know tobacco causes oral cancer. 74.9% were aware of the ill effects of tobacco consumption on oral health like gingival diseases and dental caries. 89.2% of the participants were aware of the discoloration of teeth due to tobacco consumption.

Awareness about addition of pictorial warning along with the statutory warning was more among older age group between 65-75 years (84.6%) and was least among 55-64

Details	Number (Percentage)
Age	
15-24	221(22.1%)
25-34	326(32.6%)
35-44	247(24.7%)
45-54	149(14.9%)
55-64	44(4.4%)
65-75	13(1.3%)
Sex	
Male	883(88.3%)
Female	117(11.7%)
Marital status	
Married	643(64.3%)
Unmarried	357(35.7%)
Socioeconomic status	
Upper	64(6.4%)
Middle	611(61.1%)
Lower	325(32.5%)
Education level	
Illiterates	106(10.6%)
School level	313(31.3%)
Post high school level	302(30.2%)
Graduation	267(26.7%)
Post graduation	12(1.2%)

Table 1: Demographic details

Question	Yes	No
Are you aware about the presence of pictorial warning?	73.4%	26.6%
Whether you can understand pictorial warning?	70.4%	29.6%
Does pictorial warning help to quit the habit?	73.9%	36.1%

Table 2: Response rate for awareness and understanding of pictorial warnings on tobacco products

Response	15-24years	25-34 years	35-44 years	45-54 years	55-64 years	65-75 years
Yes	71%	59.2%	52.2%	50.3%	50%	84.6%
No	29%	40.8%	47.8%	49.7%	50%	15.4%

Chi-Square	df	P value
29.6	10	0.001

Table 3: Age related response to awareness of the addition of the pictorial warning on tobacco products

Response	Upper	Middle	Lower
Yes	76.6%	56.6%	59.1%
No	23.4%	43.4%	40.9%

Chi-Square	df	P value
10.08	4	0.039

Table 4: Socioeconomic status related response to awareness of the addition of the pictorial warning on tobacco products

Response	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-75 years
Yes	24.4%	28.5%	32.8%	26.8%	31.8%	46.2%
No	75.6%	71.5%	77.2%	73.2%	68.2%	53.8%

Chi-Square	df	P value
33.9	8	0.00

Table 5: Age related response to effectiveness of statutory or pictorial warning

Response	Upper	Middle	Lower
Yes	25%	30.9%	25.5%
No	75%	69.1%	74.5%

Chi-Square	df	P value
4.87	6	0.031

Table 6: Socioeconomic related response to effectiveness of statutory or pictorial warning

(50.0%). The difference was statistically significant with the p-value <0.05. The awareness was highest among the upper class people (76.6%) and least in the lower class (59.5%). It was statistically significant with the p-value <0.05.

According to 70.5% of the study subjects pictorial warning is more impactful than statutory warning; it was highest among older adults 45-54 years (73.2%) and it was least in the 65-75 year age group people. 75% of upper class people said that pictorial warning is more impactful. When this was compared with the other group, the difference was statistically significant with the p value <0.05.

Relationship of education status to awareness and impact of pictorial warnings

Education status was categorized as illiterate, school level, post school level, graduate and post graduate. 57.2% of school level, 57% of post school level, 62.9% of graduates, 41.7% of post graduates are aware of the addition of the pictorial warning along with the statutory warning. 59.4% of illiterates are also knowledgeable about the addition of pictorial warnings. 42.8%, 43%, 37.1%, 58.3% of school level, post school level, graduate, and post graduates were not well-informed about the pictorial warnings respectively. 40.6% of illiterates were not clued up about the pictorial warnings on tobacco products. 40.6% of illiterates were not aware about the pictorial warnings on tobacco products.

People educated up to school level (53.4%), post school level (52%), graduates (49.1%), post graduates (41.7%) reported that pictorial warnings encourage them to quit the habit. 45.3% of illiterates also agree that pictorial warnings on tobacco products are effective.

42.8% of school level, 45% of post school level, 47.6% of graduates, 58.3% of post graduate study subjects said that the pictorial warnings are not effective. 49.1% of illiterates are of the opinion that pictorial warnings are ineffective. While 3.8% of school level, 3% of post school level, 3.4% of graduates, stood neutral by saying they are not aware whether pictorial warnings help to quit the habit or not.

24.6% of school level, 30.8% of post school level, 31.8% of graduates, 50% of post graduate study subjects accept that the pictorial warnings are impactful. 28.3% of illiterates are also of the same opinion.

75.4%, 69.2%, 68.2%, 50% of school level, post school level, graduate, and post graduate educated do not agree to that pictorial warnings are impactful. 71.7% of illiterates believe that pictorial warnings are not impactful. There is no statistical significant difference between the education of the person and awareness about addition and impact of pictorial warnings on tobacco products to quit the habit.

Discussion

If packaging is one of the effective means to entice a person buy a product, it can also be effectively used to ensure that the person shuns it.¹⁰ Many people already know that cigarettes cause lung cancer, so how do pictorial warnings suddenly make smokers kick the habit? Gory pictures of diseases do the trick!

The reason why pictorial warning issue was taken up was that graphic health warnings on tobacco packages are an easy, inexpensive way to show the truth about tobacco

consumption. The warnings will thus reach all users and increase awareness about the risks of tobacco use. Pictorial health warnings are essential in a low-literacy, multilingual society to communicate the risks of tobacco use to consumers. They are eye catching, informative, adds on as an additional motivation to quit tobacco consumption. They are also legally, technically and economically feasible. The need of the hour is to create social acceptability to abandon the use of tobacco consumption by disseminating the fatal effects of its use. Studies point that fore warning tobacco users of the ill-effects of tobacco use through pictorial health warnings is one of the most effective measures to control and prevent tobacco use and its consequences.

Tobacco control cannot be effective unless its supply is also restricted in a planned and phased manner. The Government of India is committed in organizing awareness campaigns in tobacco growing regions to convince the growers of its hazard on health and environment. The Government is making efforts to identify alternative crops to tobacco farming in all agro-climatic zones by adopting crop shift pattern.

Results of the current study revealed cigarette smoking to be the highest and beedi smoking as the least among different forms of tobacco products which is in agreement with the study by M. Rehman.¹¹ The reasons attributed to consume tobacco were stress, elders' effect and smoking in movies. People could understand the pictorial warnings on the tobacco products but they were reluctant to quit the habit. One third of the respondents agree that all forms of tobacco are harmful. This is in agreement with the previous study done by Alok Kumar.¹² Although cigarette and gutka are in consecutive terms of harmfulness, beedi is also equally harmful on health. This result goes in hand with the beedi monograph released by the Ministry of Health and Family Welfare, Government of India in May 2008.¹³

More than three fourth of the people are aware about the statutory and pictorial warning. This finding is comparable with previous study done by Lalit J Raute¹⁴ and Padma K Bhat¹⁵ and more than half of them are aware about the recent change of warnings. This is a positive indication that people do read and recognize the change on the tobacco products. Even though the respondents understand the pictorial warnings, it is less provocative to quit the habit. People agree that pictorial warnings raise awareness about the health hazards of tobacco like lung cancer, cardiac disease, hypertension, which is contradictory to the report given by Voluntary Health Association of India.¹⁶ A new avenue was opened through this survey about the awareness of people regarding causation of oral cancer and discoloration of teeth by tobacco. It can be speculated that people are more aware about their health. Most of the respondents reveal that statutory warning is more impactful. This report is contradicting the report given by Voluntary Health Association of India¹⁶ and David Hammond.¹⁷ As per the study results announced by Healis Sekhsaria Institute for Public Health pictorial warnings are largely ineffective.¹⁷ This may be because health warning labels do not meet size, message, or graphic image requirements. Instead, they are small, unnoticeable and provide unclear or misleading information. Only large, clear, warnings with pictures that cover at least 50% or more of the package's principle areas (front and back of the package)

are effective as per WHO.

Pictorial warnings are useful as an educative model to educate the surrounding people. About 80% of the population said that warnings on tobacco product are essential which depicts the importance and impact of warnings to quit tobacco consumption. Limitation of the study is that for illiterates questions were read out by the investigator which could have influenced the answer.

When the results were subjected for statistical analysis to understand the relationship of educational status with the awareness and impact of pictorial warnings, it revealed that awareness about addition of pictorial warning along with statutory warning was highest among graduates and least among post graduate individuals. Results of the study done by O'Hegarty M¹⁸ are in line with the results of the present study in this regard. Pictorial warnings encourage to quit the habit and was accepted majorly by school level and least by post graduate completed individuals. According to majority of school level educated study subjects pictorial warnings are impactful and this agreement was least among post graduates. It could be speculated that less number of post graduates in the sample could be the reason for the difference in the opinion in the present study.

Conclusions and recommendations

Large numbers of people are aware about the statutory warning and its recent change into pictorial warning on tobacco products which are better understood by all sections of people. From the current study it can be concluded that pictorial warning is more impactful than statutory warning. And also education level is not associated with the awareness and impact of pictorial warnings on tobacco products. It is recommended that the pictorial health messages should be large and clear enough so that people will read and understand as per the guidelines which may improve the readability and perception of people.

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