

## Effect of Statutory and Pictorial Health Warning among People Consuming Tobacco Products in Pune City, India – A Questionnaire Study

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### Abstract

**Context:** Government is trying diligently to reduce the sale of tobacco products among the consumers by taking proactive measures like mandatory statutory and pictorial on the tobacco packaging. This study was conducted to check the effectiveness of such warnings amongst consumers.

**Aim:** To assess the effect of statutory and pictorial health warning among individuals consuming smokeless tobacco product.

**Settings and design:** The questionnaire study was conducted among 203 smokeless tobacco consumers of Pune from 01<sup>st</sup> August to 30<sup>th</sup> August 2015.

**Material and Methods:** 203 consumers formed the sample size of the study. 12 closed ended questions were asked by interview method. The responses were collected, tabulated and analysed.

**Statistical Analyses used:** Descriptive analysis.

**Results:** Mean age of the study participants was 37.67±8.14 ranging from 23-65. 198(97.5) of the study participants were aware of the pictorial warning. Though 157(77.3) wanted to quit tobacco, 33(18.2) were not able to understand pictorial warning.

**Conclusion:** It was concluded that though there was awareness about pictorial and statutory warnings which are found to be effective tools to help consumers quit tobacco. Poor quality of packaging and absence of warnings on few of smokeless tobacco did not serve the purpose.

**Key words:** Health warnings, Pictorial Warning, Statutory Warning, Smokeless tobacco, Tobacco cessation.

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### Introduction

I hear and I forget I see and remember I do and I understand. A picture speaks a thousand words (Chinese proverb). When a person sees something with their own eyes it is something that we never forget this is why pictorial warnings are very important. India, with a population of 1.2 billion, currently has around 275 million tobacco users<sup>1</sup>. So-called smokeless tobacco users estimated to be 206 million - including chewing products such as gutkha, zarda, paan masala and khaini - is the most common form of tobacco use in India, with many poorer people and women preferring these over smoking cigarettes or bidis – small, cheap, locally-made cigarettes<sup>2</sup>.

"The tobacco epidemic in India requires urgent attention". This is where pictorial warnings can play a major role. In a country as diverse as India pictorial warnings can break cultural barriers and help in spreading the adverse effects of tobacco<sup>3</sup>. Pictorial warnings are images meant to help users visualize the nature of tobacco related diseases. More importantly where large populations of tobacco users are illiterate

pictorial warnings become even more necessary<sup>4</sup>. Tobacco is one of the few products in which the packaging remains with the consumers until the contents have been consumed. Thus pictorial warnings serve as the best medium to create awareness about the ill effects of tobacco.

Government of India had strived very hard to control the sale of tobacco products by making strict laws towards the packaging of tobacco products and warnings printed on them by passing a law in the form of COTPA (Cigarette and other tobacco products act)<sup>5</sup>. India signed the WHO framework convention on tobacco products on September 10, 2003. It was ratified on February 5 2004<sup>6</sup>.

Even though in the state of Maharashtra the use and sale of chewable forms of tobacco has been banned three years and recently the Government of Maharashtra announced an extension of the ban for another year<sup>7</sup>. Tobacco continues to be available to every individual Tobacco is also available to the juvenile population of the society. By having the right pictorial warnings the children can be informed of the ill effects of the tobacco. This would serve as the most potent tool to deterrent tobacco chewing.

As there is paucity of literature to assess the effect of pictorial warnings on quitting tobacco habits, the present study was planned to assess the effect of statutory and pictorial health warning among individuals consuming smokeless tobacco product.

## Methodology

### Study design, study setting, and study population

The present questionnaire study was conducted in the month of August for a period of 1 month from 01<sup>st</sup> August to 30<sup>th</sup> August 2015. Pune city was divided into south zone (south + west) and north zone (north + east) and the pan shop where the smokeless tobacco was available in these zones were randomly selected. 3 pan shops per zone were selected, Pan shops were selected for easy accessibility of study participants, Out 245 participants selected for the study 203(82.8%) participants responded. The participants were interviewed face to face using self-designed structured questionnaire to all the 203 (101 from south zone and 102 from north zone) individual using smokeless tobacco through convenient sampling.

### Ethical clearance and informed consent

The study protocol was reviewed by the institutional ethical and review committee. The questionnaires were administered to the individuals who gave written informed consent and volunteered to participate in the study. Before administering the questionnaire, the individuals were briefed about the objectives of the study. The survey reports were kept anonymous.

### Inclusion criteria

- Individuals who used smokeless tobacco.
- Individuals who gave informed consent.
- Individual who are literate (Read, write & understand)

### Exclusion criteria

- Individuals who used smoked tobacco.
- Individuals who were not willing to participate

### Pre-testing of the pro-forma

A pilot study was conducted among individuals using smokeless tobacco products to evaluate effect that statutory and pictorial health warnings had on individuals consuming these products in Pune, India. The questionnaire was reviewed by experts (who were active in the field of tobacco cessation) and content validity was checked. The test-retest reliability of the survey questions in the present scenario; 15 individuals who completed the survey their feedback was analysed. The respondents were also asked for feedback on clarity of the questions and whether there was difficulty in answering the question or ambiguity as to what sort of answer was required. The subjects who participated in the pilot study were not included in the final sample. No modifications were made in the questionnaire based on the results obtained from the pilot study, as all the questions were easy to understand and relevant to the present situation. Moreover, it covered the topic in the desired manner. Cronbach's alpha co-efficient was found to be 0.84 and test-retest reliability was found to be 0.77.

### Pro-forma details

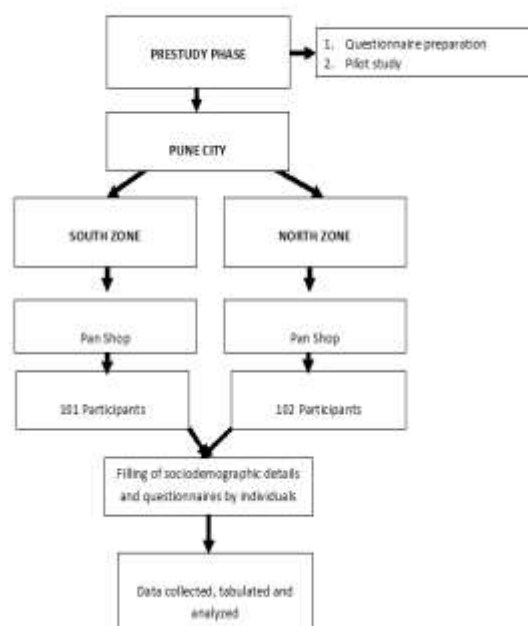
The pro-forma consisted of two parts:

- Socio-demographic details – including age, gender, occupation, qualification, marital status and income
- Questionnaire consisting of 12 closed ended questions related to effect of the pictorial warnings on smokeless tobacco consumers. Responses of closed ended questions were ranked on a dichotomous scale.

### Statistical analysis

Data was analyzed using SPSS for windows, Version 19; SPSS Inc. Chicago, IL, USA. To test the reliability of the survey items, Cronbach's alpha coefficient was used. Frequency distribution analysis was done for all questionnaire.

### SCHEMATIC REPRESENTATION OF METHODOLOGY



## Result

Mean age of the study participants was  $37.67 \pm 8.14$  ranging from 23-65. In the present study 162(79.8) were male and 41(20.2) were female. Commonly consumed smokeless tobacco products were Gutka 35(17.2), mishri 40(19.7), tobacco 115(56.6) and those who consumed tobacco and gutka both were 13(6.5). Among the study participants 170(83.7) consumed tobacco 1-5 packets per day and 33(16.3) 5-10 packets per day and frequency of the tobacco consumption was 1-3 hours among 50(24.6), 4-6 hours among 95(46.7) and  $\geq 9$  hours among 58(28.6). Duration of consuming smokeless tobacco product was found to be 3-10 years in 95(46.79), 11-20 years in 55(27.11) and >20 years in 53(26.10) respectively.

Among the study participants when asked are they aware of the pictorial warning 198(97.5) said they were aware and 5(2.5) were not aware. Those who were

aware among them 182(91.9) agreed that pictorial warning was present on the tobacco products they consume and 16(8.1) disagreed. 149(81.8) of the participants said they were able to understand the pictorial warning and 33(18.2) were not able to understand the same. When asked about legibility of statutory warning on the packaging 166(81.7) of participants responded it was legible and 37(18.3) of the participants said warning was not legible, among them 110(66.3) participants spent time reading the statutory warning on packaging and 56(33.7) did not spend any time. Out of those who spend time in reading the statutory warning 88(60.2) agreed that there was change in attitude and 22(20) said there was no change in attitude towards tobacco product. 126(86.3) said statutory warning on tobacco & gutka packets written in local language and 40(31.7) said statutory warning was not in the local language. Among 166(81.7) participants 72(65.4) said tobacco was one of the ingredients in the product they consumed 38(34.6) said they have not come across tobacco as one of the ingredients. 106(54.6) said there was decline in tobacco consumption after seeing pictorial warning and 92(45.4) said there was no change. 157(77.3) wanted to quit tobacco and 46(22.7) did not want to quit. 198(97.5) were in support of strict laws regarding

presence of statutory/pictorial Warnings on packets of tobacco and 5(2.5) were not in support. 178(87.6) said they need education regarding the pictorial warning on the tobacco products and 25(12.4) said they require no education with respect to warnings.

**Table 1: Distribution of study participants based on personal information**

Age	Mean±SD	37.67±8.144
	Range	23-65
Sex	Male	162(79.8)
	Female	41(20.2)
Type of Tobacco Product	Gutka	35(17.2)
	Misri	40(19.7)
	Tobacco	115(56.6)
	Tobacco, Gutka	13(6.5)
Quantity packets per day	1-5	170(83.7)
	5-10	33(16.3)
Frequency in hours	1-3	50(24.6)
	4-6	95(46.7)
	≥9	58(28.6)
Duration in Years	3-10	95(46.79)
	11-20	55(27.11)
	>20	53(26.10)

**Table 2: Distribution of study participants based on questionnaire response**

S. no	Questions	Options	
		Yes n(%)	No n(%)
1.	Are you aware of the pictorial warning present on tobacco products?	198(97.5)	5(2.5)
2.	If yes, are pictorial warning present on tobacco products you consume?	182(91.9)	16(8.1)
3.	If yes whether you are able to understand pictorial warning?	149(81.8)	33(18.2)
4.	Is statutory warning on tobacco & gutka packets legible?	166(81.7)	37(18.3)
5.	Do you spend time in reading the statutory warning and ingredients written on the packet?	110(66.3)	56(33.7)
6.	If yes, does these warning has helped you to change your attitude towards tobacco products?	88(80)	22(20)
7.	Are statutory warning on tobacco & gutka packets written in local language/ language which you can read?	126(86.3)	40(31.7)
8.	Have you come across tobacco as one of the ingredients on gutka packets?	72(65.4)	38(34.6)
9.	Is there any decline in tobacco consumption by you after seeing pictorial warning?	106(54.6)	92(45.4)
10.	Do you want to quit chewing tobacco products?	157(77.3)	46(22.7)
11.	Do you think that there should be strict laws regarding presence of statutory/pictorial Warnings on packets of tobacco?	198(97.5)	5(2.5)
12.	Do you need education regarding the pictorial warning on the tobacco products?	178(87.6)	25(12.4)

## Discussion

In today's era of business marketing. Packaging is essential to sell any product. This particular method can be used to promote the product and also to provide important information about the product to the consumer. Similarly the packaging of smokeless tobacco if used effectively can help get rid of the habit of tobacco among the consumers. How?

Pictorial warnings in the form of images and messages are used currently used to spread awareness about the deleterious effect of tobacco. It is an easy and inexpensive way to create awareness among the illiterate, multi lingual consumers. In a country as diverse as India pictorial warning can go a long way to reach a larger population with diverse cultural and ethnic background<sup>6</sup>. Pictorial warning on the packet can serve as the most constant deterrent, as the tobacco packet remains with the consumer till the product is consumed.

This form of spreading awareness is could be feasible, affordable and effective means to help people quit tobacco. Hence, this study was conducted to assess the effectiveness and the attitude of the consumer towards pictorial and statutory warnings.

In this study it was observed that 97.5% people examined knew of the pictorial warnings on tobacco products. This finding is in harmony with the results of a previous study conducted by Karibasappa GN *et al*<sup>3</sup> and Raute LJ *et al*<sup>8</sup>. This is a positive suggestion which if used efficiently is the best method at our disposal to create awareness about adverse effects of tobacco, this is similar randomized trial conducted in the Malaysian population by Rahman F *et al* in which there was increase awareness on exposure to pictorial warning<sup>9</sup>. Even though such a large percentage knew of the pictorial warnings 8.1% of the participants said there was no pictorial warning on the product which they consumed, this could be due to the fact that most of the smokeless products were prepared by locals who do not follow any guidelines. Similar finding was reported by Aruna DS *et al* were it was observed that few products did not have any pictorial warnings<sup>10</sup>. Among 91.9% of the participants who agreed to the presence of pictorial warning on the products they consumed, 18.2% said they were not able to understand the pictorial warning and this was in accordance with the study conducted by Karibasappa GN *et al*<sup>6</sup>, the reason for this could be due to smaller size of packaging of smokeless product. Similar study conducted by Oswal KC *et al* states that 94.8% of the participants wanted the pictorial warnings on the packet should be of larger size.<sup>10</sup> Among the total participants 81.7% of the study participants agreed that the statutory warning are legible and among them 56(33.7%) of the population examined do not read the statutory warnings present on tobacco products. This makes pictorial warnings all the more important as people who are not willing to read the warnings can be made aware by using pictures to create awareness. This

is in accordance with Canadian youth study in which 90% of the population examined said that pictures were more informative<sup>11</sup>. Among them 88(60.2%) had a positive change in attitude towards tobacco products. When asked whether the statutory warning written on the packet was in their local language, surprisingly 40(31.7%) denied, this stresses the importance of having the warning in local language. This is in harmony with study conducted by Oswal KC *et al*<sup>11</sup>. Among 110(66.3) of the participants only 72(65.4) said that they have come across tobacco as one of the ingredients, again this could be due to locals manufacturing smokeless tobacco products. Only 45.4% of the people reviewed said that the pictorial and statutory warnings caused no decline in tobacco consumption. This result of the present study was in opposition to the study conducted by Karibasappa GN *et al* in people consuming any form of tobacco and it was found that majority of the participants showed decline in tobacco consumption, this proves that current pictorial warning could be inefficient to initiate a positive attitude change<sup>3</sup>.

77.3% of the participants wanted to quit tobacco but were unable to quit, this indicates that lack of potent pictorial warnings could be one of the reasons for such a large number.

198(97.5) of the participants agreed that strict laws should be made which can help combat tobacco epidemic in India this is in accordance with the newer government rules regarding the same.<sup>13</sup>

The study also gave the result that 87.6% of the people reviewed needed education on how to understand and pictorial and statutory warnings. This proves the fact that the present pictorial warnings are inept at creating the necessary awareness thus they fail their sole purpose that they are inserted for. This ineffectuality could be due a number of reasons like the size of the present pictorial warning. According to WHO the pictorial warning 50% or more of the package principle area to be considered effective thus the size of the pictorial warning is very important to improve its impact.<sup>14</sup> In countries like Australia it occupies 90% at the back 30% in the front, in Brazil it is 100% either sides as stated in study conducted by Cunningham *et al*<sup>15</sup>. Smokers are more likely to recall larger signs as they equate the size of the warning with the size of the risk associated with the product as stated in the study conducted by Strahan *et al*<sup>16</sup>. India is ranked 136 among 198 countries according to size of pictorial warnings<sup>2</sup>.

## Conclusion

The study indicated that even though pictorial warnings were present on smokeless tobacco products they do not have the desired impact. The policy makers should come up with gory pictures and a law which states that pictorial warning should cover 85% of the packaging should be implemented at the earliest. As

majority of the consumer of tobacco in India use smokeless tobacco more emphasis should be placed to combat this menace equally with smoked forms. This is an issue which has to be looked at and needs immediate attention and change. Pictorial warnings have to be used effectively for betterment of society as it is a very important method through which tobacco consumption can be reduced but is not being used wisely and efficiently.

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