

Repercussion of Increased Pictorial Health Admonishing on Cigarette Packs in Chennai City

Aishwarya Jayashankar^{1*}, Mungara M², Prabu D², Manipal S², Rajmohan M² and Selvakumar C²

¹Department of Dentistry, SRM Dental College, Chennai, Tamil Nadu, India

²Public Health Dentistry, SRM Dental College, Chennai, Tamil Nadu, India

*Corresponding author: Aishwarya Jayashankar, Department of Dentistry, SRM Dental College, Chennai, Tamil Nadu, India, Tel: 044 – 2249 0526/2249 0009; E-mail: milliat2005@gmail.com

Received date: May 8, 2018; Accepted date: June 12, 2018; Published date: June 18, 2018

Copyright: © 2018 Jayashankar A, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Aim: To determine the impact of the increased size of the pictorial health warnings (PHW) on cigarette packets amongst chronic smokers, and to ascertain whether there will be a decrease in the smoking levels due to the increased graphics representation on cigarette packets on the public.

Materials and methodology: The study involved 60 chronic smokers, aged 18 to 48 years residing in Chennai, Tamil Nadu who were interviewed using a structured questionnaire that includes person's demographic data and questions that indicated the dependency, chronicity, and severity of addiction to smoking of the person and impact of pictorial health warnings displayed on the cigarette packets.

Conclusion: The study results showed that after the increase in the size of the pictorial warnings, only 43.9% of the participants suggested that this increase will bring down smoking levels in the public. This indicates that dire measures should be undertaken to create a more pronounced impact on the public to help reduce the overall smoking levels and increase the general long-term health of the population.

Keywords: Pictorial health warning; Cigarettes; Smoking

Introduction

Smoking is an age old habit that was introduced around 5000 BC and is practiced throughout the world. It has a wide variety of adverse effects such as small cell lung cancers, chronic obstructive pulmonary disorders, emphysema, and chronic bronchitis. Smoking tobacco was first introduced in India around the seventeenth century [1,2]. Since then, the number of people who have fallen prey to tobacco smoking have drastically increased. Approximately 30% of the population in India over the age of fifteen i.e., 195 million people smoke or chew tobacco products.

One of the most severe detrimental effects of smoking would be the onset of lung cancer. Lung cancer is the leading cause of death worldwide, with approximately 1.7 million deaths globally in the year 2018. At least 80% of lung cancer deaths are attributed to smoking. Smokers have a life expectancy 10 years shorter than nonsmokers. More than one million Indians die annually due to tobacco-related causes, and the value is estimated to rise to 1.8 million deaths per annum by the year 2020.

In order to increase awareness and knowledge towards the numerous multifaceted disadvantages and hazards of smoking, various pictorial health warnings have been issued mandatorily on the cover of the cigarette packets [3]. This graphic representation is believed to prevent or decrease the smoker population in India. By the end of 2014, 77 countries/jurisdictions had implemented pictorial warnings in the means of increasing awareness amongst the population. In Nepal, 90% of the packet cover should contain a graphic representation of the

hazards of smoking. India has initiated an increase in the pictorial health warning to 85% of the packet size as of April 2016.

There are numerous substitutes which can be utilized as an attempt to cease smoking, such as nicotine gum, nicotine lozenges, nasal sprays, nicotine patches, etc [4-7]. These substances not only decrease the person's dependence/addiction towards smoking but also gradually wean the person off the harmful habit, hence providing a pronged advantage.

The primary aim of this study is to determine the impact of the increased pictorial health warning (PHW) on cigarette packets amongst chronic smokers and to ascertain whether there will be a decrease in the levels of smoking as a result of the increased graphic representation on cigarette packets on the public.

Materials and Methods

A cross-sectional study was performed amongst chronic smokers aged 18 to 48 residing in Chennai, Tamil Nadu. Sixty respondents were interviewed using a semi-structured questionnaire, which was specifically designated for this study. The questionnaire was based on the Fagerstrom Scale and the GATS (Global Adult Tobacco Survey) Core questionnaire [8]. It contained two parts. The first part inquired about the person's demographic data and the second part consists of a series of questions regarding the smoking habits of the person. It contained twenty questions that indicated the dependency, chronicity, and severity of addiction to smoking of the person. The questions also inquired about the pictorial health warnings displayed on the cigarette packets. It was designed to determine whether the increase in the

graphic warnings imparted a change in the smoking frequency of the smoker [9-13].

The questionnaires were collected and further analyzed. The data obtained was transferred to a Microsoft Excel Sheet. The results obtained after statistical analysis were further scrutinized and tabulated to state the following findings.

Results

In Table 1, it can be perceived that only 25% of the people who smoke their first cigarette within the first 5 minutes of awaking

		First cigarette after waking			Smoking habits affecting average income			Smoke even if you are sick most of the day	
		Below 5 min	5-30 min	30-60 min	Majority of income spent on cigarettes	Cigarette purchase is minimum, does not affect the income	Obtain from other sources	Yes	No
Change in amount of cigarette purchase after the increase in PHW	Yes (%)	25	22.2	53.2	42.9	44.2	60	35.3	64.7
	No (%)	75	77.8	46.8	57.1	55.8	40	51.2	48.8
		Chi Square-3.719, p-value-0.156 (Not significant)			Chi Square-0.861, p-value-0.650 (Not significant)			Chi Square-1.233, p-value-0.267 (Not significant)	

Table 1: Comparison of first cigarette smoke after waking in minutes and smoking habits affected average income with change in a number of cigarettes purchase after the increase in PHW.

As seen in Table 1, 28.3% of the people who smoke even when they are ill, 68.3% of them reported that there would be no change in the number of cigarettes smoked even after the increase in the PHW. 35.3% of the subjects denoted a change in the number of cigarettes smoked after the postulated increase in the dimensions of the pictorial warnings.

It displays the relationship between the participants' income and the change in the amount of cigarettes they utilized after the increased PHW. Out of the 11.7% of people who claimed that they spend a majority of their income on their cigarette habit, 42.9% of the participants produced a change in the number of cigarettes smoked after the increase, while 57.1% did not report any changes. 71.7% of the volunteers declared that their cigarette purchase was minimal and didn't affect their income, out of which, 44.2% of the people decreased the amount of cigarettes purchased while 55.8% of them showed no changes.

Table 2 identifies the relationship between the number of cigarettes smoked by the subjects before and after the increase in PHW. It demonstrated that 42.2%(19) and 66.7%(8) of people who smoke up to 10 cigarettes and 11-20 cigarettes per day respectively produced a change in the amount of cigarettes purchased after the increase in the size of the PHW.

Before the proposed	Total	Change in the amount of cigarettes purchase after the increase in PHW

produced a change in the number of cigarettes smoked after the increase in the pictorial health warnings (PHW). This greatly differs when compared to the postulated 53.2% of the people who decreased the amount of cigarettes they smoked after the increased PHW. These volunteers consumed their first cigarette after 31 to 60 minutes after waking.

increase in PHW, number of cigarettes smoke a day		Yes	No
Up to 10	45	19(42.2%)	26(57.8%)
11-20	12	8(66.7%)	4(33.3%)
21-30	1	0(0.0%)	1(100.0%)
31-40	2	1(50.0%)	1(50.0%)
Total	60	28(46.7%)	32(53.3%)
Chi Square-3.170, p-value-0.366 (Not significant)			

Table 2: Comparison of before the proposed increase in PHW, number of cigarettes smoke a day and change in the amount of cigarettes purchase after the increase in PHW.

Table 3 shows that out of the 36.7% of people who claimed that their family members were disappointed when they smoke, 13.6% were scared of the increased PHW, 18.2% sad, 4.5% ambitious, while 22.7% of them were happy with the increase. 16.7% of the volunteers asseverated that their family members were angry when they smoke, out of which 10% of the people were scared, 30% felt sad, 20% ambitious and 20% happy with the proposed laws. All 100% of the volunteers whose family encouraged their habit were happy with the increased dimensions of the PHW.

Smoking affect the members of family	Emotional reaction to the increase in PHW				
	Happy	Ambitious	Sad	Scared	Others
Dissapointed 22(36.7%)	5(22.7%)	1(4.5%)	4(18.2%)	3(13.6%)	9(40.9%)
Angry 10(16.7%)	2(20.0%)	2(20.0%)	3(30.0%)	1(10.0%)	2(20.0%)
Encourage smoking 1(1.7%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	1(100.0%)
Unaware 27(45.0%)	5(18.5%)	4(14.8%)	2(7.4%)	8(29.6%)	8(29.6%)

Chi Square-9.799, p-value-0.634 (Not significant)

Table 3: Comparison of Smoking affect the members of family and Emotional reaction to the increase in Pictorial health warnings (PHW).

Table 4 indicates that 43.9% out of the 95% of people who were aware of the adverse effects of smoking postulated that this increase in PHW dimensions will provide a positive effect in bringing down smoking levels in the public, whereas, 56.1% of the volunteers portrayed that the proposed increase will have no effect on the public

smoking levels. Within the 5% of people who were unaware of the harm associated with smoking, 66.7% postulated a positive change in smoking levels in the public, and 33.3% suggested that there would be no change.

		Aware of adverse effects of smoking		Previously noticed PHW		Aware that the sizes on PHW has been increased to 85%		Tried to stop smoking in past 12 months	
		Aware	Unaware	Noticed	Not noticed	Aware	Unaware	Yes	No
A proposed increase in the PHW will bring down smoking levels in the public	Yes	43.9 (%)	66.7 (%)	45.8 (%)	0 (%)	43.9 (%)	56.1 (%)	41.7 (%)	58.3 (%)
	No	56.1 (%)	33.3 (%)	54.2 (%)	100 (%)	47.4 (%)	52.6 (%)	50.0 (%)	50.0 (%)
		Chi Square-0.599, p-value-0.439 (Not significant)		Chi Square-0.832, p-value-0.362 (Not significant)		Chi Square-0.063, p-value-0.802 (Not significant)		Chi Square-0.404, p-value-0.525 (Not significant)	

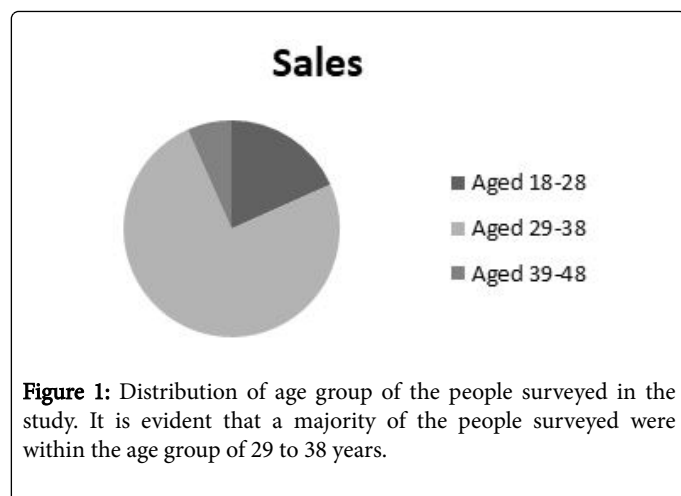
Table 4: Comparison of the awareness of the adverse effects of smoking, Previously noticed the pictorial health warnings (PHW) on cigarette, awareness that the sizes of the PHW have been increased to 85% and tried to stop smoking in the past 12 months with Proposed increase in the PHW will bring down smoking levels in the public.

It illustrates that out of the 68% of volunteers who are aware of the pictorial health warnings, only 45.8% hypothesise that the increased dimensions will help decrease the smoking levels of the public, whereas 54.2% of the volunteers do not agree. 100% of the subjects who haven't previously noticed the PHW testify that the proposed increase in PHW will not help bring down smoking levels in the public.

It implies that out of the 68.3% of the people who were aware of the increased dimensions, 43.9% of them postulated that this increase in PHW will bring down the public smoking levels although 56.1% suggested that it wouldn't help in decreasing the levels of smoking in India. 52.6% of the overall 31.7% of subjects who were unaware of the increase in PHW assumed that this increase would have no effort on bringing down smoking levels, whereas 47.4% suggested that the increase would have a positive effect on decreasing the smoking levels in the public.

It specifies that out of the 60% of the volunteers who tried to quit smoking in the past 12 months, 58.3% intimate no difference in the smoking levels in the public even with the increased PHW, while 41.7% of the people anticipate a difference in smoking levels in the public after the proposed increase in the PHW. On analyzing the 40% of subjects who have not tried to stop the habit, 50% anticipate a positive change whereas 50% hypothesize no variation in the public smoking levels even after the increase of the pictorial health warnings to 85% of the cigarette pack.

Figure 1 displays the age distribution of the subjects surveyed. A majority of the subjects analysed were within the age group of 29 to 38 years, whereas the least number of people belonged to the older age group, ie, between 39 to 48 years.



Discussion

It has always been said that pictures are worth a thousand words. They tend to convey a much greater impact on the public rather than statements. It also helps increase knowledge about certain adverse outcomes of smoking amongst the illiterate, who are often unaware of the harmful effects associated with cigarettes. Placing pictures on cigarette packages propend an increased influence on the public and help spread knowledge and awareness about the results of smoking.

Regarding the effects of the pictorial health warnings on male smokers in Mashhad, Iran a study showed congruent findings on the impact of the health labels on the packages. According to their study, almost half of the participants (53.8%) believed that the health labels were ineffective which was similar to the 53.3% obtained in the present study.

A study orchestrated by Fong et al. in 2009, claimed to associate an increased motivation from the participants to quit the habit after the increased size of the health labels. This conflicted the current study which states that only 11.7% of the participants were motivated to abstain from smoking after the postulated increase in the health warnings (PHW).

Brewer et al. implied that pictorial health warnings have an overall positive impact on the public smokers. They had a tendency to promote emotional reactions towards abstinence and initiated thoughts of quitting the habit.

Zacher et al. [12] administered a study in Australia in 2014 regarding the public reactions to the increase in the size of the pictorial health warnings from the previous 30% to the 75% of the pack face. He concluded that there was a 23% reduction in the observed smoking levels after the increase in the size of the labels. When correlated with the present study, which aims to identify the influence of the increased size of the PHW to 85% of the pack in India, a difference was observed. There was no net decrease in the public smoking levels in the conducted study.

The ability of the health warnings on cigarettes to govern the levels of public health smoking amongst the lower socio-economic strata were further investigated upon by Miller C et al. It indicated that larger PHWs are more likely to be noticed and are have a greater chance of increasing knowledge and promoting cessation. They created maximum impact the first 2 years after they were introduced. Large

amounts of desensitization were observed from the public after a few years towards the health labels. A change in the labels created more awareness. This was contradictory from the observed findings as it indicated that there was no major increase in the public reaction to smoking levels even after the proposed increase in the size of the pictorial health warnings.

The strengths of this study is that it can be used to make policy level decisions regarding any further action on the pictorial health warnings displayed on cigarette packs. It also analyses chronic smokers such that changes in their long term habits can be assessed simultaneously with the increase of PHW on the packages. It is the first study that associates the increase in the size of the pictorial health warnings to the behaviour of the chronic smokers in India. A few impediments of the study include the small sample size taken into consideration. The educational and social statuses of the people surveyed were not taken into account which may affect the final outcome of the study.

Conclusion

The main goal to increase the size of the health labels were to help spread awareness amongst a majority of the public regardless of their education or socioeconomic status. These warnings are easy to understand and help spread knowledge about the ill effects of smoking. It was noticed that their value is being ignored by the public and has failed to create the desired impact. When questioned about their validity after the increase in the size of the pictorial warnings, only 43.9% of the participants suggested that this enlargement will bring down smoking levels in the public. This indicates that dire measures should be undertaken to create a more pronounced impact on the public to help reduce the overall smoking levels and increase the general long term health of the population.

References

1. Ritchie H. How many people in the world die from cancer? [Internet]. 2018 Feb -from <https://ourworldindata.org/how-many-people-in-the-world-die-from-cancer>
2. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/index.htm
3. <http://www.tobaccolabels.ca/healthwarningsinfo/statusreport/>
4. Hammond D, Fong G, McDonald P, Cameron R, Brown K (2003) Impact of the graphic Canadian warning labels on adult smoking behaviour. *Tobacco Control* 12: 391-395.
5. Hammond D, Fong GT, McNeill A, Borland R, Cummings KM (2006) Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: Findings from the International Tobacco Control (ITC) Four Country Survey *Tobacco Control* 15: 19-25.
6. Hammond D, Fong GT, Borland R, Cummings KM, McNeill A, et al. (2007) Communicating risk to smokers: The Impact of health warnings on cigarette packages. *Am J Prev Med* 32: 202-209.
7. Li J, Grigg M (2009) New Zealand: New graphic warnings encourage registrations with the quitline. *Tob Control* 18:72.
8. Miller CL, Quester PG, Hill DJ, Hiller JE (2011) Smoker's recall of Australian graphic cigarette packet warnings and awareness of associated health effects, 2005-2008. *BMC Public Health* 11:238.
9. Parker JR, Hammond D, Sirirassamee B, Omar M, Fong GT, et al. (2008) Exposure to antismoking information among Thai and Malaysian youth: Findings from the ITC south-east Asia survey [poster]. Presented at: Society for Research on Nicotine and Tobacco, Portland.
10. Shojaezadeh D, Peyman N, Shakeri MT, Nedjat S, Hakkak AM (2014) Pictorial health warning labels on cigarette packages: An investigation on opinions of male smokers. *Iran Red Crescent Med J* 16: e14879.

-
11. Thrasher JF, Hammond D, Fong GT, Arillo-Santillán E (2007) Smoker's reactions to cigarette package warnings with graphic imagery and with only text: A comparison between Mexico and Canada. *SaludPública de México* 49: s233-s240.
 12. Zacher M, Bayly M, Brennan E, Dono J, Miller C, et al. (2014) Personal tobacco pack display before and after the introduction of plain packaging with larger pictorial health warnings in Australia: An observational study of outdoor café strips. *Addiction* 109: 653-662.
 13. Borland R, Yong HH, Wilson N, Hammond D, Cummings KM (2009) How reaction to cigarette packet health warnings influence quitting: Findings from the ITC four country survey. *Addiction* 104: 669-675.