

Research Article

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Analysis of the Impact of Graphical Warning Label on Smokers

Muhammad Ismail¹, Fauzia Majeed², Rao Muhammad Ismail³, Muhammad Tayyab Ghafoor^{4*}¹Lecturer, Management Sciences Department, NCBA & E-Lahore, Layyah Campus, PAKISTAN²Captain, Combined Military Hospital (CMH), Multan, PAKISTAN³Director, Superior College, Punjab, PAKISTAN⁴Multan Medical and Dental College, Multan, PAKISTAN*Email for Correspondence: drabdulghafoorawan@gmail.com

ABSTRACT

Objective: The Fundamental objective this paper to explore the impacts of warning label on the smokers. Whether smokers are discouraging from this warning label or not? This research was started in September 2016 and done in January 2017. (Five months). **Methodology:** Both primary & secondary data was used for data collection. Secondary data was taken from the research articles, periodicals, hospital's annual reports and health magazines. For primary data collection, a testified five point Likert scale questionnaire was used. We've distributed 1800 questionnaires in nine (9) cities, 200 in each city. By using stratified random sampling technique. Finally received (n=1726) that were properly filled by all aspects. Our population was Punjab province and sample was nine cities including Federal Capital of Islamic Republic of Pakistan: Islamabad, Lahore, Okara, Sahiwal, Faisalabad, Jhang, Layyah, Bahawalpur & Multan. After that data was analyzed on Statistical Package for Social Sciences (SPSS 21.0). Cronbach's alpha (α) of our research study was 0.862. It shows the well-organized reliability of our data. **Results:** Correlation 'flank-by' D.V (Intention to quit), IV (warning label) and M.V (demographic factors) shows that, "yes there is an association among them". Regression Analysis retrospect that they have a week but positive relationship. Durbin Watson's explorations were also showing same frequencies. **Findings:** We've found that well educated & privileged respondents have less smoking habit than uneducated & underprivileged persons. Male & female students are also indulged in the curse of smoking, without caring of their pocket money. Teen aged & educated smokers, notices the warning label intensely as compared to others, but ignored. So Govt. & health agencies should acquaint the novel way that discourage the smokers in real sense.

Key words: Warning Labels, packets, smoking, cigarettes, quit intention, GWL (Graphic Warning Labels)

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INTRODUCTION

Cigarettes and tobacco always remain hazardous for health. Since the presentation of cigarette warning labels on the packaging, few age group smokers try to quite the smoking habit. Smoking is not only harmful for the lungs, it also polluted the environmental. Warning label is an idea that communicate the caution to the user. This kind of caution message communication is spreading around the World, to stop the smokers from cigarettes. It is sure that warning message generally use to stop the people and to discourage their buying behavior of cigarette. It is confirmed that information campaigns that emphasizes only the negative effect on the use of cigarette do not have much crash on consumers' cigarette expenditure (Hitchman et al., 2013). According to the World Health Organization (WHO) Consumers have an essential right to precise information about the risks of smoking, therefore warnings on tobacco packaging was well thought-out to be the best possible means of creating responsiveness of risk factors (Ahsan et al., 2016).

The GWLs (Graphical warning labels) were first introduced to Canadian consumers in 2001. It is reported that tobacco packaging has a greater marketing result than other consumer goods because the packaging is not unnecessary instantly after it has been opened. The GWLs may induce the smokers to quit smoking and thus decrease the tobacco utilization. Second, the introduction of GWLs may decrease the general smoking rates. In the case of price policy, smoking rates drop according to an increase in tobacco prices. Third, the introduction of GWLs leads to further effects such as the transportation of health information from the perspective of health communication (Jung, 2016). The accomplishment of warning signage on cigarette packaging is extensively expert in various parts of the world, including developing markets. The purpose is to dishearten people from buying cigarette and smoking (Ming *et al.*, 2012). Canada was the first country to implement pictorial warnings on cigarette packages in 2001 (MacKinnon *et al.*, 1993). One of 16 different warnings covered 50% of the front and back of the Package.

In consistent with Ahmed *et al.* (2016), the aims of the current study is to develop questionnaire that can assess the impact of cigarette package warnings on smokers relative to their awareness of the health risks of smoking.

Objective of study

- To find the impact of warning labels on smokers.
- To know either demographic factor effect the smokers regarding warning label.
- Check that how much warning label discourage the smokers.

LITERATURE REVIEW

Those countries where health labels were found to be compulsory, the warning labels were mostly noticed by adult smokers. The same study reveals that according to WHO the smokers having age of above 65 years were found to be less likely to notice warning labels. On parallel side the younger age groups were more likely to notice the warning labels. In the same study it was revealed that because of the warning labels 56% smokers actually reduce their habit of smoking and only 41% made attempt to quit (Ahsan *et al.*, 2016).

Investigated through survey to check the credibility of caveat tag in order to prose and it resulted as youngsters commonly accept that smoking is dangerous for health (Ford *et al.*, 2016). Smokers who smoked at least 100 cigarettes in their lifetime and whose age ranged from 18 to 61 years. In this study the researchers revealed that mostly people smoking in their life in the age of 18 to 61 years, in this age they adopt the habit of smoking that is injurious for health (Ahmed *et al.*, 2016).

Demographic factors related to cigarette smoking among undergraduate students at a Turkish university and resulted near about 90% grownup smokers begin smoking in the age of 18. When it's analyzed about the age group, smoking is the highest common factor among the younger adult population. At the age of 18 direct tobacco smoking is affected on the younger's health and became the cause of death (Ford *et al.*, 2016). The writer John P. Pierce on 18th February 1998 wrote article about "Tobacco industry promotion of cigarettes and Adolescent smoking". Overall, 8.9% of no susceptible never smokers in 1993 were at the minimal level of the receptivity index. The percentage at this level did not vary much with age 9.8% of those aged 12 to 13 years, 7.1% of 14- to 15-year-olds, and 9.3% of 16- to 17-year-olds were at this level.

Socio demography factor associated to smoking between crowds sided youngster. Mostly respondent started smoking in the age of 14 years. This survey shows that 64% respondents were smokers (Emery *et al.*, 2014). Optimal content for gambling warning message resulted that language spoken by the respondents generally is used in warning labels of cigarette (Song *et al.*, 2014). Mostly adults start smoking from their school life, because school is a vital part in educating more adolescent about the dangerous of smoking instead of frightening them with advice tags that request fear (Lau *et al.*, 2016). "Tobacco Advertising" that it is a public health issue that increase in smoking. European commission reduce tobacco consumption about 6.9 percent. Tobacco advertising bans can reduce the use of tobacco and the limited set of tobacco advertising bans will have little have no effect. In the settlement of the industry would also contribute \$1.5 billion over five years for public education on tobacco use. This advertising could reduce tobacco use by about 2% (Finkbeiner *et al.*, 2015). Tobacco related products are promoting in college life of the West and also about the direct relation with alcohol" written by (Yong *et al.*, 2014) the events reinforce brand visibility, allow the industry to reach their target groups, and generate names for future marketing efforts. Promotions at social events have the potential to increase tobacco use by encouraging nonsmokers to try cigarettes, by encouraging smokers to develop regular use, and by disappointing current smokers from quitting (Awan and Gilani, 2016; Awan and Modni, 2016).

HYPOTHESIS

H₀: Effect of the caution picture does not increase the negative motivation on the smokers.

H₁: Effect of the caution picture increase the negative motivation on the smokers.

METHODS AND MATERIAL

We used the five-points Likert Scale in which 1 use for "Strongly disagree" 2 for "Disagree" 3 for "Neutral" 4 for "Agree" and 5 for "Strongly agree". Population of the study was of all Smokers from "Punjab Province" as well as also from the federal capital of Islamic Republic of Pakistan. The selected Sample areas were nine (9) cities...Multan, Sahiwal, Bahawalpur, Faisalabad, Lahore, Jhang, Layyah, Okara, and Islamabad.

Table 1: City wise belongingness of Respondents

		Frequency	Percent
Valid	Lahore	193	11.18%
	Islamabad	189	10.95%
	Okara	194	11.24%
	Jhang	193	11.18%
	Layyah	197	11.42%
	Faisalabad	188	10.89%
	Bahawalpur	192	11.13%
	Multan	196	11.35%
	Sahiwal	184	10.66%
Total	1726	100	

In this research study we've distributed 1800 (one thousand & eight hundred) questionnaires. Out of which received (n=1726). Response rate was 95.88%. We've collected data from the nine (09) cities of the Punjab Province including Capital of "Islamic Republic of Pakistan". Our respondents belongs to 193 (11.18%) from Lahore, 189 (10.95%) from Islamabad, 194 (11.24%) from Okara, 193 (11.18%) from Jhang, 197 (11.42%) from Layyah, 188 (10.89%) from Faisalabad, 192 (11.13%) from Bahawalpur, 196 (11.35%) from Multan and finally 184 (10.66%) from Sahiwal. We've used the random sampling method.

Reliability of Data

Table 2: Reliability Statistics

Cronbach's Alpha	No. of Items
0.862	25

The minimum Cronbach's Alpha is 0.7 (Ismail et. Al 2016). The Cronbach's Alfa of our study is 0.862 that is satisfactory level.

Descriptive Demographic Statistics:

Table 3: Gender of Respondents

		Frequency	Percent
Valid	Male Respondents	1299	75.30%
	Female Respondents	427	24.70%
	Total	1726	100

In this research study from the total 1726 respondents there were 1299 (75.30%) Male smokers and 427 (24.70%) Female smokers respectively.

Table 4: Age levels of Respondents

		Frequency	Percent
Valid	18-25 Years	241	13.92%
	26-35 Years	517	29.95%
	36-45 Years	391	22.65%
	46 Years & above	577	33.42%
	Total	1726	100

Age level of the 1726 respondents were categories among four (4) groups. 18-25 years group were 241 (13.92%). From age group 26-35 years were 517 (29.95%), from age group 36-45 years were 391 (22.65%), from age group 46 years & above were 577 (33.42%) respectively. If we analyze, we will find that 26-35 years and 46 & above people are more smokers than other age groups.

Table 5: Educational level of Respondents

Valid		Frequency	Percent
	Un-educated	165	09.60%
	< Matriculation	48	02.80%
	Matriculation	117	06.80%
	Intermediate	179	10.40%
	Bachelor	440	25.00%
	Master Level	529	30.70%
	MS/M.Phil Level	254	14.70%
Total	1726	100	

Education generally use to accelerate the level of awareness. Here purpose was to check that how much they were aware regarding the warning picture and it's hazardous. If we observe, we will surprise that 440 (25%) were bachelor degree holder and 529 (30.7%) were master degree holders. So we can say that the greater number of smokers were educated. It means that they know the harmful effects of cigarette but they are ignoring them.

Table 6: Marital Status of Respondents

Valid		Frequency	Percent
	Married Respondents	825	47.80%
	Un-married Respondents	901	52.20%
Total	1726	100	

Generally smoking habit does not belong to the marital and un-married life. In our research study we've found that most of the un-married respondents were smokers. They were 901 (52.2%) from the 1726 respondents.

Table 7: Occupations of Respondents

Valid		Frequency	Percent
	Students	522	30.30%
	Govt. Employee	239	13.90%
	Private Employee	412	23.90%
	Businessmen	302	17.50%
	Un-employed	138	08.00%
	Other occupation	110	06.40%
Total	1726	100	

From the above table's results can be shocked to the viewers. From our total 1726 respondents there were 522 (30.3%) were students. This is really an alarming situation for the country.

Table 8: Income Level of Respondents

Valid		Frequency	Percent
	<5000	391	22.60%
	5000-15,000	536	31.10%
	15001-30,000	467	27.10%
	30,001-45,000	177	10.30%
	45001-60,000	138	08.00%
	60,001-100,000	09	00.50%
	>100,000	07	00.40%
Total	1726	100	

Smokers spent the money on cigarettes instead of food and on their health. Now from the above table it is surprising for us that who have <5000 p/m income. They were 391 (22.6%). Those smokers who whose earning 5000 – 15000 p/m they were 536 (31.1%). As for as concern, we observe that as income level is accelerating the number of smokers are decreasing.

DISCUSSIONS OF RESULTS

Table 9: Smoking Time of Respondents

Valid		Frequency	Percent
	Less than 1 Month	363	21.10%
	1 Month -11 Month	330	19.10%
	1 Year – 2 Years	475	27.50%
	3 Years – 5 Years	254	14.70%
	6 Years – 8 Years	166	09.60%
	9 Years – 10 Years	55	03.20%
	11 Years – 20 Years	83	04.80%
	Total	1726	100

Among our total 1726 respondents the highest number of smokers were 475 (27.5%) who have smoked cigarette from 1-2 years. One the second level there were 363 (21.1%) respondents who have smoked since <1 month. On the third level there were 254 (14.7%) who have smoked since last 3-5 years. The above table's results shows that majority smokers use cigarettes within last couple of years.

Table 10: Usage of Cigarette

Valid		Frequency	Percent
	One time in a Month	309	17.90%
	One time in a Week	173	10.00%
	Daily	406	23.50%
	< 10 in a day	509	29.50%
	1 packet in a day	240	13.90%
	2 packets in a day	41	02.40%
	3 packets in a day	48	02.80%
	Total	1726	100

Majority of the smokers 509 (29.5%) smoke almost half packet (10 cigarette) in a day. 406 (23.5%) smokers smoke the cigarette on daily basis. 309 (17.9%) are on the less harm condition because they smoke only single time in the month. Those smokers who smoke one (1) packet, two (2) packets and three (3) packets on daily basis, they will die very soon.

Table 11. Why smokers use cigarette?

Valid		Frequency	Percent
	Reduce stress	454	26.30%
	Break during work	550	31.90%
	Habitual / use to	261	15.10%
	Chill with friends	461	26.70%
	Total	1726	100

Most interesting question in our study, surprised us. Question was "why smokers smoke the cigarette?" 550 (31.9%) respondents use it during the break or use the cigarette as a tool for break during the hectic routine job. 461 (26.7%) smokers were smoking only to enjoy the friend's company. They chill with friends if their company fellows are smoking. 454 (26.3%) smokers have vital and reasonable answer that they use cigarette to reduce the stress. Previous research retrospect that stress can be in different forms. It can be a pain, sorrow, emotional and so on.

Noticed the warning labels

Those respondents who noticed the warning labels on cigarettes pack they were (81.3%) respondents and those who did not notice the warning label they were (17.9%) respondents. It shows that smokers are noticing the warning labels on the cigarette packet. But they ignore it. So Government and health policy makers should adopt the new ways that discourage the smokers in the real sense.

Table 12: Think to Quit the Smoking

Valid		Frequency	Percent
	One time	502	29.08%
	Two Times	261	15.13%
	Three Times	227	13.14%
	>3 Times, <10 times	213	12.35%
	Many Times	303	17.53%
	Every Time	220	12.75%
	Total	1726	100

Majority of the smokers who were 502 (29.08%) think to quit the smoking only single time. Rest of the tried to quit the smoking but they cannot quit it. Meanwhile 303 (17.53%) respondents tried to quit smoking many times. But smoking became an addiction.

Correlation Analysis

Table 13: Correlation flank-by "Intention to quit" and "Impacts of Warning Labels on the Smokers"

	r value	p value
Warning labels with intention to quit	0.84	0.00
Intention to quit with warning labels	0.83	0.00
Demographic factors with intention to quit	0.74	0.01
Intention to quit with demographic factors	0.82	0.00

Pearson (r) value is much higher than (p). Correlation (r) values should be greater than > 0.05 . As for as concern (p), it values always should be < 0.01 . So correlation (r) shows that relationship flanked by Dependent and independent variables. Here results show the relationship among ITQ (Intention to Quit) & Warning Labels. The Demographic factors were slightly weak but positive correlate with Intention to Quit (ITQ). The correlation between the demographic factor and warning labels have a positive and strong relationship with each other.

Regression

Table 14: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of The Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.412 ^a	.170	.163	5.16165	.170	25.310	2	248	.000	1.538

Here R is showing weak relationship between intention to quit & warning label as shown in above results because respondents (Smokers) don't care about warning label. Durbin Watson shows positive relationship. R^2 use for the further analysis. Then we checked our result through adjusted R^2 . Because we make sure that we are not overestimated the R.

FINDINGS

Smoking is a hazardous for lungs and it damages the health. We found that middle age people like 26-35 years and upper age people are regular smokers. Surprising thing is that most of the smokers in our research study were educated and they ignore the warning labels. Even un-married people are mostly smokers. Huge number of the students are also the part of it. This is an alarming situation for the nation. Smokers even earning a 'hand to mouth' in a month, but they buy the cigarette. Even high prices and increasing taxes day by day cannot discourage them. Majority people in our research study were regular and daily basis smokers. People smoke the cigarette to reduce the pain, to reduce the stress, to forget the bad memories and want to 'get rid of' from emotional things from their mind. Surprising thing is that second most people use cigarette to chill the friend's gathering. Even they are noticing the warning label every time when they buy the cigarette. So government and health policy makers should add something else that can discourage them from smoking. Motivational environment can encourage the smokers to stop the smoking. As they visit the smoker fellows. Again they start smoking. A huge portion of our respondent thought to quit the smoking one time. Another group of the smokers thought to quit the smoking every time, when they try to smoke. With the passage of time cigarette become the part of the body. Smokers feel the scarcity of nicotine in themselves. Automatically they move towards the cigarette and smoking environment.

CONCLUSION

Warning label on the cigarette pack as itself have an alarming message for the smokers. We've checked its impacts on the smokers. We found that male and female both are interested in smoking habits. Upper age people like forty-six & above don't care about warning labels and pictorial messages. Here less educated people were much smokers than educated people. Tendency of smoking in un-married people were greater than married. Whether they are students, employees, entrepreneurs and even un-employed. But astonishing thing is that in this research that students were extra smokers. As for as concern earning view-point the Smokers don't care about his/her salary or pocket money. They just quench the thirst of their smoking habit. Mostly smokers start since last twenty years & minimum one month. Few of them smoke only single time and typically smoke at-least ten cigarettes in a day. Reason is that smokers feel relaxation and want to reduce their stress of job or society. Some of them enjoy it in gathering of friends. In this research study every smokers notices the warning label, but only teen aged observes it keenly. So Government and health policy makers should introduce the new pattern of warning label that discourage them in real sense. Additionally, impose some extra taxes on cigarette. As a suggestion, we would love to express that Government should ban the smoking in public places. May be it will effect positively and reduce the number of smokers.

PRACTICAL IMPLICATIONS

- Respondents hesitate to express their smoking habit.
- Data collection was a hectic task, because every person is not smoker.
- Finance was a major issue to conduct this type of huge research of 1726 respondents from nine cities of the Pakistan.
- Researchers took the long time for the proper feedback of questionnaire.
- We've started this research in September 2016 and almost done it in January 2017.
- Weather conditions and assistants (helpers) were not supported for researchers.

DIRECTION FOR FUTURE RESEARCH

This research study was done in the nine cities with 1726 respondents. It represents only on province including Capital of Pakistan. In next research (1): A parallel comparison of smokers between Punjab & other provinces. (2): In every annual budget, heavy taxes imposed on cigarette, but why smokers are paying high cost of cigarette packet? (3): Smokers notices the warning label, but why they ignore it? (4): Why college & university students start cigarette in their early age? These are scope in future we'll expand our research to explore these problems.

REFERENCES

- Ahmed, A. E., Alwadey, A. M., & Areabi, H. A. (2016). Validation of Arabic Questionnaire on Impact of Gulf Council Countries Cigarette Package Warning Labels. *Journal of International Oral Health*, 8(3), 313.
- Ahsan, M., Saad, M., Jawed, M., Akhtar, S., Haseeb, A., Bilal, M., & Ahmed, A. (2016). Impact of tobacco health warnings on smokers in Pakistan. *Age (years)*, 20(30), 375.
- Awan, Abdul Ghafoor & Syed Farhan Gilani (2016) "Analysis of the impact of cellphone usage on Pakistan's culture ", *Global Journal of Management and Social Sciences*, Vol.2 (3):1- 31.
- Awan, Abdul Ghafoor and Shayigon Modni (2016). "Fashion conscious behavior of working and non-working women in Pakistan- An empirical analysis", *Global Journal of Management and Social Sciences*, Vol.2 (2):71-76.
- Emery, L. F., Romer, D., Sheerin, K. M., Jamieson, K. H., & Peters, E. (2014). Affective and cognitive mediators of the impact of cigarette warning labels. *Nicotine & tobacco research*, 16(3), 263-269.
- Finkbeiner, K. M., Wilson, K. M., Russell, P. N., & Helton, W. S. (2015). The effects of warning cues and attention-capturing stimuli on the sustained attention to response task. *Experimental brain research*, 233(4), 1061-1068
- Ford, A., Moodie, C., Purves, R., & MacKintosh, A. M. (2016). Adolescent girls and young adult women's perceptions of superslims cigarette packaging: a qualitative study. *BMJ open*, 6(1), e010102
- Hitchman, S. C., Driezen, P., Logel, C., Hammond, D., & Fong, G. T. (2013). Changes in effectiveness of cigarette health warnings over time in Canada and the United States, 2002–2011. *Nicotine & tobacco research*, ntt196.
- Jung, M. (2016). Implications of Graphic Cigarette Warning Labels on Smoking Behavior: An International Perspective. *Journal of cancer prevention*, 21(1), 21.
- Lau, W. M., Ting, H., Chuah, F., & De Run, E. C. (2016). Warning Signage on Cigarette Packaging and Buying Behaviour: Does It Really Matter?
- MacKinnon, D. P., Pentz, M. A., & Stacy, A. W. (1993). The alcohol warning label and adolescents: the first year. *American Journal of Public Health*, 83(4), 585-587.
- Ming, L. W., de Run, E. C., Ting, H., Chuah, F., & Singh, G. (2012). Warning Signage on Cigarette Packaging and Buying Behaviour: Does It Really Matter?
- Song, A. V., Brown, P., & Glantz, S. A. (2014). When health policy and empirical evidence collide: the case of cigarette package warning labels and economic consumer surplus. *American journal of public health*, 104(2), e42-e51.
- Yong, H. H., Borland, R., Thrasher, J. F., Thompson, M. E., Nagelhout, G. E., Fong, G. T., & Cummings, K. M. (2014). Mediation pathways of the impact of cigarette warning labels on quit attempts. *Health Psychology*, 33(11), 1410.

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