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Research Article

KNOWLEDGE, ATTITUDE AND PERCEPTION ABOUT TOBACCO WARNING LABELS AMONG COLLEGE STUDENTS IN COASTAL KARNATAKA, INDIA

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ABSTRACT

Context: Studies have shown that adolescent's tobacco use habits are influenced by peers, sibling, teacher or parent's behaviour. Various strategies are put into force to control the use of tobacco in India. Pictorial warnings labels (PWLs) on cigarette packets are one among them.
Aim: To assess the levels of knowledge, attitude and perception of student's about the pictorial health warnings on cigarette packets in Coastal Karnataka.
Settings and Design: The study was conducted in Schools (Students and Teachers) and Hospitals (Doctors) in Udupi Taluk of Karnataka state.
Methods: A cross-sectional quantitative study was conducted among 600 college students aged 18-21 years in 2016to understand awareness of PWLs on tobacco use, knowledge, attitude and perception towards PWLs. In-depth interviews were conducted among teachers and physicians to understand their opinion on need and strategies for tobacco control.
Statistical analysis used: Descriptive statistics and significance of associations were calculated using SPSS16.Manual thematic analysis was performed on qualitative data.
Results: The majority (97%) of the students were aware of PWLs and more than 70% knew about adverse health effects of smoking. Almost 60% could not remember thecontents ofPWLs. Physicians and teachers suggested that PWLs should be red coloured and cover both sides of the cigarette pack for better visibility and greater impact.
Conclusion: Pictorial warnings on cigarette packets play an important role in tobacco control, that could be improvised further by other parallel control strategies. Education about tobacco effects at the school level, lectures by experts, attaching an emotional component to the PWLs and strict implementation of tobacco-related laws will result in greater impact.

INTRODUCTION

Tobacco is one of the leading causes of death, imposing huge economic impairment each year.[1] Low and Middle-Income Countries (LMIC) hold 80% of the world's one billion smoker population.[2] Smoking is a major risk factor for many health related complications which are responsible for augmenting morbidity and death.[3-8] Studies conducted in India showed that majority of the adolescent smokers were boys and smoking was influenced by the smoking habits of peers, parents, teachers or siblings.[9-11]

Large and vivid pictorial warnings are an important component of anti-tobacco campaigns to control tobacco intake and are designed to produce behavioural changes in the tobacco users.[12-17] Cigarette and Other Tobacco Products Act (COTPA) in India came into force and has influenced tobacco intake to some extent.[18] Nevertheless it needs to be assessed further to improvise it by understanding perceptions, attitude to create awareness related to tobacco use among adolescents.[19-21]

Subjects

The primary respondents for this study were the college students in the age group of 18-21 years from selected degree colleges in Udupi Taluk of Karnataka. Teachers and physicians were the participants for the qualitative component of the study.

METHODS

A mixed method cross-sectional study was conducted among college students aged 18-21 years in Udupi Taluk of Coastal

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Karnataka in India. The sample size was calculated as 600, assuming the knowledge of PWL as 71% based on a similar study in Davangere district of Karnataka. The study was conducted in 11 of the 13-degree colleges in Udupi Taluk during January to June 2016. Probability proportional to size method was adopted to determine the number of students to be selected from each college. The study protocol was approved by the Institutional Ethics Committee of Kasturba Medical College and Kasturba Hospital of Manipal University.

The pretested, structured and validated questionnaire was administered to the consented college students in the age group of 18-21 years. The questionnaire had six sections to capture socio-demographic details, tobacco use related behaviour, knowledge about PWL, attitude towards PWL, knowledge about health effects and perception about PWL. SPSS version 16 was used to calculate descriptive statistics. Perceptions and suggestions to improve PWL were captured through qualitative in-depth interviews among health professionals and college teachers. The qualitative data was analysed by manual coding and thematic categorization.

RESULTS

This study was conducted among 600 college students aged 18-21 years. Almost equal number of boys (299) and girls (301) has participated in this study. Almost 88.9% respondents never used any type tobacco products (smoking or smokeless), and 10.5% were current users. The knowledge, attitudes and perceptions towards pictorial warning labels are provided in Table-1.

Table 1 Knowledge, attitude and perception towards PWL and intention to quit (n=600)

Topic	Variable	Frequency
Knowledge	Aware about pictorial warnings on cigarette packs	584 (97.3)
	Last 30 days noticed health warnings	192 (32.0)
	Remember what they saw on cigarette pack at the last time	238 (39.7)
	Knows the how much space in the cigarette packs are covered with pictorial warnings	196 (32.7)
	Spend some time looking at pictorial warnings	362 (60.3)
Attitude	In last 30 days warnings make you think about the health risk caused by smoking	486 (81.0)
	Ever told about the warnings to friends / relatives 304 (50.7)	
Perception	Does pictorial warnings carry a stronger message to make people quit	278 (46.3)
Quitting (n=63)	Tried to quit	46 (73.3)

Though a majority (97%) of the students were aware of pictorial warnings on cigarette packets, less than one-third (32%) had noticed the pictorial health warnings in past one month. Less than 40% college students were able to remember what they have seen on cigarette packets at the last time. Less than one-third of the respondents could specify the surface area in cigarette packets covered with pictorial warnings. More than 60% of the participants reported of spending the time to look pictorial warnings closely to understand the content and message of the pictures. In past one-month, the pictorial warnings made 81% of the participants to think about health risks of smoking and half of the students had discussed the risks of smoking with their friends and/or relatives. About 46% of the respondents believed that pictorial warnings carry a stronger message to make people quit. Of the63 students who smoked cigarettes, more than 73% ever tried to quit smoking.
Knowledge on health effects of tobacco use is provided in Table-2. Upon enquiring the disease conditions caused by tobacco smoking, almost 70% students knew that tobacco smoking causes oral cancer, 63% knew it causes lung cancer, 49% knew smoking cause heart disease, and 27% knew that stroke as an effect of smoking.

Table 2 Knowledge on health effects of tobacco use (n=600)

Disease condition caused by smoking	Frequency (%)
Oral Cancer	287 (69.2%)
Lung Cancer	376 (63.2%)
Heart disease	287 (48.6%)
Stroke	155 (26.4%)

Recommendations provided by college students on coverage of pictorial warnings on cigarette packets are given in Table-3. Almost 70% of the participants had recommended that pictorial warnings should be displayed on both the sides of the cigarette pack while about 15% suggested that the pictorial warning could be just on one side of the cigarette packet.

Table 3 Respondent's recommendations about the coverage area of pictorial warnings

Characteristic	One sided/ Two sided	Frequency (%)
Recommendations about coverage area of pictorial warnings	One side of the packet	92 (15.3)
	Two sides of the packet	416 (69.3)
	Unsure	92 (15.3)

The interview with teachers and health professionals was useful in better understanding student's perception about pictorial warnings. According to them, students get awareness on health effects of tobacco use through different mass medium such as television, the internet, newspapers, in addition to pictorial warning labels on cigarette packets. Students' knowledge and perceptions regarding health effects could be reinforced by offering such education at high school level, through expert lectures and regular mentoring. Stakeholders were also of the opinion that the implementation of laws and regulations related to smoking has to be strict and that just framing the policies would not be sufficient. With regard to the pictorial warning, one of the stakeholders suggested that adding an emotional component to the pictorial warning might make them more effective. Increasing the price of tobacco products or just the pictorial warnings labels will not serve the purpose. Most of the qualitative study participants emphasized the importance of education and awareness creation in reducing smoking habits and to promote quitting.

DISCUSSION

This study provided information regarding the knowledge, attitude and perception about tobacco pictorial warnings (PWs) among college students, and strategies suggested by students, health professionals and teachers to control the smoking behaviour among adolescents. In the present study 97% students were aware of PWL on cigarette packets and 70% could understand PWL on cigarette packs. Of the 63 current smokers, 37% were encouraged to quit the habit due to pictorial warnings and 36% tried to quit because of peer pressure or pressure from home.

This study findings are similar to the studies by Mallikarjun S *et al*., among Government bus drivers in Mangalore which showed a PWL awareness of 98% and PWs inspired 72% of them to quit smoking habits.[22]A study in Bellary district of Karnataka found that 73% tobacco consumers have seen PWL, only 26% were able to interpret the messages correctly and only a few (15%) has tried to quit after comprehending the meaning in PWL.[23]

Less than half of these study participants could understand the messages conveyed through PWL, though many have had the knowledge on health effects such as oral cancer (69%), lung cancer (63%), heart disease (49%) and stroke (26%) could be caused by tobacco use. A four-country study by Hammond *et al*., during 2002-2005, has shown that majority of the participants had a good knowledge of lung cancer, stroke and heart disease.[24] The Bellary study has shown slightly higher levels of knowledge on health effects due to tobacco use such as lung cancer (75%), heart diseases (70%) and stroke (63%).[23] About 70% of the respondents were able to understand both the PWL and the statutory warnings on cigarette packets. Our study participants were college students who could read and understand the meaning of statutory warnings on cigarette packets. A study by Oswal C *et al*. in Mumbai, has found that PWLs were easily noticeable than statutory warnings, more effective in informing health hazards than statutory warnings, though the pictorial warnings tend to be misinterpreted due to unclear pictures.[25]Through a study in five Indian states by Arora *et al*. indicated that due to the smaller size of the PWLs on a cigarette packet, it might not be very effective in forewarning the people.[26]

Almost three-fourth (73%) of our participants perceived that PWL carries a stronger message regarding health hazards of smoking and helps quit smoking, opined that the pictorial warning could be on both sides of the packet, and the red color might be suitable for displaying them. A study was done by Fong *et al*, showed that graphic warnings were more useful than PWL in communicating health hazards.[27]

Our study revealed that framing the rules alone would not solve the purpose unless its implementation is strict. Similar findings were shared by Hammond *et al*., in Canada which says that policy makers should not be reluctant to introduce PWL strictly.[28]In spite of the COTPA act and legislations, there is a need to induce strategies in parallel to control the use of tobacco.[29-31]In the present study, majority of stakeholders and college students expressed that PWL are an important means of health communication intervention, and these findings were similar to a previous study done by T Fong *et al*., 2009.[27]In this study, the participantshas opined that pictures on the pack should be large and scary and these findings were similar to study by Berj *et al*. in which smokers rated gruesome pictures as most effective but the difference was that present study was done among stakeholders related to students and Carla *et al*., did it mainly among smokers.[32]

The stakeholders interviewed suggested that locally available tobacco products in India like *beedis* were not complying with the packaging labelling rules, and they do not have PWL and such items should contain PWL and text warnings in the local language. Similar findings were seen in a study conducted by Aruna *et al*., in 2010 where one Indian cigarette brand and two International brands showed no PWL on their packets.[33]

Implications of the study

Government of India in 2016 made it mandatory that a tobacco pacakage should be covered with 85 % pictorial warnings, but several petitions has come up in Supreme Court to hear about the packaging rules and keep them to 40% as before. The high court had, however, made it clear that the 40 per cent pictorial health warning rule, which existed prior to the amendment rules, would remain in force. In coherence with the petitions Supreme Court transferred all pictorial warnings to Karnataka High Court, the next hearing regarding the pictorial warnings will be held on 8 January, 2018. Looking at the public health imporatnec of the pictorial warnings in preventing the smoking habits it will be interesting to see how Supreme Court decides on the case. Whereas the results of the study purely implies the need of larger covering of tobacco packages so as to make it more impactful.

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References

1. World Health Organization. WHO, Global status report on non-communicable diseases 2010, WHO Library Cataloguing-in-Publication Data. ISBN 978-92-4-156422-9; 2011.
2. US Department of Health and Human Services. The health consequences of smoking-50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centres for Disease Control and Prevention, National Centre for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. 2014;17.
3. World Health Organization. WHO report on the global tobacco epidemic, 2011: warning about the dangers of tobacco. World Health Organization; 2011.
4. Lakier JB. Smoking and cardiovascular disease. *Am J Med* 1992;93:8-12.
5. Harrison BJ, Silman AJ, Hider SL, Herrick AL. Cigarette smoking as a significant risk factor for digital vascular disease in patients with systemic sclerosis. *Arthritis Rheumatol* 2002;46:3312-6.
6. Madsen C, Nafstad P, Eikvar L, Schwarze PE, Rønningen KS, Haaheim LL. Association between tobacco smoke exposure and levels of C-reactive protein in the Oslo II Study. *Eur J Epidemiol* 2007;22:311-7.
7. Kannel WB, D'Agostino RB, Belanger AJ. Fibrinogen, cigarette smoking, and risk of cardiovascular disease: insights from the Framingham Study. *Am Heart J* 1987; 113:1006-10.
8. Levenson J, Simon AC, Cambien FA, Beretti C. Cigarette smoking and hypertension. Factors independently associated with blood hyper viscosity and

arterial rigidity. *ArteriosclerThrombVascBiol* 1987; 7:572-7.
9. Gavarasana S, Doddi VP, Prasad GV, Allam A, Murthy BS. A smoking survey of college students in India: Implications for designing an anti-smoking policy. *Cancer Science* 1991; 82(2):142-5.
10. Kapoor SK, Anand K, Kumar G. Prevalence of tobacco use among school and college going adolescents of Haryana. *Indian J Pediatr* 1995;62:461-6.
11. Centres for Disease Control and Prevention (CDC. Current cigarette smoking among adults-United States, 2011. Morbidity and Mortality Weekly Report 2012;61:889.
12. Gilmore AB, Fooks G, Drope J, Bialous SA, Jackson RR. Exposing and addressing tobacco industry conduct in low-income and middle-income countries. *The Lancet* 2015;385:1029-43.
13. Kees J, Burton S, Andrews JC, Kozup J. Understanding how graphic pictorial warnings work on cigarette packaging. *Journal of Public Policy & Marketing* 2010; 29:265-76.
14. Schneider S, Gadinger M, Fischer A. Does the effect go up in smoke? A randomized controlled trial of pictorial warnings on cigarette packaging. *Patient EducCouns* 2012;86:77-83.
15. Yong HH, Fong GT, Driezen P, Borland R, Quah AC, Sirirassamee B, Hamann S, Omar M. Adult smokers' reactions to pictorial health warning labels on cigarette packs in Thailand and moderating effects of type of cigarette smoked: findings from the international tobacco control southeast Asia survey. *Nicotine Tob Res* 2013:241.
16. McAfee T, Davis KC, Alexander RL, Pechacek TF, Bunnell R. Effect of the first federally funded US antismoking national media campaign. *The Lancet* 2013;382:2003-11.
17. Hammond D. Health warning messages on tobacco products: a review. *Tobacco control* 2011:tc2010.
18. Ministry of Law and Justice Govt of India. The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003. 2003:10
19. Goel S, Ravindra K, Singh RJ, Sharma D. Effective smoke-free policies in achieving a high level of compliance with smoke-free law: experiences from a district of North India. *Tobacco control* 2014;23(4):291-4.
20. Panda B, RoutA, Pati S, Chauhan AS, Tripathy A, Shrivastava R, Bassi A. Tobacco control law enforcement and compliance in Odisha, India-Implications for tobacco control policy and practice. *Asian Pac J Cancer Prev* 2012;13(9):4631-7.
21. Arora M, Mathur MR, Singh N. A framework to prevent and control tobacco among adolescents and children: introducing the IMPACT model. *Indian J Pediatr* 2013;80:55-62
22. Mallikarjun S, Rao A, Rajesh G, Shenoy R, Bh MP. Role of tobacco warning labels in informing smokers about risks of smoking among bus drivers in Mangalore, India. *Asian Pac J Cancer Prev* 2014;15:8265-70.
23. Hammond D, Fong GT, McNeill A, Borland R, Cummings KM. 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* 2006;15(suppl 3):iii19-25.
24. Karinagannanavar A, Raghavendra B, Hemagiri K, Goud TG. Awareness about pictorial warnings on tobacco products and its impact on tobacco consumers in Bellary, India. *Asian Pac J Cancer Prev* 2011;12:2485-9.
25. Oswal KC, Raute LJ, Pednekar MS, Gupta PC. Are current tobacco pictorial warnings in India effective? *Asian Pac J Cancer Prev* 2011;12:121-4.
26. Arora M, Tewari A, Nazar GP, Gupta VK, Shrivastav R. Ineffective pictorial health warnings on tobacco products: Lessons learnt from India. *Indian J Public Health* 2012;56:61.
27. Fong GT, Hammond D, Hitchman SC. The impact of pictures on the effectiveness of tobacco warnings. Bulletin of the World Health Organization. 2009;87:640-3.
28. Hammond D, Fong GT, Mcdonald PW, Brown KS, Cameron R. Showing leads to doing: graphic cigarette warning labels are an effective public health policy. *Eur J Public Health* 2006;16:223-4.
29. Kaur P, Thomas DR, Govindasamy E, Murhekar MV. Monitoring smoke-free laws in restaurants and educational institutions in Chennai, India.
30. Kumar R, Goel S, Harries AD, Lal P, Singh RJ, Kumar AM, Wilson NC. How good is compliance with smoke-free legislation in India? Results of 38 subnational surveys. International health 2014:ihu028.
31. Goel S, Singh RJ, Sharma D, Singh A. Public opinion about smoking and smoke free legislation in a district of North India. *Indian J Cancer* 2014;51:330.
32. Berg CJ, Thrasher JF, Westmaas JL, Buchanan T, Pinsker EA, Ahluwalia JS. College student reactions to health warning labels: sociodemographic and psychosocial factors related to perceived effectiveness of different approaches. *Prev Med* 2011;53:427-30.
33. DS A, Rajesh G, Mohanty VR. Insights into pictorial health warnings on tobacco product packages marketed in Uttar Pradesh, India. *Asian Pac J Cancer Prev* 2010;11:539-43.

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