ORIGINAL ARTICLE ███████████

ADOLESCENT'S ATTITUDES TOWARDS HEALTH WARNING MESSAGE ON CIGARETTE PACKS

Zulkifli Ahmad, Rogayah Jaafar,* Razlan Musa , Nyi Nyi Naing

Department of Community Medicine, *Department of Medical Education
School of Medical Sciences, Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan, Malaysia

A total of 190 secondary four male school students from three schools in Kota Bharu were surveyed on their smoking habits and their attitudes towards the health warning messages on cigarette packs. There were 57 (30.0%) students who were current smokers, 45 (23.7%) students who were ex-smokers and 88 (46.3%) students who have never smoked cigarettes. Nearly all current and ex-smokers (95.1%) as well as non-smokers (94.3%) knew the wording of the health warning message currently displayed on cigarette packs. Almost all the students (95.3%) also knew where the warning message was placed. There were more ex-smokers and non-smokers (70.5%) compared to current smokers (50.0%) who felt that there should be different health warning messages and each should be displayed concurrently on different cigarette packs. The students felt that the current health message was not effective to motivate smokers to quit (score=2.25). Alternative messages which the students felt may be more effective were 'Smoking is dangerous for pregnancy' (score = 3.3), 'Cigarette smoke is dangerous for your child' (score=3.11) and 'Smoking can kill you' (score=3.08). The current health message " Smoking is dangerous for your health' is eighth with a score of only 2.64. The students felt that the least effective message was 'Cigarettes are drugs' (score=2.22). Most of the students (80.0%) felt that the health warning message should be placed at the front instead of on the side of the cigarette pack to be more effective.

Introduction

Smoking among adolescents has been found to be a growing problem in many developing countries (1). Traditionally, smoking control has focused on educating smokers or would be smokers on the dangers of smoking. Health warnings on cigarette packs are mainly utilised to educate smokers and is a useful and inexpensive way to reach smokers. To be effective, health warnings should be able to motivate smokers to quit. It is usually assumed that, because health warnings are so important, smokers will find this information so interesting and convincing, that, after reading it, they will quit smoking. This does not happen generally and their efficacy is limited (2). There is a need to actively market these messages on cigarette packs to help diminish the impact of cigarette advertising.

In Malaysia, the Control of Tobacco Product Regulations 1993 has been enacted to reduce tobacco consumption in the country, especially among youth. The regulations requires the tobacco companies to have a health warning message 'Smoking is dangerous to your health' in the local language on cigarette packs. However, it is generally felt that the message and the way it is displayed, is not very effective to motivate smokers to quit, especially adolescents. The problem of 'wearout' by using the same health warning message is a well known problem (3). Secondly, for the youth, who are at their prime of health, the perception of being 'dangerous to health' has only a very limited impact (4,5). To

prevent 'wearout' and to target the message to various target groups, different messages rotated between cigarette packs is recommended (6). The health warning message is presently placed on the side of the cigarette pack in relatively small print. The background colour is the same as the colour of the cigarette pack, making the message almost invisible. Ideally, the health warning message should be the first thing smokers see before buying the cigarettes and the last thing they see before lighting up the cigarettes (7).

This study is an attempt to assess the attitude of adolescent Malaysian school students on the effectiveness of the current mandatory health warning message on cigarette packs. The perception of these adolescents to the effectiveness of alternative health warning messages and the most effective place for the message on the cigarette pack was also done.

Methodology

Three secondary schools were randomly sampled from the Kota Bharu district. All male secondary four students in the selected schools were included in the study. However, after discussions with the teachers, it was felt that only students from certain classes were able to read and understand the questionnaire, thus providing a more reliable response. All male students from these classes who were present on the day of the study were selected and participated in this study. A total of 190 secondary four male school students were studied.

Each student was given a questionnaire which were collected at the end of the session. The questionnaire was in Malay to improve the student's understanding and response. Twelve alternative health warning messages in Malay were given to the students. Ten of these alternative health warning messages were health warning messages from Canada while one was the message found in Malaysia. The last alternative given was based on the religious belief that smoking is forbidden. The students were asked to give a score on their perceived effectiveness of these messages to motivate a smoker to quit. The current health warning message 'Smoking is dangerous to your health' was also included to compare the score with that of the other messages. Another alternative health warning message 'Smoking is forbidden (haram)' was also included to assess the potential effectiveness of using religious warnings. The students were asked to score the potential effectiveness of these health warning

messages on a 5 point Likert scale: 1=not effective, 2= mildly effective, 3=moderately effective, 4=quite effective 5=very effective. To improve the reliability of the result, the questionnaire was anonymous. The 'bogus pipeline technique', using sampling of each student's saliva, was used as this method is known to improve the accuracy of self reported current smoking habits (8).

The data was analysed by t-tests and analysis of variance using Epi Info Version 6, a word processing, database and statistical software for public health, (9).

Results

There were 57 students who were current smokers, giving a smoking prevalence of 30.0%. There were 45 students (23.7%) who are ex-smokers and 88 students (46.3%) who have never smoke cigarettes. Therefore, a total of 102 students (53.7%) have been exposed to smoking cigarettes, either currently or previously.

Nearly all the students, including both current and ex-smokers (95.1%) and non-smokers (94.3%) were able to write down the current health warning message found on the cigarette packs. Again, nearly all of them (95.3%) knew the site of the health warning message on the cigarette pack. More non-smokers and ex-smokers (70.5%) compared to smokers (50.0%) felt that there should be alternative health warning messages used on cigarette packs. One hundred and fifty-two students (80.0%) felt that the health warning message should be in front of the cigarette pack for it to be more effective. Only 5 students (2.6%) chose the current site, which is at the side of the cigarette pack, as the best site for the health warning message.

Almost all (84.2%) of the current smokers regular read the health warning message found on cigarette packs. There was no significant difference in the score of the effectiveness of the current health

Table 1.   *Effectiveness of current health warning message by Form 4 male students*

Smoking Status	Score of effectiveness					
	1	2	3	4	5	Average
Current smoker	11	14	12	8	12	2.93
Ex-smoker	12	13	13	3	4	2.42
Non smoker	24	24	20	7	13	2.56
Total	47	51	45	18	29	2.64
F statistic = 2.068, p > 0.05						

warning message ' Smoking is dangerous to your health' among the three categories of students according to their smoking status. (Table 1)

The mean score on the potential effectiveness of these eleven alternative health warning messages are shown in Table 2. The message 'Smoking during pregnancy can harm your baby' and 'Tobacco smoke can harm your children' obtained the highest scores, with mean scores of 3.26 and 3.11 respectively. The

effectiveness to encourage smokers to quit smoking. The size, location, colour and content of these health warning messages should be considered. This is based upon research findings, which indicates that changing any one of these parameters will help bring the messages out of the noise (10,11). Bhalla and Lastovicka have also concluded that the more severe the departure of the format from the existing format and the less textual the advertising context, the

Table 2.   Score of effectiveness of alternative health messages by category of smoker

Health warning message		Mean	Score	p value
	All	Smokers	Non / Ex	
1. Smoking during pregnancy can harm your baby	3.26	3.35	3.22	n.s
2. Tobacco smoke can harm your children	3.11	3.39	2.99	< 0.05
3. Smoking can kill you	3.08	3.02	3.11	n.s
4. Cigarettes cause fatal lung disease	3.06	3.30	2.88	< 0.05
5. Cigarettes causes cancer	2.98	2.88	3.02	n.s
6. Cigarettes causes stroke and heart disease	2.68	2.72	2.68	n.s
7. Smoking causes bad breath and yellow teeth	2.64	3.07	2.46	< 0.01
8. Smoking is dangerous to your health	2.64	2.93	2.51	n.s
9. Smoking is a waste of money	2.58	3.19	2.32	< 0.01
10. Tobacco smoke causes fatal lung disease in non-smokers	2.52	2.81	2.39	< 0.05
11. Smoking is haram	2.33	2.15	2.55	n.s
12. Cigarettes are addictive	2.22	2.21	2.22	n.s

messages 'Cigarettes are addictive' and 'Smoking is forbidden' were scored the least effective with mean scores of only 2.33 and 2.22 respectively.

A comparison on the mean score between current smokers with non-smokers and ex-smokers indicate that generally, the smoker's score was higher compared to the non-smoker and ex-smoker's score. However, there were only five health warning messages in which the score was significantly higher for the current smokers. The score for the religious based health warning message 'Smoking is haram' is higher for non and ex-smokers compared to smokers although the difference was not significant.

Discussion

The current requirements for the tobacco companies to place warning signs on cigarette packs in Malaysia should be changed to increase it's

greater the potential effect (12).

In this study, most of the students were able to correctly write down the current health warning message, and the site where it is situated. However, nearly all of them felt that the message is not effective to motivate smokers to quit. Most of the students agree that there should be different messages and should be placed in front of the cigarette pack. Studies have found that adolescent smokers are more attentive than adults, especially to rotating meaningful messages (13,14). The messages can also be used to target different groups of smoker. Messages about smoking affecting the looks of the smoker may be more meaningful to the teenage smoker, which was found to be significantly more in smokers. The message on smoking harming children was also significantly more in smokers. However, this message may be more meaningful to adult smokers who have children. The religious

health warning message given in this study was less meaningful to these adolescents. Religion may not be a major concern at this age but such religion based messages may have a better impact among the older smokers.

There are a number of countries like Australia, Canada, Norway, Singapore and Thailand, who are leaders in the area of health warning messages. During the mid-1990s, these countries had introduced health warning messages with much greater impact, including direct statements of health hazards and multiple messages, that were larger and more prominently displayed (3). This will provide a more effective and inexpensive way, from the Government's point of view, of reaching and educating smokers. In Canada, the colour of the warning signs is displayed by bold black letters on a white background, which stands out against the background colour of the cigarette pack. The message is placed prominently at the front of the pack. The front of the cigarette pack is the largest and visible display surface and the message should occupy the top 25% of the surface. Cigarette manufacturers in Canada are required to ensure that all the messages appear simultaneously, with half of their packaging containing a warning in black text on a white background and the other half in white text on a black background (7).

Mandatory health messages on cigarette packages is a useful, effective and inexpensive way of reaching the smoker. However, the purchasing habits of the child and adolescent smoker is different from the adult smoker. They are known to usually purchase individual cigarettes instead of buying a whole pack (15). This habit will render the health warning messages on the cigarette packs ineffective. Experience in other countries has shown that banning the sale of individual cigarettes may reduce the problem (16). Selling cigarettes only in packs will limit the accessibility of children and adolescents to cigarettes as they are more sensitive to the price of a pack of cigarettes (17,18). In Malaysia, this additional requirement is essential to boost the effectiveness of the mandatory health warning message found on cigarette packs.

Mandatory health warning message on cigarette packs is only one component of a comprehensive tobacco control strategy. Other components include a total ban of cigarette advertising, effective protection from involuntary exposure to tobacco smoke, high tobacco taxes, a ban of incoming duty free sales of cigarettes, a prohibition of sales to minors and vigorous health promotion activities. All these together have contributed to the spectacular decline in cigarette sales and a radical change in the marketing of tobacco products in those countries which are successful in controlling tobacco consumption (19).

Conclusion

Our study confirms the need to review and enhance the existing mandatory health warning messages on cigarette packs in Malaysia. The size, location, colour and content should be changed to enhanced it's effectiveness. Hopefully, combined with other control measures, Malaysia could very soon enjoy the same success in curbing tobacco consumption that other countries has through their comprehensive tobacco control program.

Acknowledgements

Correspondence :

Assoc. Prof. Dr. Zulkifli Ahmad MPH,
Department of Community Medicine,
School of Medical Sciences,
Universiti Sains Malaysia,
16150 Kubang Kerian, Kelantan, Malaysia.

References

1. World Health Organisation. Smoking control strategies in developing countries - Report of a WHO Expert Committee *WHO Technical Report Series 695*, World Health Organisation., 1983 Geneva.

2. World Health Organisation. Tobacco or health: A global status report. *World Health Organisation*, 1997 Geneva.

3. Fischer, P.M., Krugman D.M. and Fletcher J.E. An evaluation of health warnings in cigarette advertisements using standard market research methods: what does it mean to warn? *Tobacco Control* 1993; **2**: 279-285.

4. MacKay J. Combating addiction in developing countries In: Chapman S. Smokers: why do they start and continue? *World Health Forum* 1995; **16**: 1-9.

5. Reid D. Tobacco control: overview In: Doll S.R., Crofton S.J., eds. Tobacco and health *Br Med Bull*.

1996; **2(1)**:108-120.

6. Mallouff J., Schutte N. and Frohardt M. Preventing smoking: evaluating the potential effectiveness of health warnings. *J Psychol*. 1992; **126**: 371-383.

7. Kaisserman M.J. The effectiveness of health warning messages. *Tobacco Control* 1993;**2**: 267-269.

8. Pechacek T., Fox B., Murray D. and Leupker R. Review of techniques for measurement of smoking behaviour. In: Matarazzo JD., Herd J., Miller N., Weiss S., eds. *Behavioural health: a handbook of health enhancement and disease prevention*, New York; Wiley-Interscience, 1984: 729-54.

9. Dean A.G., Dean J.A., and Coulombier D. *Epi Info Ver 6: a word processing, database and statistics program for public health*. Centers for Disease Control and Prevention, Atlanta, Georgia, U.S.A. 1996.

10. Lehto M.R., and Miller J.M. Warnings, Vol 1 *(Fundamentals, design and evaluation methodologies)*. Fuller Technical Publications, Ann Arbor, Michigan. 1988.

11. Centre for Behavioural Research in Cancer. *Health warnings and contents labeling on tobacco products*, Centre for Behavioural Research in Cancer, Anti-Cancer Council of Victoria, Australia, 1992.

12. Bhalla G., and Lastovicka J.L. The impact of changing cigarette warning message content and format. *Adv Consumer Res* 1984; **11**:30510.

13. Cunningham R., and Kyle K. The case for plain packaging. *Tobacco Control* 1995; **4**:17-18.

14. Beede P., and Lawson R. The effect of plain packages on the perception of cigarette health warnings. *Public Health* 1992; **106**: 315-322.

15. Stead M., Hastings G., and Tudor-Smith C. Preventing adolescent smoking: a review of options. *Health Education Journal* 1996; **55**:31-54.

16. DiFranza J.R., Norwood B.D., and Garner D.W. Legislative efforts to protect children from tobacco. *JAMA* 1987; 257(24):3387-3389

17. Townsend J., Roderick P., and Cooper J. Cigarette smoking by socio-economic group, sex and age: effects of price, income and health publicity. *BMJ* 1994; **309**: 923-927.

18. Lewit E.M., and Coate D. The potential for reducing excise taxes to reduce smoking. *J Health Economics* 1982; **1**:121-145.

19. Menchacha J.R. Spotlight on the Western Pacific Region. *Tobacco Control* 1994; **3**: 280-281.