

An Interventional Study on Change in the Knowledge of High School Students Regarding Ill Effects of Tobacco Use

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ABSTRACT— *A before and after intervention study was conducted on 9th and 10th standard students regarding tobacco use and its ill effects. A pre-tested structured questionnaire was used to assess the knowledge of 194 students regarding tobacco use and harmful effects. Health education was given in the form of a role play and power point presentation. Change in knowledge was assessed immediately and 5 months post intervention. Statistical Analysis was done based on percentages and proportions, immediately after the educational intervention and after 5 months. There was a significant improvement in the knowledge of the students regarding the different products that contain tobacco, harmful substances, diseases associated with tobacco use, passive smoking risks, harmful effects of active smoking and passive smoking on foetus during pregnancy, economics of smoking and addiction to tobacco. This shows that health education is an effective form of primordial prevention of this noxious habit.*

Keywords—Tobacco ill effects, educational intervention

1. INTRODUCTION

Tobacco is the only legally available consumer product which kills people when used entirely as intended. Tobacco use is one of the leading preventable causes of premature death, disease and disability around the world [1]. It is also one of the risk factors for six out of eight leading causes of death worldwide [2]. Use of tobacco, alcohol, and other substances is a worldwide problem and affects many children and adolescents [3]. Global tobacco marketing, particularly in developing countries, is often specifically targeted at children and youth [4]. The average age at which an individual takes up tobacco is 13-15 years. Tobacco is addictive. Hence, we need to prevent young people, especially adolescents, from taking up tobacco. People who do not use tobacco by the age of 20 years will be less likely to ever use it. Indian Tobacco Industry supports 100 million people but at the cost of one billion lives [5].

Various theories have been put forth regarding behaviour. According to the theory of planned behaviour humans are rational and make systematic use of available information. Persuasion theory has 3 key elements: the credibility of the speaker, the persuasiveness of the argument and the responsiveness of the audience. The model assumes that exposure to the information leads to a change in behaviour. According to Elaboration likelihood model if an individual is highly motivated and pays mindful attention the message will be passed through the central processing route. If this route is taken an enduring attitude change is more likely. Also an overload of information may lead to feelings of confusion and helplessness rather than providing orientation or increasing the feeling of control [6]. Taking into consideration all these theories a study was taken up among school students with the following objectives: a) To assess the knowledge of 9th and 10th standard students regarding tobacco use and its ill effects. b) To evolve and implement a health education programme on the above topic and c) To assess the change in their knowledge following educational intervention.

2. METHODOLOGY

The study was conducted from 1st June 2012 to 31st October 2012. The target group comprised of 194 9th and 10th standard students aged 13-15 years. All students present were included in the study. A semi-structured, pre-tested questionnaire was used for pre test and post test.

The questionnaire comprised of aspects regarding various forms of tobacco, ill effects of tobacco smoking/chewing, effects of addictive nature of tobacco and economics of smoking or chewing tobacco and also ill effects of secondhand smoke. All students who participated were assured anonymity and confidentiality.

The III year medical students of the department of Community Medicine conducted an educational intervention which was in the form of a role play along with power point presentation. The audiovisuals showed the high school students how various parts of the body are affected due to active and passive smoking, how the fetus in mother's womb is affected and the various forms of tobacco-smoked and smokeless forms. The role-play featured a family in which the father and his 9th standard son were smokers, the pregnant mother (a tobacco chewer) and the daughter who along with a doctor brought out the health hazards of tobacco.

Statistical analysis was done based on percentages and proportions. McNemar modified Chi-square test was applied to find out the statistical significance of change in knowledge after the educational intervention immediately post intervention and five months later.

3. RESULTS

The table shows that there was a significant improvement in the knowledge of the students immediately after the educational intervention and even after 5 months with regard to harmful substances in cigarette, products containing tobacco, diseases caused by tobacco, ill effects of passive smoking, passive smoking and tobacco chewing on fetus during pregnancy, addictive nature and cost of cigarettes ($p < 0.01$).

Certain aspects such as harmful effects of passive smoking or tobacco chewing on foetus during pregnancy, warning sign on cigarette packets and addictive nature of tobacco showed a greater percentage of improvement in the awareness 5 months after the educational intervention.

Table showing Effect of Educational Intervention on Knowledge of Students

Topics	Pretest %	Posttest% immediate	Significance Level (p value)	Posttest (after 5mths)	Significance Level (p value)
Different products containing tobacco	7.73	81.9	1.286×10^{-30}	77.65	8.108×10^{-24}
Harmful substances in cigarette	8.24	93.81	5.517×10^{-34}	89.3	1.740×10^{-30}
Diseases caused by tobacco	11.34	94.32	6.101×10^{-34}	92.73	7.178×10^{-32}
Effect of passive smoking on health	92.26	95.36	0.1302	99.4	0.00597
Effect of passive smoking on fetus during pregnancy	86.59	96.90	0.000849	99.8	1.452×10^{-5}
False impression that smoking reduces stress	42.78	64.43	7.431×10^{-7}	59.21	0.0015
Cost of cigarette packet	5.15	91.23	7.279×10^{-36}	78.21	2.739×10^{-24}
Harmfulness of beedi, cigar, cigarette compared	14.43	87.11	4.232×10^{-25}	45.81	1.146×10^{-13}
Awareness about warning sign printed on Cigarette packet	58.24	88.65	1.192×10^{-8}	96.08	2.033×10^{-14}
Addictive nature of tobacco smoking/chewing	39.17	70.61	1.780×10^{-9}	72.06	3.192×10^{-5}
Effect of chewing tobacco on fetus during pregnancy	90.20	96.90	0.0056	98.32	0.0058

4. DISCUSSION

In this study students were aware that smoking is hazardous to health but they were unaware of the diseases caused by tobacco prior to the educational intervention. In the study by Singh V, 90% students knew that tobacco caused respiratory diseases, general debility, heart disease, cancer, impotence, ulcer of stomach and death [7]. Molina et al showed that after an educational intervention there was significant difference in the knowledge, attitudes and beliefs about tobacco use [8]. A Brazilian study revealed that knowledge about harmful effects of smoking increased after an educational intervention [9]. Knowledge on the various products of tobacco showed a significant rise immediately as well as five months after the intervention. However, there was a decrease in knowledge after five months though it was still significant when compared to baseline level. Hence, such activities should be conducted periodically to reinforce their knowledge.

This study revealed that 92.2% of the students were aware of the ill effects of passive smoking before the intervention. Therefore, immediately post intervention the rise in knowledge was not statistically significant. However after five months knowledge was 99.4%, which was statistically significant. This was due to the awareness gained through various sources such as internet after the initial sensitization. Philip et al showed that there was a significant difference in the awareness about the ill effects of passive smoking ($p < 0.001$) among school students [10].

Many students had a misconception that smoking reduces stress and it is not addictive. Hence our efforts were directed towards providing them the right knowledge which was statistically significant immediately post intervention and after 5 months. In the study by Dechenla Tsering et al knowledge on harmfulness of substance use among students was very high [11].

The Indian government has passed laws prohibiting sale of tobacco to persons below 18 years and around educational institutions. However, upon enquiry, the students revealed that there were 8-10 shops selling tobacco products around the school. This indicates that the laws should be implemented in a stringent manner.

Several studies have been conducted regarding the prevalence of smoking. However, the need of the hour is PRIMORDIAL PREVENTION through educational intervention.

5. CONCLUSION

Educational intervention to adolescents is effective in improving their awareness on harmful effects of tobacco. This can empower them to say 'NO' to the first cigarette or tobacco in any form when pressurized by peers.

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7. REFERENCES

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