

Effectiveness of an Awareness Program about the Harmful Effects of Tobacco and Alcohol on Knowledge and Self Reported Practice of Adolescent Students Studying in a Selected School of Dehradun India

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Abstract The aim of the study was to assess the effectiveness of an awareness program about the harmful effects of tobacco and alcohol on knowledge and self reported practice of adolescent students, so as to initiate a preventive action endeavor against the menace of tobacco and alcohol addiction. A quantitative evaluative approach with pre experimental method (one group pre-test post-test design) was adopted. Cluster sampling was used to select the setting for the study. One school was selected randomly for the study out of four schools present in the selected setting. Two sections out of possible six sections from class 11th and 12th were selected by lottery method as a sample for the study. The data were collected using structured knowledge and self reported practice questionnaire including socio demographic proforma. All the study participants were aged between 14 and 17 years, 64.5% were boys, and 73.8% were from nuclear family. A awareness programme regarding harmful effects of alcohol and tobacco was provided to the study participants. Pre-test and post-test assessment of was done to assess the knowledge and self reported practice regarding the harmful effects of alcohol and tobacco. The analysis of pretest and posttest knowledge score using paired t-test revealed that there was significant improvement in knowledge regarding harmful effects of alcohol and tobacco use ($t=27.61$, $p=0.001$). None of the adolescent reported that they have ever used alcohol or tobacco. However 68.22% of adolescents reported that their family members chew tobacco and 15% of their closest friends chew and 24.29% of their closest friends smoked tobacco. Majority (88.17%) of the adolescents perceived that smoking was harmful to the health. The study concluded that the awareness program resulted in significant improvement of knowledge about harmful effects of tobacco and alcohol use. It is recommended that there should be continuous enforcement to change the lifestyle of adolescent students so as to prevent their addictive habit of tobacco and alcohol.

Keywords Adolescent, Awareness about Harmful Effects of Tobacco and Alcohol Use, Substance Abuse, Alcohol Abuse, Tobacco Use

1. Introduction

“Little drops of water make a mighty ocean”.

Addictive habits generally begin from casual experimenting and adolescence period of life is by nature curiosity-driven age and thus the age of experimentation. Tobacco and alcohol use problem is complex all over the world. It is a large consequential burden that leads to cause diseases and death. The prevalence rate is more in rural area than in urban area. In present scenario its use in school going children have increased rate of prevalence in large

number.[1]

The WHO in 2004 projected 58.8 million deaths that occurred globally, from which 5.4 million are tobacco - attributed; 4.9 million deaths was of same cause in 2007. In an estimation of 2002, 70% of these deaths happen in developing countries.[2]

Tobacco use is a major worldwide public health problem. It is now by far the largest preventable cause of death in the world. Although there is a health warning on every packet of cigarettes in India indicating that *Smoking is injurious to health*, these warnings are illegibly printed. On the other hand, attractive and catchy tobacco advertisements are very common. Thus, the use of tobacco products including cigarettes, Gutka, Khaini, cigar and Jarda is increasing in the country.[3]

WHO estimates that in India, 65% of all men use some form of tobacco (about 35% smoking, 22% smokeless

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tobacco, 8% both). The Global Youth Tobacco Survey (GYTS) is the largest programme globally, pioneered by centre for disease control and prevention (CDC) of USA and WHO. Global Youth Tobacco Survey conducted in Delhi, India shows that one in 10 students (10%) had used tobacco in any form.[4]

The World Bank estimates that in high-income countries, smoking-related health care accounts for 6-15.1% of all annual health care costs. The high smoking-related health care costs are particularly worrisome for low-income countries that can least afford the health care burden, where the tobacco epidemic is expected to account for 70% of all tobacco-related deaths in the next 20 to 30 years.[5]

Cancer has become an important public health problem in India with an estimated 7 to 9 million cases occurring every year. At any point of time, it is estimated that there are nearly 25 million cases in the country. The strategy under the National Cancer Control Programme (NCCP) was revised in 1984-85 and further in 2004 with stress on primary prevention and early detection of cancer cases. In India, tobacco related cancers account for about half the total cancers among men and 20% among women. About one million tobacco related deaths occur each year making tobacco related health issues a major public health concern. Thus it is a result that the eyes, brain, heart, teeth and lungs are major organs which can lead to cause severe disease in the body by consumption of tobacco products.[6]

Alcohol is associated with an increased risk of a number of cancers. 3.6% of all cancer cases and 3.5% of cancer deaths worldwide are attributable to consumption of alcohol. It is the second most common cause of preventable death. Alcohol is toxic to virtually every organ in the human body, but when consumed in moderate amounts, it is detoxified by the liver and does little or no harm. Alcoholic beverages contain ethyl alcohol (ethanol), which is metabolized in the body to acetaldehyde. In large amounts, both ethanol and acetaldehyde interfere with normal functions of organs throughout the body, including the heart. The ages of 18-21 represent the time of heaviest alcohol consumption for most drinkers.[7]

2. Objectives

Objectives of the study are to determine the effectiveness of an awareness program about harmful effects of tobacco and alcohol use among adolescent students, to determine the self-reported practice of adolescent students in using tobacco and alcohol use and to find association of pre-test knowledge score of adolescent school students about harmful effects of tobacco and alcohol use with selected socio demographic variables.

3. Method

A quantitative evaluative approach with pre experimental

one group pre test post research design was adopted. One school out of four existing schools in the Doiwala block of Dehradun District, Uttarakhand, was randomly selected by lottery method for the study. Two sections out of six sections of class 11 and 12 were randomly selected and the students of selected classes were included in the study provided they fulfill the inclusion criteria. Both the selected class students were from arts stream. These higher class students were selected as that was the age when peer-group influence work stronger and it is the age for experimentation. At the time of data collection only 107 students were present so all of them were included in the study.

Table 1a. Frequency and percentage distribution of adolescent students with sample characteristics (n= 107)

Sample Characteristics	Frequency (f)	Percentage
1. Age in Years		
14	06	05.6
15	33	30.8
16	31	29.0
17	37	34.6
2. Gender		
Male	69	64.5
Female	38	35.5
3. Study Class		
11 th	58	54.2
12 th	49	45.8
4. Religion		
Hindu	82	76.6
Muslim	16	14.9
Sikh	09	08.5
5. Type of Family		
Joint	28	26.2
Nuclear	79	73.8

3.1. Data Collection Process

The data collection was done in the month of January, 2012. Administrative permission was obtained from Ethical committee of the institution of the investigator and study setting. Only 107 students out of possible 162 students of the selected class were present during the data collection period. The informed consent was obtained from all the participants. Pre test was conducted using structured knowledge questionnaire on harmful effects of alcohol and tobacco use. The time duration taken for pretest was about 30 minutes. After taking pre test an awareness program was conducted by an effective teaching session along with exhibition to increase their knowledge and make them aware about harmful effects of tobacco and alcohol use. After seven days interval post test was conducted among those adolescent students who were available at the time of pre test for collecting the information. The collected data were quantitatively analyzed using SPSS 19.0 software.

4. Result

The sample size was 107 adolescent school students with

the response rate of 100%. Socio demographic characteristics of the study sample are presented in **Table 1.a**. All the study participants were aged between 14 and 17 years of age and the mean age was 15.93 years. About two third (64.5%) of adolescent students were boys, more than half (54.2%) of the participants were from 11th Class.

Frequency and percentage distribution of selected personal variables of parents of study participants are illustrated in **Table 1.b**.

Paired sample t- test was used analyze the difference of knowledge score between pretest and post test. Table 2 shows that the mean pretest knowledge score was 19.68 ± 2.30 and post test score was 25.86 ± 1.58 . The calculated t-value was 27.61 and p-value was 0.001. So it can be interpreted that the knowledge score regarding harmful effect of alcohol and tobacco use was significantly improved in post test as compared to pretest. The improvement in the knowledge is can be attributed to the awareness programme.

In self reported practice questionnaire, none of the adolescent students reported that they themselves had ever used tobacco and alcohol products but they reported the addictive habits of their family members, closest friends, teachers and others. In this study adolescent students were at risk of acquiring the addictive habit of tobacco and alcohol, as it was evident from the self reported data that at least a fraction of their closest friend had addictive habits of using tobacco. Adolescents are known to be easily influenced by

peer group behavior.

Table 1b. Frequency and percentage distribution of adolescent students' parents' characteristics

Sample Characteristics	Frequency (f)	Percentage
1. Parents Education		
No Formal Education	08	07.5
Primary School	15	14.0
Middle School	17	15.9
High School	22	20.6
Higher Secondary	26	24.3
Graduation	10	09.3
Post Graduation	09	08.4
2. Parents Education		
No Formal Education	42	39.3
Primary School	31	29.0
Middle School	15	14.0
High School	12	11.2
Higher Secondary	07	06.5
3. Parents Occupation		
Private Job	26	24.3
Business	14	13.1
Govt. Job	06	05.6
Farmer	33	30.8
Labourer	28	26.2
4. Parents Occupation		
Farmer	30	28.0
Labourer	18	16.8
Home Maker	59	55.1

Table 2. Comparison of pretest and posttest knowledge scores of adolescent school students. (n = 107)

Knowledge Score	Mean±SD	Mean Difference ±SD	SE	t-value	P-value
Pre- test	19.68 ± 2.30	6.17±2.31	0.22	27.61	0.001
Post test	25.86± 1.58				

df= 106, $t'_{(106)} = 1.98$ for $p = 0.05$

Table 3. Association between pretest knowledge score and Socio demographic variables (n=107)

Socio demographic variables	n	Mean±SD	SE	t- Value
1. Age				
14-15	39	19.74± 2.36	0.461	0.217
16-17	68	19.64± 2.22		
2. Gender				
Boy	69	19.88± 2.15	0.477	1.21
Girl	38	19.31± 2.47		
3. Religion				
Hindu	82	19.67± 2.16	0.528	0.093
Others	25	19.72± 2.74		
4. Types of family				
Joint	28	20.39± 2.07	0.500	2.035*
Others	79	19.43± 2.32		
5. Parents Education (Father)				
Below High School	62	19.59± 2.11	0.452	0.449
Above High School	45	19.80± 2.55		
6. Parents Education (Mother)				
Below High School	88	19.80± 2.26	0.582	1.096
Above High School	19	19.16± 2.47		

*Significant at the level of 0.05 level of significance, df = 105. $t'_{(105)} = 1.98$

Adolescent students had positive perception about harmful effects of tobacco and alcohol. Therefore these students, who already equipped with the knowledge given to them through this study, could be instrumental in educating their closest friends about the harmful effects who were found to be having the addictive habits in smoking and chewing.

Independent t-test was computed in order to determine the association between the pre test knowledge score of adolescent students with their selected socio demographic data in categories. Only types of family was significantly associated ($t= 2.36^*$, $p < 0.05$) with the pre test knowledge score of adolescent students and remaining other variables were not significantly associated with pretest knowledge. It was inferred that the adolescent living in joint family likely to have better knowledge than a adolescent from nuclear family background.

5. Discussion

Tobacco use is a major worldwide public health problem. It is now by far the largest preventable cause of death in the world. Majority of the study participants found in up to 14-17 years followed by 16 to 17 years, boys, Hindu, Nuclear family, students' fathers educational status was below high school and mothers were from below primary class education and students' fathers were farmers and mothers were home maker. All study participants were from Hindi medium and rural area.

None of the adolescent students had ever used tobacco and alcohol use products but a majority of students' family members and friends consumed these products.

A study supported to this study that Tobacco use among adolescent students and the influence of role models; it revealed that tobacco use was found among family brother (5.15), best friends smoke (2.92) and adolescent students also reported that only 16% students having ever tried cigarette or Bidi's smoking.[4]

All the adolescent students had positive perception about the harmful effects of tobacco, but because they did not believe that alcohol drinking was harmful, they were of very high risk of acquiring of habit. Though it is evident that the 107 adolescent students are at risk of acquiring the addictive habits from their family members and closest friends, these students who were already equipped with the knowledge given to them through this study could be instrumental in educating their closest friends about the harmful effects who were found to be having the addictive habits in smoking and chewing habits.

The essence of the present study lies in this finding, because prevention of addictive habits leading to ill health is a major responsibility of any health care professional. This point alone is sufficient to justify the need for the study.

Only the type of family was significantly associated with the pre test knowledge score of adolescent school students in which adolescent students of Joint Family were more

significantly aware than the Nuclear Family about harmful effects of tobacco and alcohol use.

The above discussions give direction to the further application of this study finding to preventive actions of addictive habits especially among adolescents. The preventive actions can be planned and incorporated at all levels of nursing education, nursing administration, nursing research and nursing practices.

6. Conclusions and Recommendations

Based on the findings of the study, it concluded that awareness program about harmful effects of tobacco and alcohol use was significantly effective in increasing the knowledge of adolescent students.

Majority of the study participants found in up to 14-17 years followed by 16 to 17 years, boys, Hindu, Nuclear family, students' fathers educational status was below high school and mothers were from below primary class education and students' fathers were farmers and mothers were home maker. All study participants were from Hindi medium and rural area and only types of family was significantly associated with the pre test knowledge score of adolescent students and remaining other variables were not significantly associated with pre test knowledge score.

The present study can be replicated on a larger sample size to generalize the findings. A comparative study also can be conducted between rural and urban adolescent school students to assess their knowledge, attitude and practice regarding tobacco and alcohol use and their effects on health. Since the students involved in this study have gained some amount of knowledge about harmful effects of tobacco and alcohol use, they could be utilized to bring awareness in students of other schools of the locality, through peer-group education method.

Hence it may be concluded that not only attainment of knowledge but also continuous reinforcement and time is also necessary to change one's health practices and lifestyle.

REFERENCES

- [1] Gupta R, Singh V. Prevalence of tobacco use and awareness of risks among school children in Jaipur. *J Assoc Physicians India* 2006 Aug; 54:605-7.
- [2] Kaplan & Shaddocks, *Comprehensive Textbook of psychiatry*. 8th ed. Lippincott Williams & Company; Second Volume; 2004. p. 3470-3490.
- [3] Prevalence of tobacco consumption; Tobacco fact sheet. WHO/WPRO. Accessed on 29th May 2007, Retrieved 1st January 2009. Available from: [http:// en. wikipedia. org/ wiki/ Prevalence_of_tobacco_consumption](http://en.wikipedia.org/wiki/Prevalence_of_tobacco_consumption)
- [4] Jacobson B. Smoking and health: A New generation of Campaigners. *British Medical Journal*; 1983; 287: p. 483-4
- [5] Tobacco or health: A global status report (Monograph). WHO,

- Geneva, 1997; p. 420-2.
- [6] Tobacco in SEAR: A health challenge. WHO, SEAR, New Delhi
- [7] Mackay J., Eriksson M., The tobacco Atlas, Accessed on 20th Feb 2003; Available from: <http://www5.who.int/tobacco/page.cfm?sid=84>. WHO.
- [8] Planning Commission, Government of India, Eleventh five year plan 2007 -12, volume II Social Sector, First published 2008, p. 80.
- [9] Statement on treatment for tobacco dependence, WHO; Tobacco Free Initiative; Accessed on May 29, 2002. Available From: <http://www5.who.int/tobacco/index.cfm>
- [10] National Centre on Addiction and Substance Abuse (CASA). CASA white paper. No place to hide: Substance abuse in mid-sized cities and rural America. 2000; 1 -32.
- [11] Zahler R., Piselli. Smoking, Alcohol and Drugs, Yale University School of Medicine Heart Book, p. 79-80.
- [12] Bates M., Labouvie E. Adolescent risk factors and the prediction of persistent alcohol and drug use into adulthood; Alcohol Clinical Experience Research 1997; 21; p. 944-950.
- [13] Substance Abuse and Addictive behavior; School Health Manual, The Massachusetts Department of Public Health; 2007, p. 13-14. Available From; <http://www.mass.gov/legis/laws/mgl>
- [14] Tot S., Yazici A., Yazici K., Erdem P., Prevalence of Smoking, Drinking and Illicit Drug Use Among Adolescents in Mersin, Turkey; Comparison of Secondary School, High School and University Students; 2004; Volume: 42; 2, P. 77-81, Available From: [www.yenisymposium.net/fulltext/2004\(2\)/ys2004_42_2_5.pdf](http://www.yenisymposium.net/fulltext/2004(2)/ys2004_42_2_5.pdf)
- [15] Kangule D., Darbastwar M., Kokiwar P., A cross sectional study of prevalence of substance use and its determinants among male tribal youths; International Journal Pharma Biomedical Science; 2011; 2; p. 61-64, Available From : <http://www.pharmainterscience.com/IJPBS-Vol2-Issue3%28Jul-Sep%292011.html>
- [16] Martini S. and Sulistyowati M., The Determinants of Smoking Behavior among Teenagers in East Java Province, Indonesia; Economics of Tobacco Control; 32; World Health Organization, December 2005; Available From: siteresources.worldbank.org/.../IndonesiaYouthSmokingFinal.pdf
- [17] Fould J., Ramstrom L., Burke M. and Fagerstrom K., A study of effects of smokeless tobacco (Snus) on smoking and public health in Sweden; School of Tobacco Dependence Program, Tobacco Control; Accepted on 2th October 2003. P. 349-359; Available From: www.tobaccoprogram.org/pdf/TC12349.pdf.
- [18] Peto R., Darby S., Deo H., Silcocks P., Whitley E., Doll R. et al., A study of smoking, smoking cessation and lung cancer in the UK since 1950 combination of statistics with two case control studies; BMG; 2000; p. 321-329. Available From: <http://www.ncbi.nlm.nih.gov/pubmed/10926586>
- [19] Goodman P., Agnew M., McCaffrey M., Paul G. and Clancy L et al., A exploratory study on effects of the Irish Smoking Ban on Respiratory Health of Bar workers and Air Quality in Dublin Pubs, A.J. Respiration Critical Care Medicine; 2007; Vol. 175; p. 840-5, Available From: ajrcm.atsjournals.org/content/175/8/840.full.pdf
- [20] Kathleen L. Vork, Rachel L. and Robert J. et al., a study on Developing Asthma in Childhood from Exposure to Secondhand Tobacco Smoke: Insights from a Meta - Regression, Accepted on: 8th February 2007, Journal of Environment Health Perspectives; Vol.115;10; Published on: October 2007; Available From: <http://ehp03.niehs.nih.gov/article/fechArticle.action?articleURI=info%3Adoi%2F10.1289%2Fehp.10155>