



Original Research Article

## Impact of Health Education on Knowledge, Attitude and Practice Regarding Use of Tobacco among the Student of Pre-University College in Belgaum: An Interventional Study

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### ABSTRACT

**Background:** India is the world's second largest producer of tobacco and also the second largest consumer of unmanufactured tobacco. Health education is one of the primary interventions to bring about the changes in knowledge, mould favourable attitudes which would translate to healthy practices.

**Objective:** To assess the effectiveness of the health education intervention on tobacco use as well as on knowledge and attitude of health hazards resulting from it among the study population.

**Materials and Methodology:** An interventional study among students of Pre-University College (PUC) from January to September 2013 in the two pre-university college of Belgaum, Karnataka. As per pilot study conducted, knowledge, attitude and practice on tobacco use is 76.5% which was taken as prevalence (i.e.  $p=76.5\%$  &  $q=100-76.5$ ) at 99% confidence Interval and 10% precision. Based on this, sample size was calculated  $118 \approx 120$  by using formula  $N = Z^2 pq/d^2$ .

**Results:** Among 120 respondents, 82 (68.33%) were males and 38(31.67%) were females, 85.83% were Hindu, 10% were Muslim and rest were Christian, 41.67% were living in joint family, 46.67% were living in nuclear family, 11.67% of respondents were living in broken family. Most of males and females were belong to Class-II socioeconomic status. Among all respondents, 80% of respondents were aware about harmful effect of chewing tobacco, guthka, paan masala before health education and which increased to 97.50% after health education. 10% of respondents were current smokers which was decreased to 9.17% after health education, 9.17% of respondent were current users of any form of smokeless tobacco products which decreased to 10% after health education, 15.83% of respondent had a habit of tobacco use which decreased to 14.17% after health education.

**Key Words:** Health education, Knowledge, Attitude, Practice, Tobacco

### INTRODUCTION

Tobacco use in youth is a major public health concern worldwide. Over the past four decades, tobacco use has caused an estimated 12 million deaths in the world,

including 4.1 million deaths from cancer, 5.5 million deaths from cardiovascular diseases, 2.1 million deaths from respiratory diseases and 94,000 infant deaths related to mothers smoking during pregnancy.

According to WHO (2009) consumption of tobacco has been growing at the rate of 2% to 5% per annum. It is estimated that number of deaths due to tobacco will rise from 3 million per year worldwide to 70 million per year by 2025. <sup>[1,2]</sup> Almost 30% of the Indian population uses some form of tobacco. The most common form of smoke tobacco in India are Beedis, Cigarettes/cigars, Chillum, Hookah etc and smokeless tobacco are Khaini, Gutkha, Paan with tobacco, Paan masala, Mawa, Dry snuff etc. <sup>[3]</sup> India is the world's second largest producer of tobacco and also the second largest consumer of unmanufactured tobacco. Tobacco use is single most preventable cause of death. Environmental, social and psychological factors create a major impact on adolescent tobacco use. The availability, accessibility and affordability of tobacco products are key contributors to the level of adolescent tobacco use. <sup>[4,5]</sup> Prevalence of smoking and chewing form of tobacco use among students in Karnataka is higher. Students thought that smoking could relieve tension and boredom and give a kick. <sup>[2]</sup> The world's biggest public smoking ban came to effect on 2<sup>nd</sup> Oct 2008. India is the 3<sup>rd</sup> largest market for cigarettes. <sup>[5]</sup> Health education has been found to increase the knowledge of the participants including school children about health effects of cigarette smoking, attitudes towards the use of tobacco and the consumption of tobacco products all around the globe, interventions geared toward education and improving the knowledge of adolescents and youths have proved to reduce probabilities of initiation and cessation of smoking. <sup>[6]</sup> Health education is one of the primary interventions to bring about the changes in knowledge, mould favourable attitudes which would translate to healthy practices. Thus, this study is aimed to assess the effectiveness of the health education intervention on tobacco use

as well as on knowledge and attitude of health hazards resulting from it among the study population.

## **MATERIALS AND METHODS**

The study is an interventional study among students of XI and XII of selected Pre-University College (PUC) from January 2013 to September 2013 in the two pre-university college of Belgaum, Karnataka. This study involves assessment of impact of health education regarding knowledge, attitude and practice on tobacco use. As per the pilot study conducted, the observed percentage of knowledge, attitude and practice on tobacco use is 76.5% which was taken as prevalence (i.e.  $p=76.5\%$  &  $q=100-76.5$ ) at 99% confidence Interval and 10% precision. Based on this, the sample size was calculated  $118 \approx 120$  round figure by using formula  $N = Z^2 pq/d^2$ . Non-Probability convenient sampling was used for the selection of two PUC colleges from two zones of Belgaum city (i.e. G.S.S. P.U. College from North and Jagadish A. Savadatti P.U, one College from south zones). Proportionate sampling was used to select 65 students from north and 55 from south zones PUC College. Simple random sampling technique was used to select students from each college. Consent was obtained from respective college authority and ethical clearance from Institutional Ethics Committee (IEC) of KLEU, J.N.M.C. All the selected students who were present and gave the assent were included in the study. Data was collected by investigator himself by pre designed and pre tested questionnaire to collect the information regarding baseline situation analysis of knowledge, attitude & practice was obtained using pre-test in all groups. After the pretest each group received first health education interventions at the interval of one month for re-enforcement by using poster, chart, diagram and lecture method. Those students

who missed the second and third health education will not be included in post test. Following the third health education, a post-

evaluation was conducted by using same questionnaire.

## RESULTS

Table 1: Socio-demographic pattern of the respondents

Characteristics	Male		Female		Total	
	No.	%	No.	%	No.	%
Age						
15 years	5	6.10	3	7.89	8	6.67
16 years	38	46.34	22	57.89	60	50
Religion						
Hindu	66	80.49	37	97.37	103	85.83
Muslim	12	14.63	0	0.00	12	10.00
Christian	4	4.88	1	2.63	5	4.17
Type of Family						
Nuclear	37	45.1	13	34.2	50	41.7
Joint	38	46.3	18	47.4	56	46.7
Broken	7	8.5	7	31.7	14	11.7
Socio-economic Status						
Class-I	25	30.5	12	31.6	37	30.8
Class-II	26	31.7	19	50.0	45	37.5
Class-III	20	24.4	5	13.2	25	20.8
Class-IV	8	9.8	1	2.6	9	7.5
Class-V	3	3.7	1	2.6	4	3.3
Total	82	68.33	38	31.67	120	100.00

This study consists of 120 respondents in which 82 (68.33%) were males and 38(31.67%) were females, 6.67% of respondents were 15years of age, 50% were 16 years of age and 43.33% of were 17 years of age. 85.83% were Hindu, 10% were Muslim and rest was Christian. The distribution of male and female according to religions are also presented in the above table. 41.67% were living in joint family, 46.67% were living in nuclear family followed by 11.67% of respondents were living in broken family and most of the males and females are from joint family.

Out of a total respondents, 37 (30.8%), 45 (37.5%), 25 (20.8%), 7.5%, and 4(3.3%) were belong to Class-I, Class-II, Class-III, Class-IV and Class-V respectively. Most of the males and females were belong to Class-II socioeconomic status.

Table 2: Comparison of knowledge regarding tobacco

Knowledge	No. of respondents		P Value
	Pre test	Post test	
Harmful effect of chewing tobacco, guthka, paan masala	96(80%)	117(97.5%)	0.0001*
Awareness of second hand smoking	92(76.7%)	120(100%)	0.0001*
Laws regarding tobacco	71(59.2%)	120(100%)	0.0001*

\*significant

The above table 2 represents the comparison of impact of health education on knowledge (i.e. pre-test and post-test) about harmful effect of chewing tobacco, guthka, paan masala, about awareness of second hand smoking and aware of laws regarding tobacco. Out of a total respondents 80% of respondents felt that there is a harmful effect of chewing tobacco, guthka, paan masala before health education and 97.50% of respondents felt that there is a harmful effect of chewing tobacco, guthka, paan masala after health education. The difference was

found to statistically significant due to health education (p=0.0001).

Among all respondents 76.67% of respondents agreed that they are aware about second hand smoking and after health education all 100% of respondents became aware about second hand smoking and 59.17% of respondents were aware of laws regarding tobacco before health education and all 100 % of respondents were aware of laws regarding tobacco after health education which showed significant effect of health education on increasing the knowledge about second hand smoking. (p= 0.0001) by using McNemar chi-square test in all cases.

Table No.3: Comparison of Impact of health education on attitude (i.e. pre-test and post-test) regarding tobacco use

Attitude regarding	No. of respondents		P Value
	Pre test	Post test	
Laws regarding tobacco	47(39.2%)	71(59.2%)	0.018*
smoking should be prohibited in public place	71(59.17%)	116(96.67%)	0.0001*
Pictorial health warning reduce the habit of smoking	48 (40%)	112(93.33%)	0.028*
Laws to control tobacco products will change habit	45 (37.5%)	109(90.83%)	0.006*

Out of all respondents, 10% of respondents were current smokers before health education and which is decreased to 9.17% after health education, 9.17% of respondent were current users of any form of smokeless tobacco products before health education which decrease to 10% after health education, 15.83% of respondent had a habit of tobacco use before health education which decreased to 14.17% after health education. Although health education decreases the number of current smoker, Current smokeless tobacco user and Prevalence of tobacco use but it was not significant. (p<0.05)

The above table no.3 represents the comparison of impact of health education on

attitude regarding in favour of the laws to control tobacco products, prohibition of smoking in public place, Pictorial health warning reduce the habit of smoking, and Laws to control tobacco products will change your habit . Out of a total of 120 respondents, 66.20% of respondents agree that about favour of the laws to control tobacco products before health education and 92.96% of respondents agree that about favour of the laws to control tobacco products after health education, 59.17% of respondents agreed that about smoking should be prohibited in public place before health education and 96.67% of respondents agreed after health, pictorial health warning over cigarette/beedis or any smokeless product package reduce the habit of smoking 40% of respondents agreed that pictorial health warning over cigarette/beedis or any smokeless product package reduce the habit of smoking before health education and it was increased to 93.33% of respondents agreed after health education and 66.20% of respondents agree that about favour of the laws to control tobacco products before health education and 92.96% of respondents agree that about favour of the laws to control tobacco products after health education. All the difference of agreement between pre and post tests was statistically significant by using Wilcoxon matched pairs test. (p<0.05)

Table No. 4: Comparison of Impact of health education on Practice of tobacco use

Attitude regarding	No. of respondents		P Value
	Pre test	Post test	
Current smoker	12(10%)	11(9.17%)	1.00
Current smokeless tobacco user	11(9.17%)	10(8.33%)	1.00
Prevalence of tobacco use	19(15.83%)	17(14.17%)	0.50

## DISCUSSION

In the present study, out of 120 pre-university students 68.33% were male and 31.67% were female. Regarding the age group 50% of respondents were belongs to

16 years of age, 43.33% of respondents were belongs to 17 years of age and 6.67% were belongs to 15 years, 85.83% were Hindu, 10% were Muslim followed by 4.17% Christian religion. Regarding the distribution of respondents by type of family and income group, out of a total of 120 respondents 41.67% were living in joint family, 46.67% were living in nuclear family followed by 11.67% of respondents were living in broken family and most of the males and females were belong to Class-II socioeconomic status. Similar result were found in a study conducted among the students of pre university in Bangalore, where 44% of the adolescents were 16 years of age and 41.66% were 17 years of age, majority of the respondents were Hindu (85%), 30% were from nuclear family and 28.34% were from joint family and majority of the respondents (28.33%) were belongs to more than 700/- rupees income group. [7]

In this study, during the pretest overall prevalence of tobacco use is found to be 15.83%, 90.83% of respondents had the knowledge that tobacco is harmful to their health. Study conducted among students of pre-university college in Bangalore showed 15.7% prevalence of tobacco use, 78.3% were aware of the harmful effects of tobacco use and prevalence of tobacco use among 13-18 years student was 71.8% and 48.9% had used tobacco before 10 years of age. [7,8]

In our present study out of 19 tobacco user, 42.1 % were used smoking tobacco, 36.8% were used smokeless tobacco and 21.1% were used both form of tobacco. Among them cigarette smoking and tobacco chewing was most common, 76.67% of respondents are aware about the passive smoking, 59.17% of respondents are aware of laws regarding tobacco, 59.17% of respondents agreed that smoking should be prohibited in public place and the television and news papers are main source of information.

Before health education, 83.33% of respondents felt that there is a harmful effect of smoking and 97.50% of respondents felt that there is a harmful effect of smoking after health education, 66.20% of respondents were in favour of the laws to control tobacco products and in post test 92.96% of respondents were in favour of the laws to control tobacco products, 59.17% of respondents agree that about smoking should be prohibited in public place in before health education and 96.67% of respondents agreed after health education and the difference was found to statistically significant in all cases which was similar to the study conducted in Kolar district of Karnataka Oro, Kwara State. [6,9]

The present study showed, the prevalence of tobacco use was 15.83% in pre test and 14.17% in post test and was not statistically significant similar studies conducted in various area, where the prevalence of tobacco use was significantly decrease in post test after health education intervention. [10,11]

Most of the interventional studies conducted in different area regarding tobacco use among college students, showed the similar result to the present study. [11-13] Hence, the study demonstrated that health education is found to be an effective intervention programme to change the knowledge and attitude of tobacco use among college students. Although, there was not significant reduction in the prevalence of tobacco use after health education but finding of our present study is not surprising because the change in the smoking habit requires a lot of effort and time.

## CONCLUSIONS

The health education has been plays significant role in improving the knowledge of students and changed their attitudes regarding tobacco use. There is need for continuous smoking cessation education



programs to reinforce the intervention given. Educational intervention to college students is effective in improving their awareness on harmful effects of tobacco. This can empower them to say 'NO' to the first tobacco in any form when pressurized by peers.

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