

Pattern of Tobacco use among Higher Secondary School Children in the Rural and Coastal Areas of Kerala – A Prospective Study

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ABSTRACT

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The increasing incidence of tobacco consumption among adolescents is a matter of concern for the parents and public health professionals, it is proved that the incidence is going up in spite of the best efforts by the Government, nongovernmental organizations and media. It is estimated that the prevalence of tobacco habits among boys in the rural and coastal areas is as high as 29%, at the same time the tobacco habits is not a serious public health issue among girls in the coastal and rural areas of this region. Close relatives are tobacco addicts for majority of those children who use tobacco and its products.

Keywords: Tobacco, Higher Secondary School Children

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BACKGROUND & OBJECTIVES

India is the second largest consumer of tobacco products after China and its consumption is a serious social issue in most developing countries. The present study was undertaken to assess the prevalence of use of tobacco and tobacco products among higher secondary school children in the coastal and rural areas of Kerala, the state situated in the southern most part of India and is having one of the highest literacy rate in the country. Tobacco consumption is an important cause of mortality and morbidity in India.

MATERIALS AND METHOD

The study was conducted in the higher secondary schools along the rural and coastal areas of Karunagappally taluk in the Kollam district of Kerala from October to December of 2016. 15 Government and aided schools were selected. The data was collected with the help of a questionnaire. A total of 5678 students participated in the study. The purpose of the study was explained to the students with participation of National Service Scheme volunteers who distributed the data sheets to the students and helped in data collection. The school visit was coupled with lectures on the adverse effects of tobacco on health with pictures of cancers of the oral cavity, lungs, surgery for oral cancers and reconstruction. The collected data was entered into

Microsoft Excel datasheet and analyzed with SPSS 17.0 software. The Departments of Surgical Oncology, Regional Cancer Centre, Directorate of Higher Secondary School, Kerala and National Service Scheme participated in the study.

RESULTS

5678 students participated in the study, that included 2567 boys and 3111 girls (**Figure 1**). 760 out of 2567 boys use tobacco (**Figure 2**), 308 out of 760 boys (40%) use more than one type of tobacco products. Cigarettes and pan masala are the popular forms of tobacco among the students. 253 boys out of 760 (33%) used alcohol as

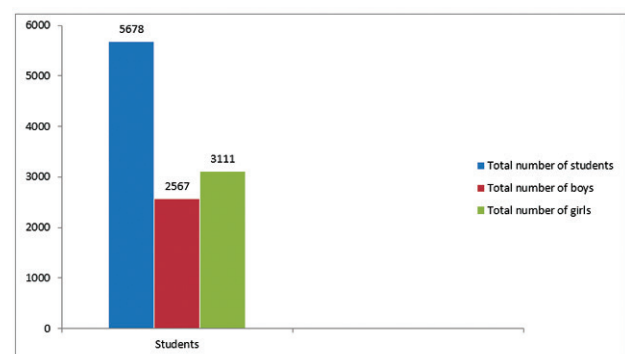


Figure 1. Gender distribution of participants

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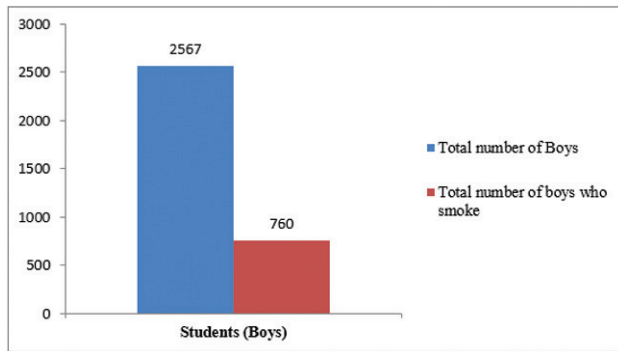


Figure 2. Tobacco use among boys

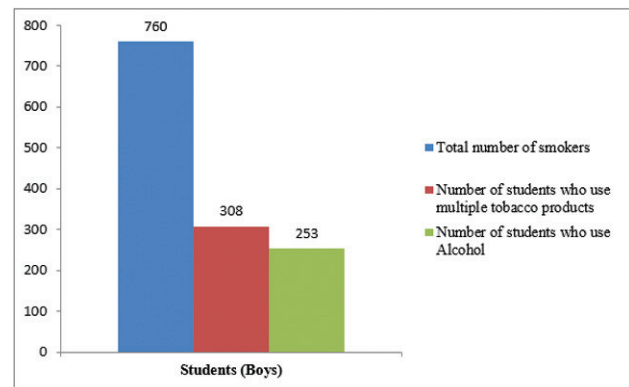


Figure 3. Alcohol use among boys

well (Figure 3). 709 out of 760 tobacco using students said their relatives use tobacco products at home. None of the girls participated in the study used tobacco products. But other studies reported increasing incidence of tobacco use among urban girls in India,¹ but the data regarding the use of tobacco among rural girls is not available. 1819 students said their close relatives use tobacco and its products at home. 1420 students said their close relatives consume alcohol as well (Figure 4). Bricker et al in their study said that, siblings, parents and close friends' smoking were all important influences on children's smoking.²

The study also found that majority of students (551 out of 760) smoke in groups at isolated places not far away from school campus. Source of tobacco is either from peer group or from nearby shops. 5382(94.7%) of students are aware of the ill effects of tobacco, they are aware that tobacco consumption can lead to cancer of the lung, oral cavity, stroke and heart attack. Students were also familiar with terms such as chemotherapy and radiotherapy, however it is doubtful whether they are aware of the complications associated these modes of treatment.

4578 (81%) students showed interest in anti tobacco activities. 2347(41.33%) students said the tobacco products are available in school premises and 1064(18.7%) said tobacco products are available within the campus itself (Figure 5). 40% started using tobacco products

for fun, but 28% started mimicking the elders and 20 %wanted to be the heroes in the campus. A recent study by Sargent et al. also found a strong association between exposure to movie smoking and smoking by adolescents.³ In our study none of the girls were using tobacco, this is in contrary to the habit among girls in United Sates.⁴ But in India it is a known fact that tobacco use is much more prevalent among men than women.⁵ It is to be noted that the students obtained the tobacco and its products either from close friends or from nearby shops. H Lim et al in their study found that most adolescents initiated smoking during upper primary or lower secondary schooling period.⁶ This means that the anti tobacco campaign to be started in the upper primary school rather than high school or higher secondary school.

DISCUSSION

According to the World Health Organization, adolescents are widely considered to be prone to recklessness and risk-taking behaviors, which can lead to substance abuse, car accidents, unsafe sex, and juvenile delinquency. The World Bank has reported that nearly 82,000–99,000 children and adolescents all over the world start smoking habit every day.⁷ 5.4 million people die of tobacco related diseases worldwide every year, tobacco use usually starts in adolescence and continues into adult life, meaning that many future victims tobacco use are today's children.⁸

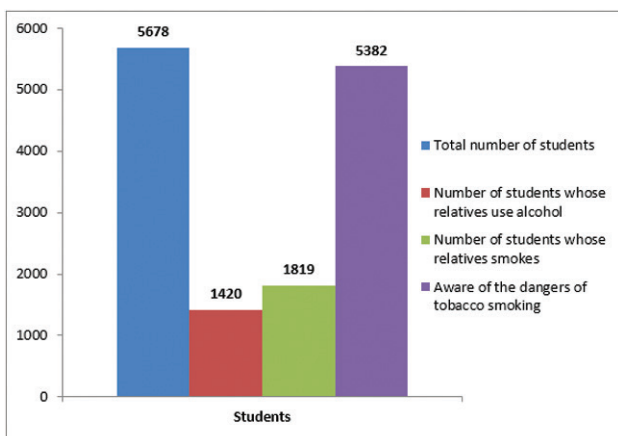


Figure 4. Alcohol consumption among close relatives

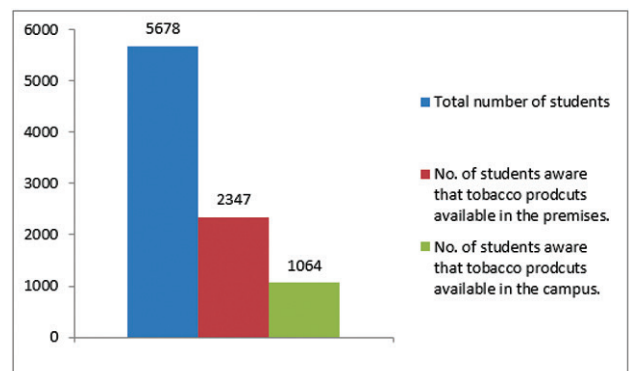


Figure 5. Availability of tobacco products in school campus

In India the media campaign against the ill effects of tobacco lead to improvement in public awareness of the health hazards of its use, bringing increased regulation on tobacco industry resulting in restrictions on sponsoring sports event and advertising. Moreover the tax on tobacco products also increased. Recent move by Government of India to increase the pictorial warning on cigarette cover to 85 percentage is said to have brought the desired effect.

In developed countries, public awareness of the health hazards of tobacco use has lead to increased regulation of the tobacco industry, resulting in restrictions on the advertising and availability of cigarettes and higher prices for them. The recent published report of Global Adult Tobacco Survey (GATS) says "The overall tobacco use in India has declined from 34.6 % to 28.6% between 2009-10 and 2016-17.⁹ However the most important finding of GATS survey is the consumption of tobacco has seen a drastic rise amongst teenagers in north- east region. The survey also found the highest use of tobacco among minors in Mizoram, followed by Arunachal Pradesh, Meghalaya, Tripura, Nagaland and Assam. As much as 27% of teen population in Arunachal Pradesh is found to consume tobacco; the highest in the country. This can be compared to only 4% adolescents taking tobacco in the country as a whole.

Our findings are in agreement with the observations by WHO that adolescents whose parents or siblings smoke or whose friends do so are particularly likely to use tobacco themselves.¹⁰

Jha et al too reported that examples set by siblings and parents, and peer pressure are strongly associated with tobacco use by young people.¹¹ The studies examining the origins of alcohol and other drug (AOD) use problems (i.e., AOD abuse and dependence) consistently find that cigarette smoking is closely related with AOD use.¹² Hoffman et al observed that youth who smoke and drink have an increased risk of having difficulties at school, delinquency, and use of other drugs.¹³ Compared to adults, the adolescents smoke less cigarettes and in smaller quantities, in spite of lower levels of consumption, studies suggest the adolescents smokers, particularly daily smokers, experience nicotine dependence and upon cessation majority experience withdrawal symptoms.¹⁴ The study by National Center for Chronic Disease Prevention and Health Promotion in USA also have similar view on use of tobacco by youth and young adults.¹⁵

In India approximately 5500 children and adolescents start using tobacco products daily, some as young as 10 years old.¹⁶ In Kerala the average age for starting tobacco consumption in early 1980's was 18 yrs, but the recent study showed the average age for starting tobacco consumption in 2016 is 10 yrs.

Dr Anju Dhawan says the current use of various substances

was slightly lower compared to lifetime use and did not show a remarkably different pattern. The past month use of tobacco was reported by 74.9%, alcohol-56.8%, inhalants-30.5% and cannabis -28.9% of the sample in a study conducted by NCPCR.¹⁷

Smoking ban, restrictions, campaigns using printing and visual media, increase the price for tobacco products, community awareness on reducing the exposure to environmental tobacco smoke at home, tobacco cessation activities to concentrate on those who want to quit tobacco.

However steps should be taken to create awareness among adolescents about oral health in college and school campuses. Student police patrolling in the isolated places or houses not far away from the school premises is a good option that can be considered. Regular oral cavity examination by school authorities is another option to detect those who smoke. However the tobacco consumption can be brought down by imposing ban and restriction on smoking in public places, community education to reduce exposure to environmental tobacco smoke at home, Increasing the unit price for tobacco products, mass media campaigns depicting the harm effects of tobacco and its products, finding out strategies appropriate for health care providers and systems, multi component interventions like tobacco cessation and patient telephone support and pictorial warnings on tobacco packets. The study by Thomas et al showed school-based interventions were effective in reducing long-term smoking rates, a significant reduction of initiation of smoking among school children compared to control group.¹⁸ Any substance abuse at this age is likely to interfere with the normal child development and may have a lasting impact on the future life.^{19,20}

A limitation of the present study is that the findings and their interpretations were restricted to higher secondary school children only. Further studies are required that cover the groups of students who are out of school, because the prevalence of tobacco related risk behaviors is likely to be higher among them. The impact of pictures of surgery, side effects of radiotherapy, chemotherapy on these children, which prompt them to quit the habit could not be assessed. The study was supported by P.Kesavadev trust, Thiruvananthapuram, Kerala.

CONCLUSIONS

The childhood and adolescent years are important formative years of life during which the child acquires academic, cognitive, social and life skills. Majority of the students are aware of the health effects of tobacco. The awareness programme about the health effects of tobacco to be started at upper primary school instead of high or higher secondary school. Unfortunately the tobacco

products are available within the campus or in the school premises. School police patrolling in and around the campus to be intensified with support of local authorities. Oral cavity examination of the children to be conducted at regular intervals at the school. Steps should be taken to identify the agents who distribute the tobacco products in the campus and raids in the shops around the school to be done with the help of police to ensure that no sale of tobacco products are taking place in the school premises, including strict implementation of COPTA act. Parents must be instructed to spend more time with students at home and they should stop using tobacco products at home.

END NOTE

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Conflict of Interest

None of the authors have any financial, social or emotional commitment with the trust who supported the study or individual who participated in the study. No conflict of Interest.

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Ethical Clearance

Since no patient, intervention, interview, or drugs involved in the study, only consent from the participating students, parents, school authorities were required at the time of conducting the study. The data was collected through the National Service Scheme volunteers of the corresponding schools.

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Criteria for Inclusion

All students present in the awareness class session were included in the study

Criteria for Exclusion

Those who are not willing to participate and incomplete filled questionnaire were excluded from the study

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