



Research Paper

## Knowledge attitude and behavioral determinants of tobacco use among 13-19 year old school children in lucknow city

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### ABSTRACT

**Introduction:-** Tobacco use is one of India's most important public health issues. It has a particularly negative impact on the impoverished. Despite tobacco control efforts, tobacco consumption in India is increasing on a daily basis. Cigarettes, cigars, pipes, and hooks are all examples of burnable tobacco items.

**Objectives:-** To assess the Knowledge, Attitude, and Behavioral determinants of tobacco use among teenagers (13–19) year old school children in Lucknow City.

**Materials and methods:-** A Cross-Sectional Epidemiological study was conducted among teenagers (13-19) year old school children in Lucknow city, Uttar-Pradesh. Simple random sampling was used for sample selection. The questionnaire was pretested on the target population to check for reliability and modifications were done. Cronbach's Alpha was used to determine reliability. The data were entered into the computer (Microsoft Office, Excel) and were subjected to statistical analysis using the statistical package SPSS version 22.0. The study's statistical significance was set at P 0.05.

**Result:-** The study consisted of 47% (235) female and 53% (265) male. The number of Males were more compared to females. The study participants included students from both private and government schools. 57%(285) while those in private school were 43% (215). 44.2% (221) of the population said smoking is harmful to health, where as 33.6% (168) didn't consider smoking to be harmful. However, 22.2% (111) were not sure of the harmful effect of smoking. No association of the response was seen with gender and Age. The response showed an association with both gender and type of school.

**Conclusion:-** The study population had a high level of awareness of smoking's negative health impacts. They felt strongly about not smoking. The study offers helpful insights into the variables to take into account when formulating adolescent anti-smoking campaigns in this and related contexts.

**Keywords:-** Tobacco, Smoking, School children

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### I. INTRODUCTION

Tobacco use is one of the most significant public health challenges in India. There's a particularly negative impact on the impoverished. To reduce health difficulties and poverty, prevention is our top priority. Despite tobacco control efforts, tobacco consumption in India is increasing on a daily basis. Cigarettes, cigars, pipes, and hooks are all examples of burnable tobacco items.<sup>1</sup>

Tobacco use has long been acknowledged to be harmful to one's overall health. The World Health Organization estimates that tobacco use results in over 5.4 million deaths annually. This figure is projected to increase to 20 million fatalities by 2030. Additionally, about three-quarters of these fatalities will take place in low- and middle-income countries worldwide. As a result, tobacco use has become one of the biggest risks to public health in existence right now.<sup>2</sup>

In the next 30 years, tobacco use will kill more people than malaria, tuberculosis, pregnancy, and childbirth diseases combined, with 70% of tobacco-related deaths taking place in poor countries.<sup>3</sup>

Tobacco will kill more people in the next 30 years than malaria, Tuberculosis, maternity, and child-bearing diseases combined, with 70% of tobacco-related deaths occurring in developing nations.<sup>3</sup>

In India, there is a distinct pattern of tobacco use recorded: smoking tobacco, such as cigarettes, accounting for around 9% of total tobacco consumption, while the rest 91 percent is reported as chewing tobacco, beedis, khaini, and other tobacco products.<sup>4</sup> Tobacco kills more people each year than AIDS, alcohol,

other addictions (drugs), and traffic accidents combined, the World Health Organization states.<sup>5</sup> Over 5 million youngsters under the age of fifteen in India are tobacco addicts.

The National Tobacco Survey (NTS), known as the Global Youth Tobacco Survey (GYTS), level in six areas of India, reported a prevalence of 14.6 percent among adolescents aged 13 to 15, with boys having a three-fold higher prevalence than girls.<sup>6</sup>

Addictions that start in adolescence are more likely to last into adulthood. Tobacco usage among children and adolescents has reached epidemic proportions.<sup>7</sup>

Aside from the widespread production of tobacco, low enforcement of tobacco control laws, and the affordability and accessibility of these products are other factors that have contributed to the rise of the teen tobacco epidemic.<sup>8</sup> Teenage tobacco use has been found to be influenced by a number of factors. Some of these factors include personality features, underlying emotional and psychosocial issues, peer pressure, experimenting, and a history of tobacco use by seniors in the family.<sup>9</sup> Children are affected by tobacco advertising differently than adults are. The World Health Organization (WHO) reports that tobacco use has risen over the past 40 years, especially among young people.<sup>10</sup> One in five students were exposed to second hand smoke in homes where other people smoked, according to the GYTS.<sup>11</sup> Children are affected by tobacco advertising differently than adults are.<sup>12</sup> In addition to being the leading cause of cancer and cardiovascular disease, smoking poses a risk to dental health. Oral cancer risk is increased by both smoking and alcohol consumption. Smokers are more likely to proceed from periodontal disease and other systemic diseases. It's crucial to avoid youth and youngsters from using tobacco.<sup>13</sup>

## **II. MATERIALS AND METHODS**

The present, cross-sectional study was done to assess the Knowledge, Attitude and Behavioral determinants of tobacco use among Teenagers (13-19) year old school children in Lucknow City, Uttar-Pradesh. 500 school children were taken from a school in Lucknow City Uttar-Pradesh. Simple random sampling was used for sample selection. Out of total sample collected (265) were males and (235) were females. The study was conducted between may 2022- August 2022. The questionnaire was given to the students and the students were instructed to choose only a single answer to each question. They were asked to fill the questionnaire and data was collected.

A pilot study was conducted in Ram Swaroop school, Which is located in Tiwariganj faizabad road Lucknow in the month of April 2022. From one school, 50 enrolled students were chosen. To determine whether the study was feasible, 50 people were enrolled in the pilot study; however, the individuals from the pilot study were not included in the analysis of the study's results. A questionnaire was presented to each participant. The questionnaire, which consists of 15 closed-ended, variable questions, was translated into Hindi first and then back into English to ensure its linguistic validity. To carry out the pilot study, the investigator underwent training.

### **SAMPLE SIZE ESTIMATION**

This was done to assess the study's viability, the applicability and precision of the questionnaire, and the amount of study time needed. The target population was used for pre-testing the questionnaire to determine its reliability, and changes were made. Reliability will be assessed using Cronbach's Alpha. The previous literature was used to determine the sample size using a formula,

$$N = \frac{Z^2 \times p(1-p)}{E^2}$$

Where, Z = 95% confidence interval (CI) = 1.96

p = 0.5 (precision)

E = 4.5% = 0.045 (standard error)

$$N = \frac{1.96 \times 1.96 \times 0.5(1-0.5)}{0.045 \times 0.045} \\ = 484 \approx 500$$

The confidence interval (CI) was set at 95% with a margin of error of 4.5% following the completion of the pilot study. The sample size was set at 500 on the basis of the pilot survey.

### **ETHICAL CONSIDERATION**

The Babu Banarsi Das College of Dental Sciences in Lucknow's Institutional Ethical Committee (IEC) provided the ethical clearance. The Principals of the individual schools were asked for and granted the necessary formal approval to choose and gather the pertinent data from chosen subjects.

## CONSENT

Following an explanation of the study's goal to the subjects' parents or guardians, informed consent was acquired. For the study participants' convenience and acceptance, the consent form was made available in both Hindi and English. The examiner properly explained everything to parents who couldn't read, and they gave their assent. A proforma was used to record all the data that was gathered.

## Inclusion Criteria & Exclusion Criteria

Students age 13-19 years of age, Students present on the day of study and Students willing to participate in the study. Students less than 12 years of age, Students not willing to participate in the study and Students not present on the day of study.

## QUESTIONNAIRE

The questionnaire consisted of 3 parts. The first part consisted of Knowledge Related to tobacco smoking and environmental exposure to tobacco. The second part consisted of Attitude towards cessation of smoking. The third part consisted of Smoking-related behavioral determinants. The questionnaire were Prepared using a structured, pretested, closed ended questionnaire. The students were informed about the questionnaire, and complete anonymity was assured. Participants in the study were told to select just one response for each question. The school administration was asked not to be present in the class during the process of filling out the questionnaire due to the sensitivity of the subject.

## STATISTICAL ANALYSIS

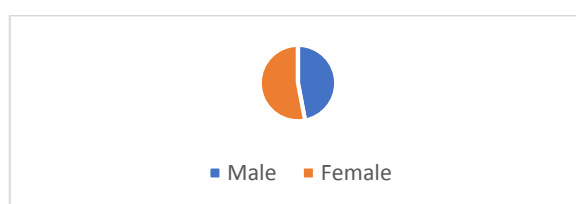
The data were entered into the computer and subjected to statistical analysis using the statistical tool SPSS version 22.0 (Microsoft Office, Excel). The distribution of responses for each research variable was evaluated using a preliminary descriptive analysis, and the connection between the dependent and explanatory variables was evaluated using a Chi square test. The study's statistical significance was set at P 0.05.

## III. RESULT

A cross sectional study was conducted among 500 school going children of Lucknow city. Chi square test was applied on gender, age and types of school to check for any association. The level of significance was kept as  $p < 0.05$ . The response rate of the study was 100%. The study consisted of 47% (235) female and 53% (265) male. The number of Males were more compared to females. The gender distribution is shown in table 1.

**Table 1: gender distribution of participants**

Gender	Frequency	Percentage %
Male	235	47%
Female	265	53%

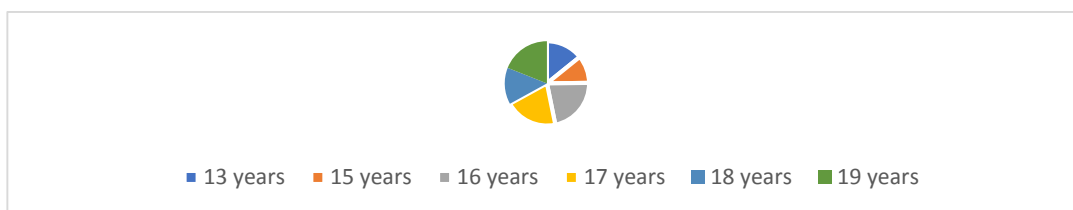


**Figure 1: pie chart representing the gender distribution**

The school going children were divided in 13-19 age group. Maximum number of participants were 15 years old followed by 16 years, 17 years and then 18 years. The tabular distribution of age is represented in table 2.

**Table 2: age wise distribution of participants**

Age	Frequency	Percentage
13 years	80	14.20%
15 years	65	10.60%
16 years	100	22%
17 years	96	20.2%
18 Years	78	14.0%
19 Years	81	19.0%

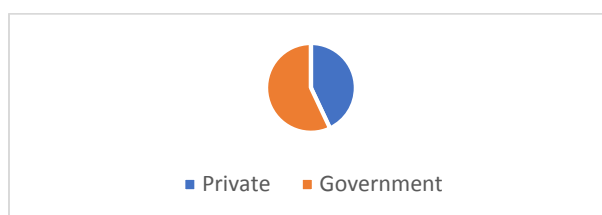


**Figure 2: Pie chart representing the age distribution of participants**

The study participants included students from both private and government schools. 57% (285) while those in private school were 43% (215).

**Table 3: school distribution**

Type of school	Frequency	Percentage
Private	215	43%
Government	285	57%



**Figure 3: pie chart representing school distribution of participants**

44.2% (221) of the population said smoking is harmful to health, where as 33.6% (168) didn't consider smoking to be harmful. However, 22.2% (111) were not sure of the harmful effect of smoking. No association of the response was seen with gender and Age. An association was found with type of school.

#### IV. DISCUSION

Children and adolescents who smoke cigarettes develop serious health issues, including an increase in the frequency and severity of respiratory diseases, a decline in physical fitness, and probable impacts on lung development and function.<sup>13</sup> Teenagers and young adults most frequently use tobacco through the usage of cigarettes, and among all tobacco use data, statistics on cigarette smoking prevalence are the most thorough, methodical, and long-standing.<sup>14</sup> The following are some factors linked to youth tobacco use: surroundings, both social and physical. Young individuals may desire to use tobacco products because of how the media portrays it as a common hobby.<sup>15,16</sup> If young people see people their own age using tobacco products, they are more inclined to do the same. Compared to peers of the same age who are not sports, high school athletes use smokeless tobacco more frequently. If a parent uses tobacco products, young kids may be more inclined to do so.<sup>17</sup>

*Biological and genetic factors* like Youth may be more vulnerable to nicotine, and teens may develop a nicotine dependence earlier than adults, according to some research.<sup>18-21</sup> Young people may find it more difficult to stop smoking due to genetic factors. Smoking when pregnant may make it more likely that the baby will smoke frequently in the future. Youth smoking has a significant impact on sadness, anxiety, and stress.<sup>22</sup>

Young individuals are more interested to smoke when they anticipate benefits from smoking, such as improved stress management or weight loss.<sup>23</sup> Among the additional factors influencing juvenile tobacco usage are: lesser income or educational attainment, as well as poorer socioeconomic standing. unable to say "no" to using tobacco products.<sup>24</sup> lack of parental participation or support. tobacco goods' accessibility, availability, and cost, inadequately performing in school, low self-esteem or self-image observing advertisements for tobacco products in shops, on television, online, in movies, or in periodicals and newspapers.<sup>25</sup> In comparison to a study of a similar nature conducted by Multani et al.<sup>26</sup>, the current investigation revealed a prevalence of smokers of 24.2%. where 47.8% were smokers. The prevalence rate among North Eastern Indian States varied around 10.0% in Manipur and Meghalaya.<sup>21</sup>

In the North East, the highest rates were seen in Mizoram (18.5%) and the lowest in Tripura (2.5%).<sup>27</sup> In other study by prevalence of ever smokers was 15.4%<sup>28</sup>

According to the results of the current study, 44.2% of students were aware of the negative effects of smoking, which is in line with findings from studies by Jindal et al. and Al Haqwi et al.<sup>29</sup> Similar findings were found in the studies by Kuznar-Kaminska et al.,<sup>30</sup> Saji et al.,<sup>31</sup> and Xu et al.,<sup>32</sup> while Tsering et al.,<sup>33</sup>

Gopikrishna et al.,<sup>34</sup> Biswas,<sup>35</sup> Odukya et al.,<sup>36</sup> and Multani et al.<sup>26</sup> revealed a significantly lower knowledge of the negative effects of smoking, with scores of 84.6%, 71%, 84.5%, 72.3%, and 71.7%, respectively.

This difference may be the result of research participants being more aware of the negative effects of addiction on their health. About 72.4% of the survey participants believed that smoking has no effect on weight gain or loss. Which was consistent with the research done by Xu et al.<sup>32</sup> Contrarily, 67.4% of study participants believed that smoking causes weight loss, according to a study by Mpabulungi et al.<sup>37</sup>. According to this finding, a strategy that promotes understanding is required, with a focus on the short- and long-term effects of smoking. All of the current smokers desired to quit or made attempts to do so.

The results of include tobacco and its effects as part of the academic curriculum are extensively established in the tobacco control policy guidelines and have been adopted by many institutions.<sup>38</sup> However, many more of them had received assistance to stop smoking. As part of our investigation, which included students from both government and private institutions, we discovered that 60.2% of respondents indicated that it is included in the textbook and curriculum.

40.2% of the participants said that smokers had more friends than non-smokers. According to studies by Mpabulungi et al.<sup>37</sup> and Saji et al.<sup>31</sup>, 60% and 35.6% of respondents thought that smokers had more friends than non-smokers, respectively. According to a study conducted among school-aged adolescents in New Delhi, the main motivations for smoking were to demonstrate one's maturity, to appease friends or peers, to boost one's self-esteem, and to reduce stress.<sup>39</sup> Such negative attitudes need to be addressed sooner because they have a great propensity to the smoking habit.<sup>40-43</sup>

Smokers had the unfavourable stigma of lacking confidence. In contrast to the West, where smoking is equally prevalent among both sexes, tobacco use, especially among children and adolescents in India is a male-dominated phenomena. Smoking is more prevalent among women in various nations, including China, Fiji, Jordan, and Venezuela<sup>43</sup>. About 51.8% of the participants in the survey agreed that passive smoking is harmful to health. This was in agreement with the findings of Gopikrishna et al.,<sup>34</sup> Mpabulungi et al.,<sup>38</sup> and Xu et al.<sup>32</sup>

This phenomenon might have been influenced by knowledge of tobacco products' negative health effects. In the current study, peer pressure was a major factor in tobacco use beginning. This is in line with research by Al Haqwi et al. and Jindal et al. Since adolescents want to live in buddy circles, it is very difficult to resist the effect of this factor. This is a severe problem.<sup>43</sup> Children are best known to their parents. As honest communication is the basis of all good relationships, including the relationship parents share with their son or daughter, parents can positively influence their children's lives by building on the good communication they have already developed, thereby playing an important role in preventing the effect of this factor at such a vulnerable age. Parents must take an active and repeated stand against tobacco use.<sup>40</sup>

## **V. CONCLUSION**

India, the second- most populous nation in the world, bears a sizable portion of the burden of tobacco-related disease and mortality worldwide. The Indian government has been actively working to enforce laws that forbid young people from getting access to tobacco. Smoking tobacco in public areas, whether with cigarettes, cigars, bidis, or in any other way, is prohibited by law, is unconstitutional, and is subject to the Indian Penal Code's criminal penalties related to public nuisance. To have the broadest outreach and the greatest impact, tobacco control measures must be included into other health-care programmes.

The study population had a high level of awareness about negative health impacts of smoking. They felt strongly about not smoking. The study offers helpful insights into the variables to take into account when formulating adolescent anti-smoking campaigns in this and related contexts. To help kids resist peer pressure to smoke, school-based awareness programmes should be followed. Such anti-smoking campaigns might concentrate on altering public perceptions of smoking and fostering a smoke-free campus atmosphere. Tobacco control laws should be upheld in order to reduce accessibility, affordability, and availability of tobacco products. To reduce tobacco use among school pupils, social norms around tobacco use among parents and other people at home and in public places need to be changed.

## **VI. RECOMMENDATION**

Regular awareness program should be organized by the school for educating the children. Textbook with chapters telling the harmful effect of tobacco should be included. Parents and teachers should be taught about the harmful effect of tobacco and should educate children regarding the same. Non-governmental organizations may be involved in increasing awareness, providing health education in the local language catering to teachers, children and their parents and also in massive public health education campaigns. Dental college should adopt few schools and regular tobacco prevention and intervention program should be carried.



## LIMITATION

The following are the study's limitations: The fact that the data were gathered via a self-administered questionnaire raises the possibility of bias in the results, despite the fact that participation in the study was entirely voluntary and was accompanied by a statement of secrecy and non-disclosure of identity. The subject's statement that incorrect reporting was extremely improbable was the only factor used to determine the subject's tobacco usage status. Due to the cross sectional character of the study, the temporal connection between the independent factors and tobacco use could not be confirmed.

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