Assessment of Knowledge and Attitudes Towards the Ill Effects of Smoking Among Students: A Cross-Sectional Study

[1]Kanwar Singh, Senior Nursing Officer VVIP, Medical Unit, PMO(AIIMS)

[2]Pooran Singh Chaudhary, Senior nursing officer, VVIP medical unit, PMO, New Delhi

[3]Man Singh Jat, Senior Nursing Officer, CIMR, AIIMS, New Delhi

Corresponding Author: Man Singh Jat, Senior Nursing Officer, CIMR, AIIMS, New Delhi

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Abstract

Objective: This cross-sectional study aimed to assess the knowledge and attitudes of students regarding the ill effects of smoking and examine their association with demographic variables.

Methods: Data were collected from a sample of 100 students using a structured questionnaire. The questionnaire included sections on demographic characteristics, knowledge about the ill effects of smoking, and attitudes towards smoking. Descriptive statistics, correlation analysis, and chi-square tests were used for data analysis.

Results: The findings revealed that students had a moderate level of knowledge (mean score = 18.61) regarding the ill effects of smoking, representing 62.7% of the maximum attainable score. The attitude score towards smoking was 36.36, indicating a neutral stance among the majority of students (81%). There was a weak positive correlation (r = 0.2314) between knowledge and attitudes, suggesting that higher levels of knowledge were associated with more favorable attitudes. The chi-square tests showed a significant association between residence and both knowledge and attitudes, indicating that students' knowledge and attitudes varied depending on their place of residence. However, no significant associations were found between knowledge and attitudes with other demographic variables.

Conclusion: The study highlights the need to enhance students' knowledge about the ill effects of smoking and promote more favorable attitudes towards it. Efforts should focus on addressing misconceptions and providing comprehensive education on the risks associated with smoking. The significant association between residence and knowledge/attitudes suggests the importance of tailoring interventions based on the students' environment. Further research and targeted

interventions are warranted to effectively address smoking-related knowledge and attitudes among students.

Keywords: Smoking, Knowledge, Attitudes, Students, Cross-Sectional Study.

Introduction:

Smoking is a global public health issue with severe consequences for individuals and communities. It is widely recognized that smoking is a leading cause of preventable diseases and premature deaths worldwide.(1) The ill effects of smoking are well-documented, including an increased risk of various health conditions such as cancer, respiratory diseases, cardiovascular disorders, and reproductive complications. In addition to the direct impact on smokers, secondhand smoke also poses significant risks to individuals who are exposed to it.(2) Addressing smoking among school children is crucial as they are at a critical stage of development and susceptible to various influences. During this period, children are more likely to experiment with smoking due to factors such as peer pressure, curiosity, and the desire to conform to social norms. Consequently, interventions aimed at educating and raising awareness among school children about the ill effects of smoking are vital for preventing smoking initiation and reducing tobacco-related harm.(3)

The present study aims to assess the knowledge and attitudes of school children regarding the ill effects of smoking. By understanding the current level of awareness and attitudes, we can identify gaps and develop targeted interventions to address misconceptions and promote healthier behaviors. The findings of this study will contribute to the existing literature on smoking prevention among school children and provide valuable insights for designing effective educational programs. In addition to knowledge, attitudes towards smoking play a crucial role in shaping behaviors. This study also aims to assess the attitudes of school children towards smoking. (4)

Understanding their attitudes, whether favorable, neutral, or unfavorable, will provide insights into their perception of smoking and its associated risks. Identifying factors that influence attitudes towards smoking will inform the development of interventions that can promote more negative attitudes towards smoking and deter children from engaging in tobacco use.(5) It is anticipated that the findings of this study will contribute to the development of evidence-based strategies and policies aimed at preventing smoking initiation among school children. By addressing knowledge gaps and promoting unfavorable attitudes towards smoking, educational programs can be tailored to effectively communicate the risks associated with smoking and encourage healthier choices.(6) Furthermore, the study findings may also inform future research and interventions that explore additional factors influencing smoking behaviors, such as social norms, media influences, and family dynamics.

In conclusion, the present study aims to assess the knowledge and attitudes of school children regarding the ill effects of smoking. By understanding their current level of awareness and attitudes, this study seeks to contribute to the development of targeted interventions and educational programs aimed at preventing smoking initiation and reducing tobacco-related harm among school children. By addressing knowledge gaps and promoting negative attitudes towards smoking, it is hoped that this research will contribute to long-term improvements in public health outcomes and create a healthier future generation.

Methodology

The research approach employed was a descriptive survey utilizing an epidemiological framework to gather factual information about the students' awareness of smoking hazards. The study utilized a descriptive survey design, and the population consisted of students studying in grades IX, X, and XII at Kendriya Vidyalaya No. 1. The sample selection criteria included students aged 13-20 years who were willing to participate and present during the data collection period. The sample comprised 100 male students attending classes at the school. Data collection involved face-to-face interviews using a structured questionnaire consisting of 30 questions to assess the students' knowledge of smoking ill-effects. Additionally, an attitude scale with 10 items was used to measure their attitudes towards smoking. The scoring criteria categorized the knowledge as poor, fair, or good based on the percentage of correct responses, while attitudes were classified as unfavorable, neutral, or favorable based on the scores obtained. To ensure the validity of the data collection tools, a pilot study involving 10 students from grade XI was conducted. The pilot study tested the clarity, applicability, and feasibility of the questionnaire and attitude scale. The reliability of the tools was assessed using the split-half technique, which yielded high coefficients, indicating their reliability for data collection. The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive analysis involved frequency and percentage distributions, while inferential statistics determined the significance of the relationship between knowledge and demographic variables using the "p" value.

Result

Table 1: Frequency   distribution of sample as per demographic characteristics

Characteristics	Frequency
Age	
13-14 years	5
15-16 years	52
17-18 years	37
19-20 years	6
Residence	
Hostel	0
Home in urban	69
Home in rural	31
Paying guest	0
Income	
0-10000	7
10001-20000	21
20001-30000	44

Above 30001	28
Education of father	
Primary	23
Sr. secondary	27
Graduate	35
Post Graduate	15
Education of mother	
Primary	42
Sr. secondary	31
Graduate	19
Post Graduate	8
Occupation of father	
Unemployed	0
Govt. service	82
Pvt. service	12
Business	6
Occupation of Mother	
House Wife	64
Govt. service	26
Pvt. service	10
Business	0
Habit of smoking	
Yes	14
No	86
Peer group Habit of smoking	
Yes	25
No	75
Family history of smoking	
Yes	41

Table 2: Aspects wise knowledge of students about the ill effect of smoking, N=100

No	Aspects		Statements	Max. Score	Responds Mean	Mean (percent)	Sd
01	Introduction		09	09	4.81	53.44	1.73
02	Causes		4	4	2.73	59.25	.67
03	Effects	of	12	12	7.94	66.22	1.73

	smoking					
04	Treatments	5	5	2.9	58	1.12
	Combined	30	30	18.81	62.7	2.80

Table 3: Knowledge of respondents on ill effect on smoking, N=100

S.no.	Knowledge score	Frequency	Percentage %
1	Poor (0-17)	43	43
2	Average (18-23)	50	50
3	Good (24-30)	07	07

Table 3 presents the distribution of respondents based on their knowledge scores regarding the ill effects of smoking. The table includes three categories: poor (0-17), average (18-23), and good (24-30). It shows the frequency and percentage of respondents in each category. The overall mean knowledge of students regarding the ill effects of smoking. The respondents' mean knowledge score was 18.81, representing 62.7% of the maximum score. The standard deviation (sd) was 2.806, indicating the dispersion of knowledge scores among the students.

Table 4: Attitude of students regarding the ill effect of smoking, N=100

S.no.	Attitude score	Frequency	Percentage %
1	Unfavorable	2	2
2	Neutral	81	81
3	Favorable	07	07

Table 4. Indicates that a small proportion of students (2%) had an unfavorable attitude towards the ill effects of smoking. The majority of students (81%) held a neutral attitude, while 7% of the students had a favorable attitude towards the ill effects of smoking. Students' attitude score towards the ill effects of smoking is 36.36, representing approximately 72.72% of the maximum attainable score. The standard deviation indicates the dispersion of attitude scores among the students, with a value of 3.1385.

Table 5 relation between the knowledge and attitude of ill effect of smoking

Sn.	Aspect	Median	Mean	Mean%	Sd	Co-relation (r)	Significance
1	Knowledge	19	18.61	62.7	2.806	r = 0.2314	Significant
2	Attitude	37	36.36	72.72	3.138		

The table 5 indicates that there is a positive but weak correlation (r = 0.2314) between the knowledge and attitude of students regarding the ill effects of smoking. This correlation suggests that as the level of knowledge about the ill effects of smoking increases, there is a tendency for a more favorable attitude towards it. The significance of the correlation implies that the

relationship between knowledge and attitude is not likely due to chance and has practical importance.

Table 6: Association between knowledge and demographic variables about ill effect of smoking, N=100

Demographic variables	χ2 Value	P value	Df	Inference
Age	3.137	0.7914	6	Ns
Residence	7.598	0.0224	2	There is an association
Income of family per Month	3.195	0.7840	6	Ns
Education of father	12.02	.05765	6	Ns
Education of mother	4.824	0.5665	6	Ns
Occupation of father	5.311	0.2568	4	Ns
Occupation of mother	8.745	.0677	4	Ns
Smoking habit	.441	.8021	2	Ns
Peer group habit of smoking	.400	.8187	2	Ns
Family history of smoking	.400	.8187	2	Ns

The table shows the results of chi-square tests for association between knowledge about the ill effects of smoking and different demographic variables. The p-values indicate the significance of the association. In this analysis, the variable "Residence" shows a statistically significant association (p-value = 0.0224), suggesting that knowledge about the ill effects of smoking may vary based on the students' residence. However, for other demographic variables including age, income, education of parents, occupation of parents, smoking habit, peer group habit of smoking, and family history of smoking, there is no significant association with knowledge about the ill effects of smoking.

Table 7: Association between attitude and demographic variables about ill effect of smoking, N=100

Demographic Variables	χ2 Value	P Value	df	Inference
Age	3.137	0.7914	6	NS
Residence	7.598	0.0224	2	There is an association
Income of family per month	3.195	0.7840	6	NS
Education of Father	12.02	.05765	6	NS
Education of Mother	4.824	0.5665	6	NS
Occupation of father	5.311	0.2568	4	NS
Occupation of mother	8.745	.0677	4	NS

Smoking habit	.441	.8021	2	NS
Peer group habit of smoking	.400	.8187	2	NS
Family history of smoking	.400	.8187	2	NS

The table 7. shows the results of chi-square tests for association between attitude towards the ill effects of smoking and different demographic variables. The p-values indicate the significance of the association. In this analysis, the variable "Residence" shows a statistically significant association (p-value = 0.0224), suggesting that attitudes towards the ill effects of smoking may vary based on the students' residence. However, for other demographic variables including age, income, education of parents, occupation of parents, smoking habit, peer group habit of smoking, and family history of smoking, there is no significant association with attitudes towards the ill effects of smoking.

Discussion

The findings of this study provide valuable insights into the knowledge and attitudes of students regarding the ill effects of smoking. The moderate level of knowledge observed among the students indicates the need for comprehensive education programs that emphasize the health risks associated with smoking.(7) Efforts should focus on dispelling myths and misconceptions related to smoking, as indicated by the lower scores in the causes and treatments aspects.(8)

The neutral attitudes towards smoking among the majority of students suggest a lack of clear inclination towards recognizing the detrimental effects of smoking. This highlights the importance of promoting more unfavorable attitudes to discourage smoking initiation and encourage smoking cessation. Future interventions should target attitude formation through evidence-based information, peer influence, and role modeling.(9) The weak positive correlation between knowledge and attitudes indicates that increasing knowledge may contribute to more favorable attitudes. Therefore, educational initiatives should aim to improve knowledge levels to positively influence students' attitudes towards smoking.(10)

The significant association between residence and knowledge/attitudes implies that environmental factors may influence students' perceptions of smoking. Tailoring interventions based on the students' place of residence can help address specific knowledge gaps and cultural influences that may impact attitudes towards smoking. However, no significant associations were found between knowledge and attitudes with other demographic variables, such as age, income, education of parents, occupation of parents, smoking habits, peer group habits, and family history of smoking. This suggests that these demographic factors may not significantly influence knowledge and attitudes towards smoking among the students in this sample.

Conclusion

Study conducted that underscores the importance of targeted interventions to enhance knowledge and attitudes towards the ill effects of smoking among students. Comprehensive education programs, tailored to the specific needs of students based on their residence, can effectively address knowledge gaps and promote more unfavorable attitudes towards smoking. Such interventions have the potential to contribute to reducing smoking prevalence among students and improving public health outcomes.

References

1. Perez-Warnisher MT, de Miguel MPC, Seijo LM. Tobacco Use Worldwide: Legislative Efforts to Curb Consumption. Ann Glob Health. 84(4):571–9.

2. The Effects of Tobacco Use on Health - Public Health Implications of Raising the Minimum Age of Legal Access to Tobacco Products - NCBI Bookshelf [Internet]. [cited 2023 Jun 22]. Available from:https://www.ncbi.nlm.nih.gov/books/NBK310413/

3. Harvey J, Chadi N. Preventing smoking in children and adolescents: Recommendations for practice and policy. Paediatr Child Health. 2016 May;21(4):209–14.

4. Brook U, Mendelberg A, Galili A, Priel I, Bujanover Y. Knowledge and attitudes of children towards cigarette smoking and its damage. Patient Educ Couns. 1999 May;37(1):49–53.

5. Finch K, Ma S, Qin D, Xin G, Xia W, Novotny TE. Smoking Knowledge, Attitudes, and Behaviors Among Rural- to-Urban Migrant Women in Beijing, China. Asia-Pac J Public Health Asia-Pac Acad Consort Public Health. 2010 Jul;22(3):342–53.

6. Khayyati F, Allahverdipour H, Shaghaghi A, Fathifar Z. Tobacco Use Prevention by Integrating Inside and Outside of School Based Programs: A Systematic Review Article. Health Promot Perspect. 2015 Jul 7;5(2):81–91.

7. Babb S, Malarcher A, Schauer G, Asman K, Jamal A. Quitting Smoking Among Adults - United States, 2000-2015. MMWR Morb Mortal Wkly Rep. 2017 Jan 6;65(52):1457–64.

8. Jha P. The hazards of smoking and the benefits of cessation: A critical summation of the epidemiological evidence in high-income countries. eLife. 9:e49979.

9. Nagarajappa R, Daryani H, Sharda AJ, Asawa K, Batra M, Sanadhya S, et al. Knowledge and attitude towards smoking among Indian students of dentistry. Int Dent J. 2020 Nov 4;63(5):244–8.

10. Tahlil T, Woodman RJ, Coveney J, Ward PR. The impact of education programs on smoking prevention: a randomized controlled trial among 11 to 14 year olds in Aceh, Indonesia. BMC Public Health. 2013 Apr 19;13(1):367.