Original article

A study on the prevalence of use of tobacco amongst school going children (11 to 15 years age group) of Surendranagar

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Abstract

Background: Despite increasing awareness of the harmful effects of tobacco, the use of tobacco in various forms continues to be a significant health risk factor amongst youth.

Aims and Objectives: This study was conducted to find out the prevalence of tobacco use, its health hazards, and awareness regarding tobacco and its ill effects and influence of role model seen for tobacco use amongst students.

Study design: A cross-sectional study.

Materials and Methods: By simple random technique one Govt. school and one Private school were selected after enlisting all the schools. All the students of 5th to 9th standard (11 to 15 years age group) were interviewed.

Statistical Analysis: By SPSS software with Z test, the Chi-square test, and the multivariate logistic regression.

Results: A total of 17.31% of students ever tried Cigarettes / bidi and 28.10% of students were found who ever tried smokeless form of tobacco. A total 71.08% of students were aware about tobacco and 30.08% reported Cancer as a harmful effect of tobacco. Tobacco use was found to be significantly associated with having seen the best friend smoke (OR 3.22), Favourite celebrity smoke (OR 2.6), father smoke (OR 2.07).

Conclusion: Tobacco use is still important risk behaviour amongst adolescent students. This study found a strong association of tobacco use by the students and their having seen various role models smoking. Early detection of tobacco use and its health hazards will help to prevent various life threatening conditions like cancer, heart diseases etc.

Key words: Tobacco, smoking, chewing, role models, health hazards, awareness.

Introduction:

Tobacco is estimated to have killed 100 million people in the 20th century and continues to kill 5.4 million people every year and this figure is expected to rise to 8 million per year by 2030, 80 % of which will occur in the developing countries.[1] Tobacco chewing is prevalent in all parts of the world and all age groups, though it varies in extent. [2, 3, 4] An estimated 186 million of the world population are school children of 13-15 years. Among them, approximately 34.8 million are current tobacco users. [5] There is an urgent need to curb tobacco use amongst school children from the early adolescent age so that such bad habits can be easily nipped in the bud. Hence this study was conducted to estimate the prevalence of tobacco use amongst school children, its health hazards and to evaluate the level of awareness regarding tobacco use amongst the students.

Aims and objectives:

- To assess the prevalence of tobacco usage amongst school children.
- To evaluate the level of awareness amongst the students regarding the hazardous health effects of tobacco.
- To estimate the incidence and types of health hazards due to tobacco use in these children.

Materials and methods:

- Type of study : A Cross sectional study

- Study area :   Both the private and the government schools of Surendranagar were enlisted first and from this list one school from private and one from government were selected as a study school by simple random sampling method.
- After taking prior permission from principal of the school, interview dates of the study were fixed. Written consent from the students was taken for the interview.
- **Study population:**   School children of a government and a private school of 11 to 15 years age group (5th to 9th standard) of Surendranagar.
- **Sample size**: 491 students of 11 to 15 years age group.
- A pre-designed and pre-tested proforma was used for data collection and each and every student of 5th to 9th standard who was present at the time of interview was included in the study and confidentiality of each interview was maintained.

Data analysis: Data was analyzed using SPSS for Windows – statistical software package.

Results:

Table- 1: Awareness of Tobacco consumption amongst both the government and private school students (N=491)

Awareness (in students' Language)	Government School (N=244) Frequency (%)	Private School (N=247) Frequency (%)	Total (N=491) Frequency (%)
Bad	148 (60.65)	201 (81.37)	349 (71.08)
Good	57(23.36)	21 (8.50)	78 (15.88)
No idea	39 (15.98)	25 (10.12)	64 (13.03)
Total	244 (100.00)	247 (100.00)	400 (100.00)

Table 1 shows that there is a significant difference regarding the awareness between the government and the private school students. **(χ^2 =26.38, d. f. =2, P<0.001)**

Figure1: Reasons for tobacco consumption amongst students of both the Government and private school students of 5th to 9th standard (11 TO 15 YEARS) (N=78)
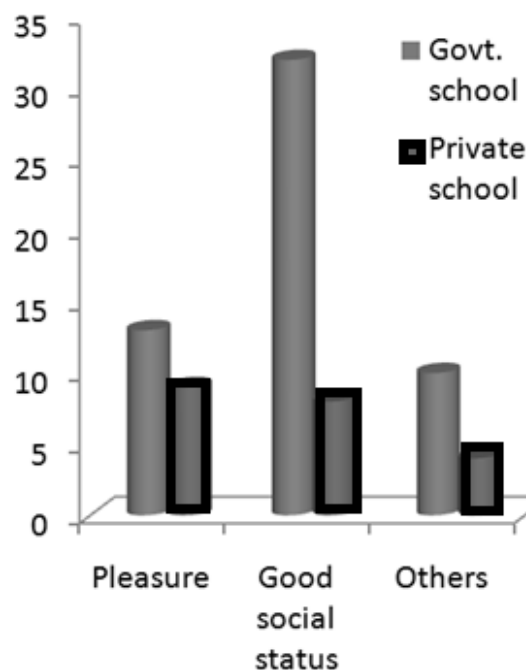

Table -2: Knowledge regarding health hazards of tobacco use amongst school students of both the government and private school students (5th to 9th standard) of Surendranagar. (N=349)

If bad, Health Hazards	Government School (N=148) No. (%)	Private School (N=201) No. (%)	Total (N=349) No. (%)
No idea	11 (7.43)	7 (3.48)	18 (5.15)
Cancer	46 (31.08)	59 (29.35)	105(30.08)
Teeth problems	24 (16.21)	36 (17.91)	60 (17.19)
Oral problems	23 (15.54)	25 (12.43)	48 (13.75)
Lung diseases	12 (8.11)	16 (7.96)	28 (8.02)
Heart diseases	4 (2.70)	5 (2.48)	9 (2.58)
Others	6 (4.05)	9 (4.47)	15 (4.29)

Table 3: Multiple responses related to awareness regarding health hazards of tobacco amongst school children (5th to 9th standard) (N=349)

Health hazards (Multiple Responses)	Govt. School (N=148) No. (%)	Private School (N=201) No. (%)	Total (N=349) No. (%)
Cancer, Teeth problems	9 (6.08)	17 (8.45)	26 (7.44)
Cancer, Teeth problems Oral problems	7 (4.72)	12 (5.97)	19 (5.44)
Cancer, Teeth problems, Oral problems Lung diseases	6 (4.05)	15 (7.46)	21 (6.01)

Figure 2: Source of information regarding health hazards related with tobacco consumption amongst both the Govt. and the private school students (N=349)
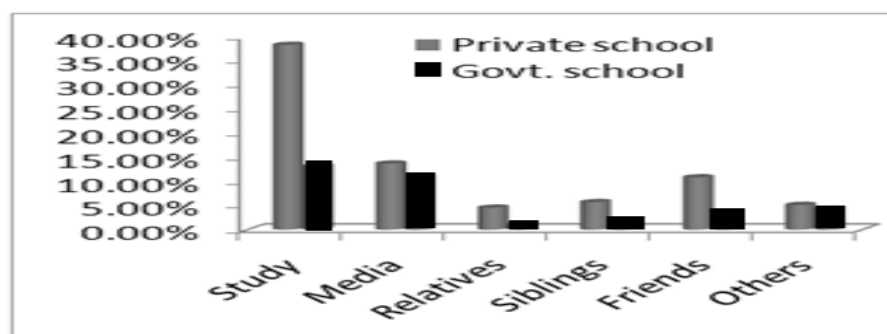

Table 4: Prevalence of Tobacco consumption amongst both the government and the private school children of 11 to 15 years age group. (5th to 9th standard) (N=491)

Tobacco consumption	Government School (N=244) Frequency (%)		Private School (N=247)		Total (N=491) No. (%)
	Male (N=171)	Female (N=73)	Male (N=155)	Female (N=92)	
Ever tried Cigarette/ bidi	43 (25.14)	16(21.92)	21 (13.54)	5(5.43)	85 (17.31)
Age at 1st Smoking ≤ 11 yrs	12(7.01)	5(6.84)	8(5.16)	2(2.17)	27(5.49)
Current Cigarette /bidi (≥1 time in 30 Days)	14(8.18)	3(4.10)	7(4.51)	1 (1.08)	25(5.09)
Tobacco consumption	Govt. School (N=244)No. (%)		Private School (N=247)		Total (N=491) No. (%)
	Male(N=171)	Female (N=73)	Male (N=155)	Female (N=92)	
Current heavy Smoking (≥ 5 Cigarettes/bidi Per day	6(3.50)	1(1.37)	2 (1.29)	0 (0.00)	9 (1.93)
Ever tried Smokeless tobacco	65(38.01	24 (32.87)	41(26.45)	8 (8.69)	138 (28.10)
Current Smokeless tobacco use (≥1 time in 30 Days)	38 (22.22)	13 (17.80)	12 (7.74)	4 (4.34)	67 (13.64)

There is a significant difference between tobacco consumption amongst both the Government and the private school students. **(χ2=16.924, P<0.0001)**

Table 5: Role models ever seen consuming tobacco (either smoking/ smokeless tobacco by the students (5th to 9th standard) (N=491)

Role models	Government School (N=244) No. (%)	Private School (N=247) No. (%)	Total (N=491) No. (%)
Father	46 (18.85)	45 (18.21)	91 (18.53)
Mother	08 (3.27)	02 (0.80)	10 (2.03)
Siblings	24 (9.83)	23 (9.31)	47 (9.57)
Best friend	30 (12.30)	21 (8.50)	51 (10.38)
Favorite teacher	16 (6.55)	11 (4.45)	27 (5.50)
Favorite celebrity	50 (20.49)	40 (16.91)	90 (18.32)

Table 6: MULTIPLE RESPONSE TABLE - Role models ever seen consuming tobacco (either smoking/ smokeless tobacco by the students (5th to 9th standard) (N=491)

Role models	Govt. School (N=244) No. (%)	Private School (N=247) No. (%)	Total (N=491) No. (%)
Father. Best friend	11 (4.50)	18 (7.28)	29 (5.90)
Father, Brother	08 (3.27)	10 (4.04)	18 (3.67)
Father, Best Friend Favorite celebrity	10 (4.09)	11 (4.45)	21 (4.28)
Total	29 (11.88)	39 (15.79)	68 (13.24)

Figure 3: Influence of role models amongst students of both the government and the private school students. (N=491)
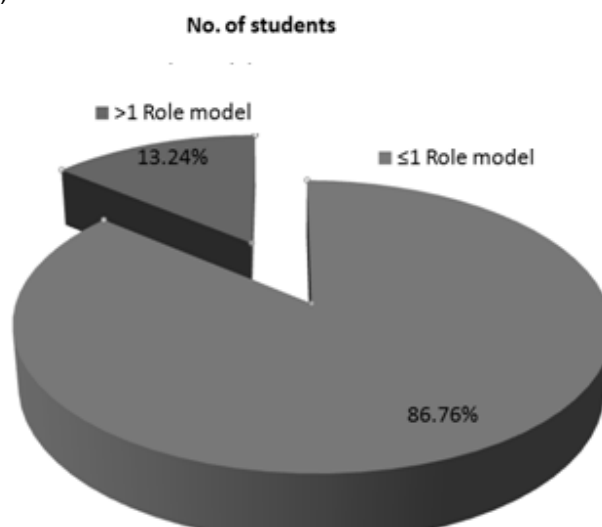
Table 7: Association of tobacco consumption amongst students and the influence of role models (N=92)

Role models	Tobacco consumption (N=92) (%)	OR (CI)	P Value
Best friend	16	3.22 (1.72 to 6.02)	0.0002
Favorite celebrity	26	2.61(1.54 to 4.45)	0.0003
Father	34	2.07(1.21 to 3.54)	0.007

Table 7 shows that Best friend, favorite celebrities and father are three important role models for the students who are consuming tobacco.

Table 8: Incidence of health hazards and type of health hazards found amongst students consuming tobacco of both the government and the private school (5th to 9th standard) (N=92)

Health hazards	Government School N=68)	Private School (N=24)	Total (N=92)
Addiction	03 (4.41)	01 (4.16)	04 (4.34)
Teeth staining	09 (13.23)	02 (8.33)	11 (11.95)
Oral problems	16 (23.52)	05 (20.83)	21 (22.82)
Frequent cough problem	11 (16.67)	02 (8.33)	13 (14.13)
Others	02 (2.94)	03 (12.50)	05 (5.43)
Total	41 (60.29)	13 (54.17)	54 (58.70)

Table 8 shows that 58.70% of students had health hazards amongst those who consuming tobacco in any form (either) smoking/smokeless tobacco (χ2=21.334, P<0.05 statistically significant

Discussion:

The overall awareness regarding tobacco consumption and tobacco related health hazards amongst students in our study was 71.08%, which is almost similar to the study conducted by Rekha P et al. In which it was 75%. [6] The findings were similar to other studies conducted in different regions of India. [7, 8, 9] Major source of information in our study were study books, media and parents which are similar to the study conducted by Rekha et al. Regarding ever tried cigarettes/bidis smoking amongst students was 17.31% which is almost near to study conducted by Rahul Sharma et al. In New Delhi it was 16.0%.[10] In our study ever tried smokeless form of tobacco amongst students was 28.10% which is higher than the study conducted by Rahul Sharma et al. In new Delhi in which ever tried smokeless form of tobacco was 10%.[10] Regarding current smoking , 5.09% of students are current smokers ($\geq$1 time in past 30 days); whereas 7.1% students were current smokers in the study conducted for tobacco use amongst adolescents students in new Delhi. The prevalence of tobacco use overall, including smoking and smokeless form of tobacco is 18.73% in our study whereas study conducted in New Delhi was 20.9% which is almost similar to our study. The tobacco use was significantly higher amongst students who had seen their favorite celebrity (or 2.61, ci=1.54 to 4.45, p value=0.0003), best friend (or 3.22, ci=1.72 to 6.02, p value=0.0002) and father (or 2.07, ci=1.21 to 3.54, p value=0.007), findings are almost similar to the study conducted by Rahul Sharma et al. Where best friend and parents were two important role model. [10] Study carried out by Jha et al. Too reported that friend , parents and siblings are important influencing role models.[11] Other studies reported similar results. [12,13]. Problems due to tobacco use were teeth staining, oral problems and frequent coughing which were similar to the study conducted by Rekha P Shenoy et al.

Conclusion and recommendations:

The findings in the study suggest that tobacco use is still an important risk behavior amongst adolescent students. This study found a strong association of tobacco use amongst students and its influence with role models ever seen. Tobacco use was comparatively higher amongst males though its use is not restricted to them only. Tobacco use cessation programs targeting the adolescents should be taken into consideration. Iec activities are needed to promote healthy behavior in the community and especially the influence of role models as a provoking factor for tobacco use amongst adolescents should be emphasized.

Acknowledgement:

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