

## Original Research Article

# Knowledge, attitude and practise about tobacco use among school personnel in Dharamshala city: a cross-sectional study

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## ABSTRACT

**Background:** The primary objective was to assess the knowledge, attitude and practice of school personnel of tobacco use and its effect in school-based tobacco intervention for making tobacco free educational institutions (TOFEI) and tobacco free society.

**Methods:** The sampling used was probability stratified random sampling. The data collections were done by self-administered prevalidated World Health Organization (WHO) global school personnel survey (GSPS) questionnaire.

**Results:** Majority of participants were from 40-49 years of age (44.4%) representing both from the government and private schools. Out of total school personnel 69.4% were female and 30.4% were male. Majority of the school personnel were teachers (91.8%) followed by principals 3.6%. Majority of the teachers had good knowledge and attitude.

**Conclusions:** A better compliance always leads to better enforcement. This compliance can be further enhanced by creating uniform policies for schools for better enforcement on tobacco control. It is important to understand the role of each school personnel with their shared responsibility in advocacy and enforcement of already existing tobacco control laws.

**Keywords:** Global school personnel survey, Framework convention tobacco control, School personnel

## INTRODUCTION

Tobacco use is a modifiable risk factor and global health problem with huge socio-economic burden. Global youth tobacco survey (GYTS) and global adult tobacco survey (GATS) reported that adolescents and young adults are most vulnerable to the exposure of tobacco use. As per the GYTS conducted in 2009 which was a school-based survey, reported that 14.6% of students in India aged between 13 to 15 years use tobacco. It also reported that 4.4% currently smoke cigarette and 12.5% currently use other tobacco products. Further it also reported that 15.5% of never smokers are likely to initiate smoking next year.<sup>1,2</sup> Studies suggest that factor which induced smoking and reason for continuing smoking among students were style

(58.8%), relieves tension (17.6%), pleasurable (11.8%), peer pressure (8.8%).<sup>3</sup> The adolescent ever smoking behaviour was found to be six times more likely if students had seen their sibling ever smoke, three times more likely if they saw their best friend ever smoke and two times more likely in students who had ever seen their father smoke.<sup>4</sup> New and emerging electronic products (like e-cigarettes) pose new challenges, though already banned in India.<sup>5</sup> However the traditional form of tobacco use either smoked or smokeless still remains high. Protection of new emerging and currently using young tobacco users is of utmost importance.

School is an established system providing enabling environment in achieving a desired social behaviour

against tobacco use in young school children. Teachers and school personnel plays a pivotal role in reshaping young student's knowledge, attitude and practices towards tobacco use. School-based tobacco interventions and programmes provided under the guidance of their teachers could come a long way. The time these young students spend with their teachers is a window of opportunity in achieving desired quits rates. The sustenance of desired behaviour against the tobacco use is reinforced with time again. Government of India prepared the "guidelines for tobacco free schools/educational institutions" in 2008 and "step by step guidelines for implementation of section 6 (b) of the act and rules" in 2017 for making tobacco free educational institutions (TOFEI).<sup>6</sup> Section 6 (b) which pertains to that no tobacco products are sold inside the premises and in an area within 100 yards from the premises.<sup>6</sup> Any violation to this section of cigarettes and other tobacco products act (COTPA) 2003 (prohibition of advertisement and regulation of trade and commerce, production, supply and distribution), needs to be reported to the national quitline at 1800-11-2356. These guidelines are implemented by both government and private educational institution, including schools at all levels, colleges for higher or professional education and universities.<sup>6,7</sup>

Teacher's role model is influenced by their own smoking status. Global school personnel survey (GSPS) conducted in 2009, reported that current tobacco use among school personnel was at 23.4%. It also reported that current tobacco smokers in teachers and school personnel was 13.9% and ever used any form of tobacco on school property/premises during the past year was 9.6%.<sup>2</sup> Teachers with no smoking status provides motivation and impact the enforcement of school-based tobacco intervention at the individual, inter-personnel and inter-staff level. Teachers are responsible for the holistic development of the students not just focusing on academics but also on other aspect of social and public health issues. Evidence also suggests need for such school-based tobacco intervention by Principal, teachers and other school personnel's for TOFEI.<sup>8</sup> With this background the present study aims with the primary objective of understanding the knowledge, attitude and practice of school personnel of tobacco use and its effect in school-based tobacco intervention for making TOFEI and tobacco free society.

## METHODS

This cross-sectional study was conducted in the schools of Dharamshala city, Himachal Pradesh (HP). The sampling used was probability stratified random sampling. Two strata of government and private school were created and within these two groups of teachers, primary and secondary teachers were selected. The information about the schools was obtained from deputy directorate higher and elementary education, Dharamshala, (HP). The study sample size was calculated using the formula given below.

$$N = z^2 pq/d^2$$

Where N is sample size, z is the value for the selected alpha level, p is the estimated proportion of an attribute that is present in the population, q is  $1 - p$ , and d is the acceptable margin of error for proportion being estimated. According to GSPS conducted in 2009, reported that current tobacco use among school personnel was at 23.4%, so  $p = 23.4\%$ .<sup>[9]</sup> Thus a sample of 138 were recruited for each group, primary and senior secondary teachers from both government and private school, making the total sample of 554. There were 18 government central primary including middle schools and 15 senior secondary including high school in Dharamshala. Eight teachers from each central primary including middle school and nine teachers from each secondary including high school were selected by lottery method using the simple random sampling. The same procedure was done for the private school also. School personnels aged between 20 to 60 years and were present on the day of study were included. Subjects with any systemic diseases or not willing to participate and absent on the day of visit were excluded from the study.

The data collections were done by self-administered prevalidated WHO GSPS questionnaire forms in English and data were collected on the month of August 2021. The permission was obtained from the competent higher authority to conduct this present study. Written and informed consent was obtained from all principals, teachers and other school personnel of the school ensuring anonymity and voluntary participation. The data collected were analysed by statistical package for social sciences (SPSS Inc., Chicago, IL, version 22 for Windows). Summarized data sets of nominal scale were described in frequency or percentage by descriptive statistics and inferential statistics chi square was used. A level of p value  $\leq 0.05$  was considered statistically significant and p value  $\leq 0.001$  was taken as highly statistically significant.

## RESULTS

Majority of participants were from 40-49 years of age (44.4%) representing both the government and private schools as shown in the Table 1. Out of total school personnel 69.4% were female and 30.4% were male. Majority of the school personnel were teachers (91.8%) followed by principals 3.6%. Table 2 shows over 68.3% of the teachers acknowledged that their primary responsibility was to teach about the health, which was higher among government primary teachers and comparable among other three group of teachers. Over 98.3% both in government and private school personnel had never smoked cigarette. The proportion of previous and current tobacco users (smoked and smokeless) were less than 1-2%. Over 47.4% received advice/help to quit from their school among tobacco users which was higher among government secondary teachers. Approximately 77.2% ever advised a student to stop using tobacco was higher among government school teachers and was statistically significant. About the rule prohibiting tobacco

use among students and school personnel inside school buildings were 88.1 % and 81.8%. This was also higher in government schools and was statistically significant. Similarly, about prohibiting tobacco use among students and school personnel outside school buildings, but on school premises/property was 69.6% and 59.4%. This was also high in government schools but was statistically significant for school personnel only. Complete enforcement among students and school personnel was at 70% higher in government schools than private schools but was not statistically significant. Rule prohibiting all forms of tobacco use among outsiders was 83.2%. Rule for school students and school personnel wherever was between 71% and 74%. About the tobacco use prevention included somewhere in school curriculum and received training to prevent tobacco use among students was higher

in government senior teachers and this difference was statistically significant. Further about the access to teaching and learning materials was higher in private teachers and this difference was statistically significant. Majority agreed on activities (such as an assembly) used to teach tobacco use prevention to students in their school.

Table 3 shows majority of the teachers had good knowledge; only one question about that tobacco use is physically addictive was statistically significant. Table 4 shows majority of teachers had adequate attitude. 90.3% agreed that they need specific training and only 19.2% agreed that tobacco industry should be allowed to sponsor school or extracurricular activities, such as sporting events, which were statistically significant.

**Table 1: Baseline sample characteristics.**

Characteristics	n (%)
<b>Age (years)</b>	
20-29	30 (4.8)
30-39	172 (27.3)
40-49	280 (44.4)
50-59	148 (23.5)
60 or older	1 (0.2)
<b>Gender</b>	
Females	438 (69.4)
Males	192 (30.4)
Others	1 (0.2)
<b>School types</b>	
Government primary teachers	155 (24.6)
Government secondary teachers	193 (30.6)
Private primary teachers	140 (22.2)
Private secondary teachers	143 (22.7)
<b>Primary position in school</b>	
Principal/administrator/headmaster	23 (3.6)
Teacher	579 (91.8)
School health services personnel (ex. nurse)	1 (0.2)
Clerical staff	10 (1.6)
Other type of school personnel	18 (2.9)

**Table 2: Frequency of distribution based on practices among various school teachers.**

Practices among various school teachers	Total N (%)	Govt. primary teachers N (%)	Govt. secondary teachers N (%)	Private primary teachers N (%)	Private secondary teachers N (%)	P value (Chi-square statistics)
<b>Pattern/practices of tobacco use</b>						
It is one of my primary responsibilities, but I do teach about health sometimes	431 (68.3)	133 (30.9)	89 (20.6)	101 (23.4)	108 (25.1)	0.001**
Ever any tobacco user (yes)	11 (1.7)	4 (36.4)	6 (54.5)	1 (9.1)	0 (0)	0.105
Current any tobacco user (occasionally)	7 (1.1)	2 (1.3)	3 (42.9)	1 (14.3)	1 (14.3)	0.846
Current any smoker (yes)	1 (.2)	1 (100)	0 (0)	0 (0)	0 (0)	0.380
Current smoke bidis (daily)	1 (.2)	0 (0)	0 (0)	1 (110)	0 (0)	0.234

Continued.

Practices among various school teachers	Total N (%)	Govt. primary teachers N (%)	Govt. secondary teachers N (%)	Private primary teachers N (%)	Private secondary teachers N (%)	P value (Chi-square statistics)
Receiving advice/help to quit from their school among tobacco users (yes)	299 (47.4)	74 (24.7)	102 (34.1)	65 (21.7)	58 (19.4)	<0.001**
Ever advised a student to stop using tobacco (yes)	487 (77.2)	129 (26.5)	80 (37)	92 (18.9)	86 (17.7)	0.001**
<b>School practices and policies/curriculum</b>						
Tobacco products be purchased inside school (yes)	6 (1)	4 (66.7)	0 (0)	1 (16.7)	1 (16.7)	0.049*
Purchase of tobacco products within 100 meters of your school buildings (yes)	46 (7.3)	16 (34.8)	5 (10.9)	13 (28.3)	12 (26.1)	0.061
Rule prohibiting tobacco use among students inside school buildings (yes)	556 (88.1)	135 (24.3)	179 (32.2)	114 (20.5)	128 (23)	0.027*
Prohibiting tobacco use among students outside school buildings, but on school premises/property (yes)	439 (69.6)	119 (27.1)	136 (31)	87 (19.8)	97 (22.1)	0.146
Rule for school students wherever (yes)	471 (74.6)	120 (25.5)	151 (32.1)	97 (20.6)	103 (21.9)	0.207
Prohibiting tobacco use among school personnel inside school buildings (yes)	516 (81.8)	124 (24)	168 (32.6)	107 (20.7)	117 (22.7)	0.021*
Prohibiting tobacco use among school personnel outside school buildings, but on school premises/property (yes)	375 (59.4)	110 (29.3)	109 (29.1)	75 (20)	81 (21.6)	0.030*
Rule for school personnel wherever (yes)	454 (71.9)	116 (25.6)	138 (30.4)	100 (22)	100 (22)	0.525
Enforcement among students (completely)	440 (69.7)	103 (23.4)	135 (30.7)	96 (21.8)	106 (24.1)	0.618
Enforcement among school personnel (completely)	452 (71.6)	109 (24.1)	133 (29.4)	102 (22.6)	108 (23.9)	0.106
Rule prohibiting all forms of tobacco use among outsiders (yes)	525 (83.2)	133 (25.3)	161 (30.7)	113 (21.5)	118 (22.5)	0.532
Tobacco use prevention included somewhere in school curriculum (yes)	524 (83)	116 (22.1)	167 (31.9)	112 (21.4)	129 (24.6)	0.001**
Access to teaching and learning materials about tobacco use for students (yes)	363 (57.5)	61 (22.8)	53 (19.8)	80 (29.9)	74 (27.6)	0.001**
Received training to prevent tobacco use among students (yes)	137 (21.7)	21 (15.3)	57 (41.6)	22 (16.1)	37 (27)	0.001**
Activities (such as an assembly) used to teach tobacco use prevention to students in your school (yes)	570 (90.3)	135 (23.7)	182 (31.9)	122 (21.4)	131 (23)	0.144

\*Significant at <0.05 and \*\*significant at ≤0.001.

**Table 3: Frequency of distribution based on knowledge among various school teachers.**

Knowledge about tobacco use	Total N (%)	Govt primary teachers N (%)	Govt secondary teachers N (%)	Private primary teachers N (%)	Private secondary teachers N (%)	P value (Chi-square statistics)
<b>Tobacco smoke is harmful to people (yes)</b>	625 (99)	152 (24.3)	191 (30.6)	139 (22.2)	143 (22.9)	0.205

Continued.

Knowledge about tobacco use	Total N (%)	Govt primary teachers N (%)	Govt secondary teachers N (%)	Private primary teachers N (%)	Private secondary teachers N (%)	P value (Chi-square statistics)
Smoke from other people's smoking is annoying to you (yes)	628 (99.5)	154 (24.5)	192 (30.6)	139 (22.1)	143 (22.8)	0.812
Tobacco use is physically addictive (yes)	530 (84)	119 (22.5)	155 (29.2)	128 (24.2)	128 (24.2)	0.001
Tobacco use causes serious diseases like lung cancer (yes)	616 (97.6)	153 (24.8)	188 (30.5)	137 (22.2)	138 (22.4)	0.525
Tobacco use causes serious diseases like heart disease (yes)	532 (84.3)	137 (25.8)	167 (31.4)	109 (20.5)	119 (22.4)	0.084

\*Significant at <0.05 and \*\*significant at ≤0.001, n=total.

**Table 4: Frequency of distribution based on Attitude among various school teachers.**

Attitude towards tobacco use	Total N (%)	Govt primary teachers N (%)	Govt secondary teachers N (%)	Private primary teachers N (%)	Private secondary teachers N (%)	P value (Chi-square statistics)
Teacher tobacco use influences youth tobacco use (yes)	606 (96)	147 (24.3)	184 (30.4)	137 (22.6)	138 (22.8)	0.54
Need specific training (yes)	570 (90.3)	124 (21.8)	179 (31.4)	127 (22.3)	140 (24.6)	<0.001**
Policy prohibiting tobacco use among school personnel on school premises/property (yes)	627 (99.4)	152 (24.7)	193 (30.8)	139 (22.2)	143 (22.80)	0.097
Policy prohibiting tobacco use among students on school premises/property (yes)	623 (98.7)	151 (24.2)	191 (30.7)	138 (22.2)	143 (23)	0.253
Tobacco industry should be allowed to sponsor school or extra curricula activities, such as sporting events (yes)	121 (19.2)	35 (28.9)	47 (38.8)	21 (17.4)	18 (14.9)	0.018*
Tobacco product advertising should be completely banned (yes)	615 (97.5)	153 (24.9)	189 (30.7)	134 (21.8)	139 (22.6)	0.405
Price of tobacco products should be increased (yes)	597 (94.6)	146 (24.5)	187 (31.3)	128 (21.4)	136 (22.7)	0.181
Tobacco industry deliberately encourages youth to use tobacco (yes)	476 (75.4)	110 (23.1)	145 (30.5)	106 (22.3)	115 (24.2)	0.308
Very concerned about tobacco use among youth in your community	485 (76.9)	120 (24.7)	137 (28.2)	109 (22.5)	119 (24.5)	0.072

\*Significant at <0.05 and \*\*significant at ≤0.001.

## DISCUSSION

Tobacco use is a major threat in achieving sustainable development goals (SDGs) and SDG 4 is related to ensuring quality education. Framework convention on tobacco control (FCTC) is an evidence-based treaty adopted by World Health Assembly on 21 May 2003 and MPOWER in an important tool. MPOWER includes monitor, protect, offer, warn, enforce and raise.<sup>10</sup> Tobacco control requires multi-stakeholder involvement. Integrating the role of teachers and school personnel plays an important role in tobacco control outcomes. Planning an effective measure on tobacco control in schools, it is

essential to have right information on tobacco use and harm among school personnel, their attitudes toward tobacco control and practises on health polices/rules about tobacco use. This study was conducted to assess the knowledge, attitude and practise of school personnel in the government and private schools.

Majority of the teachers reported that they did not use any form of smoked and smokeless tobacco, similar to Bhat et al, Alnasir et al and Kwamanga et al.<sup>11-13</sup> The knowledge and attitude of the teacher in the government and private schools about tobacco harm was adequate. Most agreed that smoke from other people's cigarettes is harmful to

them, which was also reported by GSPS India 2006, 2009 report, Bhat et al, Gajalakshmi et al, Sorensen et al.<sup>9,11,14,15</sup> Article 8 of the FCTC is the protection from second hand smoke.<sup>10</sup>

Article 14 of FCTC is related to “offer” of MPOWER and teachers can play a pivotal role in offering tobacco cessation as counsellor. Only 22.8% school teachers reported that they had never advised student to stop using tobacco and this was reported high among private school teachers. This possible difference could also be due to more vertical and scattered approach of tobacco control towards government schools. The proportion though appears to be small but is significant as missed opportunities in tobacco control. The “raise” component of MPOWER is related to article 6 of FCTC.<sup>10</sup> Almost all teachers agreed that the price of tobacco products should be increased to reduce the demand of tobacco. The demand of the tobacco product in youth is price elastic and increase in prices of tobacco product will reduce the demand for tobacco products and decrease the accessibility.<sup>16</sup>

Article 16 of FCTC prohibits the sale to and by minors. Majority of teachers agreed that tobacco products could not be purchased inside school and within 100 meters of school buildings which is as per guidelines by TOFEI Rules 2009. Rule/policy prohibiting tobacco use among students and school personnel inside school buildings was reported higher in government schools. Rules/policy prohibiting tobacco use among students and school personnel outside school buildings, but on school premises/property, both were reported higher by government school teachers. “Monitor” of the MPOWER in the article 20 of FCTC pertains to monitoring tobacco control.<sup>9</sup> Complete enforcement among students and school personnel was reported higher by government school teachers but was not statistically significant. There is lack of clarity among the teachers about their school rules and policy on tobacco control and its enforcement among students and school personnel without much change since GSPS India 2006 and 2009 survey.<sup>9</sup> This explains the need of uniform tobacco control rules/policy in schools for school personnel and students, inside and outside school premises, anywhere and everywhere activities sponsored by tobacco industries.<sup>18</sup> These policies and rule work effectively with the integration of the other stakeholders like parents, local government authority and enforcement bodies. Accessibility of tobacco product inside the school can be easily monitored but the accessibility outside can be regulated by the community engagement and enforcement of tobacco laws like COTPA 2003 and tobacco vendor license (TVL). The enforcement of tobacco laws has increased the mean age of initiation of tobacco use among youth by one year from 17.9 to 18.9 as reported from GATS 1 (2009) to GATS 2 (2016).<sup>1,2</sup> Further, strengthening of these already existing legislation and guidelines (TOFEI and COTPA) in educational institution will protect the youth from the evils of tobacco.

Three fourth of teachers agreed that tobacco industry deliberately encourage youth to use tobacco which was reported low compared to the other attitude question in this study and similar findings were also reported in GSPS India 2006 and 2009 survey.<sup>9</sup> This is probably due to the low understanding of tobacco industry interferences and tactics targeting the children and youth to use tobacco. One fifth of the teachers reported that tobacco industry should be allowed to sponsor school or extracurricular activities such as sporting events. Tobacco industry has directly or indirectly (surrogate) made sponsorship in these activities to attract youth in order to increase their consumers.<sup>17</sup> Young tobacco users are their life time customers. These tactics needs to be understood by the school as they can fall prey of such attractive and lucrative free sponsorship direct or indirect, knowingly or unknowingly. Article 5.3 of the FCTC prevents and protects, directly or indirectly the dilutional effects of tobacco control measures by such tobacco industry interferences. Articles 13 of FCTC are related to prevention of tobacco advertisement, promotion and sponsorship (TAPS) which also overlaps with such provisions of sponsorship.<sup>10</sup>

Article 12 of FCTC pertains to the education and awareness about tobacco control.<sup>10</sup> The need for specific training to be able to teach students to avoid or stop using tobacco was reported higher than Bhat et al, Irimie et al, Kaleta et al and GSPS India 2006 and 2009.<sup>9,11,19,20</sup> Only one fifth responded that they had received training to prevent tobacco use among youth which is well translated by the demand of orientation and training programs. This was reported lower than GSPS India 2006 and 2009 survey.<sup>9</sup> However, more than half of teachers in the study had access to teaching materials about the harms of tobacco use which was also reported higher than GSPS India 2006 and 2009 survey.<sup>9</sup> These variation in responses is due to the multiple roles assigned to the teachers. A targeted approach in scaling up such efforts of training teachers and school personnel are required to enhance their skills and competencies as tobacco counsellor. Majority of teachers agreed that though non class room programs and activities to prevent tobacco use were conducted which may not be sufficient where teacher is focused on syllabus-oriented studies. Most teachers agreed that tobacco use prevention is included somewhere in school curriculum. More inclusion at every stage is needed for a more inclusive approach towards tobacco control among the youths.

The strength of the study is that it is one of its kinds among school personnel in our state after GSPS 2006 and 2009 to our knowledge which could serve as baseline comparison for future studies and planning activities for school personnel in the state. Both the government and private schools were covered and equally grouped into primary and senior secondary teachers. The discussion is based considering an important guiding MPOWER tool of WHO to provide a thorough understanding on tobacco control. The school personnel were motivated to provide true information considering their anonymity and to prevent

social desirability bias due to the over reporting of desirable and underreporting of undesirable information. In spite of all these measures to control this bias, the extent to which this bias has affected our study, we still report this as one of our limitations in the study.

## CONCLUSION

This study reports adequate knowledge, attitude but lack of clarity in practices about school rules/policies among teachers. A better compliance always leads to better enforcement. This compliance can be further enhanced by creating uniform policies for schools for better enforcement on tobacco control. It is important to understand the role of each school personnel with their shared responsibility in advocacy and enforcement of already existing tobacco control laws. There are some recommendations from this study that firstly the need for training and educational programs on tobacco control for school teachers. Secondly, accessibility of study materials on tobacco control so as to create a resource pool of tobacco counsellor among the faculties within the school itself. Thirdly, striving for an accreditation as tobacco free educational institution as per the TOFEI guidelines. Lastly, avoiding vertical approach of government policies on tobacco control and making it more inclusive in all types of educational institution.

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