

**Original article:**

**Prevalence of Tobacco Use among School Teachers in Lucknow: A Cross Sectional Study**

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**ABSTRACT**

**Background:** Teachers are in close contact with students and students follow their teachers. Therefore, ill effects of tobacco can be promoted by them among children. However; what is still lacking is the adequate training of the teachers in relation to tobacco prohibition programs. So, study was done to assess the prevalence of tobacco use among school teachers in Lucknow.

**Materials and Methods:** The present cross-sectional study was conducted among primary and secondary school teachers of Lucknow. From each zone (East, West, North, South, and Central) three schools were selected randomly. Then from each selected school 10 Teachers aged 21 to 60 years were selected by simple random sampling technique. Teachers who gave consent were selected and provided with a questionnaire (Modified Fagerstrom Test for Nicotine Dependence) to record their tobacco habits in smoking and smoke-less forms. Subjects with any systemic disease or not willing to participate and absent on the day of survey were excluded from the study. Analysis was done using SPSS software and number and percentage distributions were used to express the data.

**Results:** In our study total participants were 150 in which 110 (73.33%) were male and 40 (26.66%) were female subjects. Out of 150 study subjects 30(20%) subjects admitted using tobacco. Out of which, 18(12%) were smoking and 12(8%) were using smokeless tobacco. The overall dependence level of the 30(20%) subjects out of 150 having the habit of tobacco smoking was high in 7(4.66%) subjects, very high in 4(2.66%) subjects, moderate in 3(2%) subjects, very low in 3(2%) subjects and low in 1(0.66%) subjects. Whereas, the subjects having the habit of using smokeless tobacco, dependency level was found to be high in 5(3.33%), very high in 3(2%), very low in 2(1.33%), moderate in 1(0.66%) and low in 1(0.66%) subjects.

**Conclusion:** Prevalence of tobacco use among school teachers was found to be low but nicotine dependence level for both smoking and smokeless tobacco habits were found to be high in primary and secondary school teachers in Lucknow. So, awareness and motivation programmes for tobacco cessation among school teachers should regularly be conducted.

**Keywords:** Tobacco, Smoking, Teachers.

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**INTRODUCTION**

Use of tobacco in any form is a leading cause of death for about more than five million people in the world. Tobacco use is a kind of health hazard which is preventable.<sup>1,2</sup> By the end of 2030, if tobacco use continues with the same pattern, there may be occurrence of approximately 20 deaths per minute, with majority of them in developing

countries. Tobacco habit has become a quite common among adolescents these days. Followed by alcohol, tobacco causes approximately six percent of the deaths globally.<sup>3-5</sup>

Most of the habits began in adolescent age and so is smoking also, maximum smokers began smoking before the age of 18. Thus, smoking prevention should be done as a primordial prevention i.e. it

should be aimed at young people. Children and adolescents learn smoking from their role models, they play as a role model for their students thus they have a great responsibility as well as scope as a part of tobacco preventive strategies. Since teachers have regular interactions with students, they have a great opportunity to prevent them from smoking.<sup>4,5</sup>

Consumption of tobacco is common among school teachers also, despite the fact that they have very good awareness about the deleterious effects of tobacco usage on body. Unknowingly, a misleading model for students is formed by such teachers. Teachers are in close contact with students and students follow their teachers. Therefore, ill effects of tobacco can be promoted by them among children. However; what is still lacking is the adequate training of the teachers in relation to tobacco prohibition programs.<sup>6-8</sup>

Under the light of above mentioned data, the present study was conducted to assess the prevalence of tobacco use among school teachers in Lucknow.

#### **MATERIALS AND METHODS**

The present cross-sectional study was conducted among 150 Primary and secondary school teachers of Lucknow, over the time period of 3 months. For sampling of study subjects, from each zone (East, West, North, South, and Central) three schools were selected randomly. Then from each selected school 10 Teachers aged 21 to 60 years were selected by simple random sampling technique. Subjects with any systemic diseases or not willing to participate and absent on the day of visit were excluded from the study. A pilot study was conducted before the initiation of the final study.

Modified Fagerstrom test for nicotine dependence the (FTND) was used to record smoking and smokeless tobacco habits. The FTND is composed of 6 questions. The five degrees of nicotine

dependency according to the test scores include very low dependency (0-2), low dependency (3-4), medium dependency (5), high dependency (6-7), and very high dependency (8-10)<sup>21</sup>.

#### **Statistical Analysis**

Data was analysed using the statistical package for the social sciences (SPSS for window version 11.5 and number and percentage distributions were used to express the data.

#### **Ethical Approval**

The Ethical Committee of King George's Medical University approved the study and gave the requisite permission for this research. Participants also gave verbal and written consent.

#### **RESULTS**

In our study total participants were 150 in which 110 (73.33%) were male and 40 (26.66%) were female Subjects. Maximum subjects belonged to age group of 31-40 years i.e. 65 (43.33%). Majority of the subjects were married 105 (70%). Secondary school teachers 80 (53.33%) were more than primary school teachers. (Table-1)

According to Table-2, out of 150 study subjects 30 (20%) subjects admitted using tobacco. Out of which, 18 (12%) were smoking and 12 (8%) were using smokeless tobacco (Table-3). The subjects who were smoking comprised of 13 (8.66%) males and 8 (5.33%) female subjects and the ones using smokeless tobacco comprised of 5 (3.33%) males and 4 (2.66%) female subjects. Both forms of tobacco habit were seen predominantly in males (Table-4).

According to question 1 (Table-5) of the Fagerstrom Test for Nicotine Dependence, out of 30 subjects who were using tobacco, 8 (5.33%) subjects smoked and 6 (4%) used smokeless tobacco within 5 minutes after waking up.

According to question 2 (Table-5), 12 (8%) subjects who were using smoking tobacco found it difficult to refrain from smoking in places where it

is forbidden and 8 (5.33%) subjects who were using smokeless tobacco intentionally swallow their tobacco juices rather than spitting.

According to question 3 (Table-5), 13 (8.66%) subjects who were using smoking tobacco and 8 (5.33%) subjects who were using smokeless tobacco hate to give up their morning habit of having tobacco or smoking.

According to question 4 (Table-5), 12 (8%) subjects who were using smoking tobacco smoked up to 10 or less cigarettes/bidi per day and 6 (4%) subjects who were using smokeless tobacco used more than 3 pouches per week.

According to question 5 (Table-5), 14 (9.33%) subjects had smoking tobacco and 6 (4%) subjects had smokeless tobacco more frequently in the first

hours of awakening than during the most of the time.

According to question 6 (Table-5), 10 (6.66%) subjects had smoking tobacco and 10 (6.66%) subjects had smokeless tobacco when they were ill/on bed rest/had mouth sores.

The overall dependence level of the 30 (20%) subjects out of 150 having the habit of tobacco smoking was high in 7 (4.66%) subjects, very high in 4 (2.66%) subjects, moderate in 3 (2%) subjects, very low in 3 (2%) subjects and low in 1 (0.66%) subjects. Whereas, the subjects having the habit of using smokeless tobacco, dependency level was found to be high in 5 (3.33%), very high in 3 (2%), very low in 2 (1.33%), moderate in 1 (0.66%) and low in 1 (0.66%) subjects (Table-5).

**Table 1: Demographic data**

<b>Gender</b>	
Male	110(73.33%)
Female	40(26.66%)
<b>Age-groups</b>	
21-30	28(18.66%)
31-40	65(43.33%)
41-50	41(27.33%)
51-60	16(10.66%)
<b>Marital status</b>	
Single	45(30%)
Married	105(70%)
<b>School level</b>	
Primary Teachers	70(46.66%)
Secondary Teachers	80(53.33%)

**Table 2: Currently using tobacco in any form**

<b>Yes</b>	<b>No</b>
30(20%)	120(80%)

**Table 3: Form of tobacco**

Form of tobacco	Number (%)
Smoking	18(12%)
smokeless	12(8%)

**Table 4: Prevalence of tobacco use according to gender**

Gender	Smoking	Smokeless
Male(110)	13(8.66%)	8(5.33%)
Female(40)	5(3.33%)	4(2.66%)

**Table 5: Fagerstrom Test for Nicotine Dependence**

<b>FAGERSTROM TEST FOR SMOKING</b>			
<b>1.</b>	<b>How soon after you wake up do you smoke your first cigarettes /bidi?</b>	Within 5 minutes	8(5.33%)
		6 to 30 minutes	5(3.33%)
		31 to 60 minutes	3(2%)
		More than 60 minutes	2(1.33%)
<b>2</b>	<b>Do you find it difficult to refrain from smoking in places where it is forbidden?</b>	Yes	12(8%)
		No	6(4%)
<b>3</b>	<b>Which cigarettes / bidi would you hate to give up most?</b>	First one in the morning	13(8.66%)
		All others	5(3.33%)
<b>4</b>	<b>How many cigarettes /bidi do you smoke per day?</b>	10 or less	12 (8%)
		11-20	4(2.66%)
		21-30	2(1.33%)
		31 or more	0(0%)
<b>5</b>	<b>Do you smoke more frequently in the first hours after waking up than during the rest of the day?</b>	Yes	14(9.33%)
		No	4(2.66%)
<b>6</b>	<b>Do you smoke when you are so ill that you are in bed most of the day?</b>	Yes	10(6.66%)
		No	8(5.33%)
<b>7</b>	<b>Dependence level</b>	Very low	3(2%)
		Low	1(0.66%)
		Moderate	3(2%)
		High	7(4.66%)
		Very High	4(2.66%)
<b>MODIFIED FAGERSTROM TEST) SMOKELESS</b>			
<b>1</b>	<b>How soon after you wake up do you smoke your first dip?</b>	Within 5minutes	6(4%)
		6 to 30minutes	4(2.66%)
		60 minutes	2(1.33%)
		More than 60 minutes	0(0%)

2	<b>Do you intentionally swallow your tobacco juices rather than spit?</b>	Always Sometimes Never	8(5.33%) 0(0%) 4(2.66%)
3	<b>Which chew would you hate to give up most?</b>	The first one in the morning All others	8(5.33%) 4(2.66%)
4	<b>How many pouches per week do u use?</b>	More than 3 2-3 1	6(4%) 4(2.66%) 2(1.33%)
5	<b>Do you chew more frequently during the first hours of awakening than during most of the time?</b>	Yes No	6(4%) 6(4%)
6	<b>Do you use smokeless tobacco when you are sick or have mouth sores?</b>	Yes No	10(6.66%) 2(1.33%)
7	<b>Dependence level</b>	Very low Low Moderate High Very high	2(1.33%) 1(0.66%) 1(0.66%) 5(3.33%) 3(2%)
Dependence Scores: 0–2 Very low 3–4 Low 5 Medium 6–7 High 8–10 Very High			

## DISCUSSION

In our study total participants were 150 in which 110 (73.33%) were male and 40 (26.66%) were female Subjects. Maximum subjects belonged to age group of 31-40 years i.e. 65 (43.33%). Majority of the subjects were married 69 (46%). Secondary school teachers 80 (53.33%) were more than primary school teachers.

In our study, out of 150 school teachers 20% school teachers were tobacco users and out of them smoking tobacco use was found in 12% and smokeless tobacco use was found to be 8% subjects. Similar results were obtained in a study conducted by Kumari R et al<sup>2</sup> and Mermer G et al<sup>14</sup> in which 28 % and 27.8% subjects had tobacco habits respectively. Whereas, in a study done by SAH. S K et al<sup>3</sup> and Naing NN<sup>19</sup> they found a higher percentage of school teachers 57.1% and

40.56% respectively with tobacco habits in smoking and smokeless forms as compared to our study. In another study conducted by Erick PN<sup>13</sup> they found relatively low percentage of schoolteachers with tobacco smoking habits.

Our study found that both forms of tobacco habits were seen predominantly in males as compared to female subjects. Similar results were found in study done by SAH. S K et al<sup>3</sup>, Erick PN<sup>13</sup> and Maziak W.<sup>18</sup>

In response to question 1 of the Fagerstrom Test for Nicotine Dependence, in our study maximum subjects used smoking tobacco within 5 minutes after waking up, whereas Mermer G<sup>14</sup> in there study found maximum subjects used smoking tobacco between 6 to30 minutes after waking up.

In response to question 2 of the Fagerstrom Test, in our study maximum subjects who were using

smoking tobacco, found it difficult from smoking in places where it is forbidden in contrast to this finding Mermer G et al<sup>14</sup> found maximum subjects who were using smoking tobacco does not find it difficult from smoking in places where it is forbidden.

In response to question 3 of the Fagerstrom Test for Nicotine Dependence, in our study maximum subjects who were using smoking tobacco, hate to give up their morning habit of tobacco smoking. In contrast to this finding Mermer G et al<sup>14</sup> around half of the subjects able to give up their morning tobacco habit but they smoke at any other time.

In response to question 4 of the Fagerstrom Test for Nicotine Dependence, in our study maximum subjects who were using smoking tobacco smoked up to 10 or less cigarettes/bidi per day, similar to this finding Mermer G et al<sup>14</sup> also found maximum of their study subjects used 10 or less cigarettes per day.

In response to question 5 of the Fagerstrom Test maximum subjects had smoking tobacco more frequently in the first hours of awakening than during the most of the time. In contrast to this finding Mermer G et al<sup>14</sup> around half of the subjects smoke more frequently in morning. In response to question 6 of the Fagerstrom Test maximum subjects said they use smoking tobacco when they were ill also. In contrast to this finding Mermer G et al<sup>14</sup> more than half of the subjects can

give up their smoking habit when they become sick.

The contrast findings in question 1, 2, 3, 5 and 6, may be attributed to different geographical locations, socioeconomic classes and stress levels among study subjects. In our study, the overall dependence level of the 30(20%) subjects out of 150 having the habit of tobacco smoking was high in 7(4.66%) subjects, very high in 4(2.66%) subjects, moderate in 3(2%) subjects, very low in 3(2%) subjects and low in 1(0.66%) subjects. Similarly Mermer G et al<sup>14</sup> also found high in 67(39.4%) subjects, very high in 30(17.6%) subjects, moderate in 25(14.7%) subjects, very low in 16(9.4%) subjects and low in 32(18.8%) subjects. So, both the studies recorded High dependence level of smoking tobacco use in the study subjects.

#### CONCLUSION

Prevalence of tobacco use among school teachers was found to be low but nicotine dependence level for both smoking and smokeless tobacco habits were found to be high in primary and secondary school teachers in Lucknow. So, awareness and motivation programmes for tobacco cessation among school teachers should regularly be conducted and tobacco control measures should strongly be incorporated in school teachers training programmes for preventing school teachers and schoolchildren from tobacco menace and to make school environment tobacco free.

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