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Knowledge regarding passive smoking among school children in urban Pondicherry - A cross sectional study

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Abstract

Passive smoking or secondhand smoke exposure imposes both direct economic costs on society such as those associated with treating tobacco related diseases and lost wages because of death/ illness. Exposure of children to the hazards of passive smoking is well documented and is preventable to a large extent. We wanted to find out the knowledge and response of the school children when exposed to secondhand smoke. A few simple questions related to this aspect were asked and responses were noted. A health education session was later conducted for them followed by a review session to find out how their perspective had changed. Majority of the children did not have knowledge regarding secondhand smoking and its adverse effects.

Keywords: Secondhand smoking, Passive smoking, School children, Pondicherry.

1. Introduction

Non-smokers breathe in the same toxic chemicals in tobacco smoke as the smokers do, with similar, although apparently smaller effects. The smoke non-smokers breathe is known as secondhand smoke and the process of breathing secondhand smoke is called involuntary smoking or passive smoking. Passive smoking constitutes a serious public health risk to both children and adults. It is a source of indoor air pollution, impacting the health of the smoker as well as the health of people around. In adults, passive smoking causes serious cardiovascular and respiratory disease, including coronary heart disease and lung cancer. In Infants, it causes sudden death and pregnant women it causes low birth weight babies. In the US secondhand smoke causes about 3,000 lung cancer deaths a year, compared to less than 100 lung cancer deaths per year from traditional forms of outdoor air pollution. Secondhand smoke also causes and aggravates asthma and other breathing problems, particularly in children ^[1]. In our country though laws related to tobacco smoking have been enacted, their compliance is low as was found in a past study ^[2]. In this background we wanted to assess the knowledge regarding passive smoking among school children and give health education regarding tobacco smoking with special emphasis on passive smoking to this group.

2. Methodology

An urban, English medium school in Kombakkam, Pondicherry, was selected by simple random method from among the eight schools in our field practice area. Permission was obtained from the school principal and both boys and girls from VIII to X standard, from the age group of 13 to 16, a total of 70 in number were our sample population.

Questions were asked of the students after introducing and familiarizing ourselves to them which included knowledge about passive smoking, exposure to tobacco smoke and their feelings in such situations. The students were further divided into three groups and engaged in a one hour interactive session that included a power point presentation and some posters. At the end of the session the students were again asked to answer the same questions that were given before the session. Forty four of the student's responses (22 boys and 22 girls) were chosen by stratified random sampling since we wanted to have a sample of more than 30. The responses were compiled, tabulated and put into proportions for analysis. Chi² test was used where appropriate for calculating statistical significance for difference in proportions.

3. Results and Discussion

We found that all the 44 students had no idea about what passive smoking means, before the session and 40 of them at the end of the session were able to say confidently that they know about passive smoking. The 4 students who did not understand were girls.

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At the end of the session 40 students said that passive smoking means “smoking habit of one person affecting the health of surrounding people”. All of these 44 students had got exposed to passive smoking. Among these all the 44 had exposure outside home while 5 of them were having exposure within their house also, because of a smoking father. This is far higher than what was found in a previous study with large sample size, wherein only up-to one third and two fifth of the adolescents had been exposed to second hand smoke within and outside their house [3]. In the backdrop of the global youth tobacco survey based on which the percentage of youth exposed to second hand smoke in south India was 34.1% in 2006, we found that the percentage was much higher in the group we surveyed [4]. This could be due to the co-existence of smoking with the very abundantly and cheaply available liquor in the Pondicherry area and needs to be probed further. Though we have the laws in place banning smoking in public

places a low compliance from the public as well as not so strict implementation by the authorities is not as uncommon as is borne out by a past study [2]. This could be one of the other reasons for the high exposure rate in our study.

To the question ‘How do you feel’ when exposed to passive smoking, only 61.3% (27 including 17 boys and 10 girls) responded to the question. The response rate among girls was 45.4%, while among boys it was 77%. The difference in response rates was statistically significant with the girls displaying a significantly higher non response rate [Table 1]. This points to the reluctance among the students, particularly the girls, to even consider this topic. Cultural stereotypes and helplessness might be the reasons for this hesitation in responding which need to be looked into when considering health education. The overall feeling experienced among those who responded centred on irritation, anger and disgust [Table 2].

Table 1: The responders and non-responders to the questions regarding exposure to passive smoking- before and after awareness session

	Boys	Girls	Total	P value by chi ² test
Responded to question1 ^a	17	10	27	P<0.05 with Chi ² value of 4.69
No response to question 1 ^a	5	12	17	
Responded to question2 ^b	19	14	33	P>0.05 with Chi ² value = 2.86
No response to question2 ^b	3	8	11	

a How do you feel when exposed to passive smoking (asked before awareness session)

b How you would respond if faced with passive smoking (asked after awareness session)

Table 2: How the students felt when exposed to passive smoking

	BOYS	GIRLS	
Irritation	15	4	19
Anger	1	1	2
Disgust	11	5	16

After completion of the awareness session, when asked, how they would respond, if exposed to passive smoking, overall, only 33 (75%) of them given a response. The response rate among boys was 86.3% while only 63.6% of the girls responded. Though the proportion of girls who responded was less it was not statistically significant [Table 1]. Thus in comparison to the pre session low response among girls toward this topic, a definite gain in openness to look at this issue was created by the short interactive session. At the same time the non-response to this question from 25% (11 out of 44) of the group even after an awareness session indicated that more effort is needed than just an awareness session to bring about an alteration in the psyche of the students to even open out to this very important health concern. It was interesting to note the confidence developed among the students wherein more than 50% of them said they would ‘ask the smoker to move away’ [Table 3].

Table 3: How the students will respond if exposed to passive smoking

	BOYS	GIRLS	
I will advise or ask them to move away	14	11	25
I will move away	5	1	6
I will scold	-	1	1
I will report to police	-	1	1
TOTAL	19	14	33

The global youth tobacco survey, estimated that in South India 61.6% of the school students were taught about the harmful effects of tobacco smoking including passive smoking [4]. It

was surprising for us to find that not even one of the students in our study had any idea of passive smoking or its adverse effects in spite of the school being in Urban Pondicherry. The government of India as a part of the national tobacco control which included coverage of school students whose addiction to tobacco as well as exposure to second-hand smoke is increasing had planned to introduce a comprehensive anti-tobacco curriculum and teachers’ guide at school level across the country to reduce the growing dependence of students on nicotine [5]. We could not find the impact of this initiative if any, in the school we surveyed. The reasons might be due to the insistence in the program of non-tobacco smoking teachers as the guides to the students in this initiative. This fact is supported by the finding that the percentage of school personnel having smoking habit varied from 8 to 30% in the global school personnel survey 2006. This study also reported a high level of smoking on school grounds by school personnel implying how seriously school practice and staff actions undermine the educational messages and other smoking prevention efforts [4].

A few posters that were developed by us with information printed in the local language were given to the school administration for display in the school notice board as well as to make copies and to give one to each student so that the message reaches others through them.

4. Conclusion

There is a gross lack of knowledge, regarding second hand smoking among the school children in our study area. It was satisfying for us to see that with a short interactive session of one hour, majority of students gained sufficient knowledge regarding active as well as passive smoking, to the extent that more than 50% of them felt confident enough to give advice and request active smokers in order to discourage this habit if situation arose. The need for sensitization of school staff towards this initiative is glaringly brought out.

5. Limitations

The study focuses on a small area of South India and hence care may be taken when extrapolating the findings to a larger population. However the glaring gap in the program objectives of tobacco control program with emphasis on school health at the national level and its impact on the school students in our study though a very small sample, yet points to the need for exploring this issue in a more wider area and opens out further avenues for research in this direction.

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