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Original Article

Knowledge, Attitude and Exposure to Secondhand Smoking Among Women in Rural Setting

Chowdhury AM[1], Lima FA[2], Alam MH[3], Chowdhury NM[4], Pervin S[5], Hossain MA [6]

Abstract

Background: *Secondhand smoking (SHS) is a major public health problem of our country because the people of Bangladesh are highly exposed to it due to high prevalence of smoking.* ***Objective:*** *To assess the knowledge, attitude and exposure to secondhand smoking among women in rural setting.* ***Methods:*** *The cross-sectional study is conducted over 3 months (September 2022 to November 2022) among 383 women of reproductive age (15-49) in Uttar Rampur village under Sadar South Upazilla in Cumilla district. Women having any physical & psychological disorder are excluded. Participants are selected by convenient sampling technique; data are collected by face to face interviewing with a semi-structured questionnaire to assess socio-demographic characteristics, knowledge, attitude and exposure to secondhand smoking. Data are analyzed by SPSS software.* ***Results:*** *In this study, the mean age of the participants is 31.57±7.582 where majority (44.1%) are in the age group 25-34 years; most of the participants are Muslims (95.6%) and housewives (87.2%) and 27.2% has secondary education. Regarding knowledge about SHS, majority (67.6%) of the participants are aware of SHS. Among them 37.6% recognize marketplace as a source of SHS and 29.5% tell lung disease as health consequence of SHS. About attitude towards SHS, almost all (98.5%) the participants support that smoking should be completely banned in all places, 88.4% tell about they have right to ask other people not to smoke, 87.3% tell about presence of SHS encourages young people to begin to smoke and 79.2% tell about allowing SHS at home discourages smoking from quitting. Regarding exposure to SHS, most of them are exposed (95.0%) and 46.7% are exposed daily. 53.6% are exposed from husband and manufactured tobacco is widely exposed type (69.5%).* ***Conclusion:*** *Awareness should be raised through national wide educational program to reduce exposure to secondhand smoke and enhancement of self-efficiency to avoid secondhand smoking.*

Keywords: *Secondhand smoking, Knowledge, Attitude, Exposure, Rural women of reproductive age.*

Introduction: Second-hand smoke (SHS), also known as ‘‘passive smoking’’, refers to non-smokers’ inhalation of smoke from the exhalation of active smokers or burning cigarettes[1]. When smokers smoke, mainstream smoke is exhaled by the smoker and they emit side stream smoke that is from the lit-end of a cigarette. Thus the non-smoking populations are exposed to both side stream and mainstream smoke resulting in their passive or Second Hand Smoking[2].

Second-hand smoke consists of 15% mainstream smoke and 85% side stream smoke the side stream smoke contains a number of highly concentrated toxic chemicals or carcinogens, which is more harmful than mainstream smoke. Toxic chemicals from secondhand tobacco smoke contamination persist can remain in a room weeks and months after someone has smoked there even if doors or windows are opened or air filters are used[3].

In 2019, World Health Organization (WHO) estimated that more than 8 million died annually due to tobacco

1. ***Dr. Ayesha Mahzabin Chowdhury,*** *Assistant Professor, Community Medicine, Central Medical College, Cumilla.*
2. ***Dr. Fatema Akter Lima,*** *Assistant Professor, Community Medicine, Central Medical College, Cumilla.*
3. ***Dr. Md. Hasibul Alam,*** *Lecturer, Community Medicine, Central Medical College, Cumilla.*
4. ***Dr. Nafisa Marzan Chowdhury,*** *Assistant Professor, Biochemistry, Central Medical College, Cumilla.*
5. ***Dr. Shanaz Pervin,*** *Assistant Professor, Obs & Gynae, Central Medical College, Cumilla.*
6. ***Dr. Md. Anwar Hossain,*** *Assistant Professor, Dept. of Community Medicine, International Medical College, Tongi, Gazipur.*

Correspondence : ***Dr. Ayesha Mahzabin Chowdhury,*** *Mobile: 01795380218, Email: mahzabinsarah.26@gmail.com*

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smoke, about 87.5% due to direct tobacco used and the rest are non-smokers being exposed to second-hand smoke[4].

About 80% of the world's smokers live in low- and middle income countries. SHS is recognized as a major public health concern in Bangladesh where the age-standardized smoking prevalence rate for the entire population is 23.4% and among them, 44.4% is men. In 2004, the World Health Organization (WHO) calculated the impact of tobacco-related illnesses in Bangladesh which revealed tobacco related illnesses accounted for 16% of all deaths among people aged 30 years and above[5]. It is found that individuals who are frequently exposed to second-hand smoke are 25–30% more likely to develop heart diseases than individuals who are not exposed to second-hand smoke[6]. Health effects associated with exposure to SHS include lung cancer, asthma, lower respiratory tract infections, cardiovascular diseases, eye and nasal irritation, and low birth weight babies of non-smokers[7].

Bangladesh is one of the top high smoking prevalence countries in the world. Approximately 48.3% of men and 1.5% of women have reported to smoke on a daily or occasional basis in Bangladesh[8]. According to the Global Adult Tobacco Survey (GATS) Bangladesh survey, 63% and 45% of all adult workers were exposed to tobacco smoke at the workplace and in public places, respectively, and 76% and 70% of non-smokers were exposed in these places respectively[9].

Though a number of studies have been done assessing the awareness and practices of smokers on smoking, none of the study have focused regarding SHS exposure among rural women. The goal of this study was to record the exposure of second hand smoking, knowledge and attitude towards second hand smoking among women in a rural area.

MATERIALS AND METHODS:

This cross-sectional study was conducted between 3 months (September 2022 to November 2022), involving 383 women of reproductive age group (15-49 years) who were willing to participate in the study. However, a convenient sampling technique was followed to select the samples from Uttar Rampur village under Sadar South Upazilla in Cumilla district. Women having any physical & psychological disorder were excluded. Participants were selected by convenience sampling technique; data were collected by face to face interview with asemi-structured questionnaire to assess socio-demographic characteristics, knowledge, attitude and exposure to secondhand smoking. Data were analyzed by SPSS software version 25. Descriptive analysis was done by mean, frequency, standard deviation, percentage in table.

ETHICAL IMPLICATIONS:

Permission was taken regarding data collection from local administrative authority. Each participant was informed about the study and informed written consent was taken. All participants were treated equally, secretly and with respect. All participants were assured that all information would be kept confidential and would not be used for any other purpose except research following standard guideline. The purpose of the study was explained to the participants without any distortion.

LIMITATIONS OF THE STUDY:

The main limitation is the small sample size and the representativeness of the sample. Some of the rural women were reluctant to participate in the interview because there was no monetary benefit but their information could have enriched our research report.

RESULTS:

Socio-demographic characteristics:

The Socio-demographic characteristics are shown in table -1. Majority of the women 169(44.1%) were age group between 24-34 years with the mean age of 31.57± 7.582. Most of the participants 366 (95.6%) were Muslim and the rest 17(4.4%) include Hindu. Majority i.e. 104 (27.2%) had Secondary education and 15(3.9%) were illiterate. Most of the participants 334 (87.2%) were house-wives and 202(52.7%) had monthly family income within the range of 20001-40000 taka. 294 (76.8%) of the family were nuclear type and rest 89 (23.2%) were joint type of family.

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Table 1: Socio-demographic characteristics of the respondents (n=383)

Variable	Frequency	Percentages (%)
Age (Years)		
15-24	73	19.10
25-34	169	44.10
35-49	141	36.80
Religion		
Muslim	366	95.6
Hindu	17	4.40
Educational status		
Illiterate	15	3.90
Informal education	24	6.30
Primary	30	7.80
Secondary	104	27.20
S.S.C/Equivalent	88	23.00
H.S.C/Equivalent	71	18.50
Graduation/Equivalent	35	9.10
Post-graduation/Equivalent	16	4.20
Occupational Status		
Housewife	334	87.20
Service	23	6.00
Student	19	5.00
Business	04	0.10
Day labourer	03	0.80
Monthly family income (in taka)		
5000-20000	139	36.3
20001-40000	202	52.7
40001-60000	36	9.4
60001-80000	06	1.6
Family type		
Nuclear	294	76.8
Joint	89	23.2

Knowledge regarding secondhand smoking:

Table -2 represents the participant's response to knowledge regarding secondhand smoking. 259(67.6%) participants heard and rest 124(32.4%) didn't hear about secondhand smoking. Among the 259 participants, 188 (37.6%) answered that the most common source of secondhand smoking was market place followed by 157(31.4%) home and a few 34(6.8%) answered restaurant/cafeteria.

The participants were asked about their knowledge regarding health consequences of secondhand smoking. Majority i.e. 213 (29.5%) of the participants told about lung disease, 205 (28.4%) told asthma, 145 (20.1%) indicated heart disease while others told stroke 86 (11.90%), liver damage 25 (3.50%), kidney damage 17 (2.40%) and allergy 16 (2.20%) as a consequence of secondhand smoking.

Table -2: Distribution of participants according to knowledge about secondhand smoking (SHS)

Variable	Frequency	Percentages (%)
Heard /aware about SHS (n=383)		
Yes	259	67.6
No	124	32.4
Knowledge about source of SHS*(n=259)		
Home	157	31.4
Workplace	79	15.8
Market Places	188	37.6
Restaurant / Cafeteria	34	6.80
Friends	42	8.40
Knowledge regarding health consequences of SHS* (n=259)		
Heart Disease	145	20.10
Lung Disease	213	29.50
Stroke	86	11.90
Asthma	205	28.40
Premature Labour	14	1.90
Liver Damage	25	3.50
Kidney Damage	17	2.40
Allergy	16	2.20

***Multiple responses**

Attitude towards the risks of secondhand smoking (SHS)

Among 259 respondents who were awarea bout SHS, 255 (98.5%) supported smoking should be completely banned in all places followed by 229 (88.4%) told they have right to ask other people not to smoke, 226 (87.3%) believe that presence of SHS encourages young people to begin to smoke and 205 (79.2%) agreed with allowing SHS at home discourages smoking from quitting that is shown in table – 3.

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Table -3: Distributionof participants according to attitude towards the risks of secondhand smoking(n=259)

Smoking should be completely banned in all places	255	98.5
I have the right to ask other people not to smoke	229	88.4
Presence of SHS encourages young people to begin to smoke	226	87.3
Allowing SHS at home discourages smokers from quitting	205	79.2

*Multiple responses

Information related to secondhand smoke (SHS) exposure:

Table-4 describes participant's exposure to SHS. Regarding exposure, 246 (95.0%) were exposed to secondhand smoking among them 156 (53.6%) of the participants exposed from husband followed by 61 (21.0%) from father, 32 (11.00%) from brother. 115 (46.70%) were exposed to SHS daily and 106 (43.10%) exposed occationally.Majority 171 (69.5%) of the participants were exposed to manufactured tobacco.

Table-4: Distribution of participants according to secondhand smoke (SHS) exposure

Variable	Frequency	Percentages (%)
Exposure to secondhand smoke (n=259)		
Yes	246	95.00
No	13	0.50
Source of SHS exposure*(n= 246)		
Husband	156	53.60
Father	61	21.00
Brother	32	11.00
Grandfather	18	6.20
Uncle	19	6.50
Son	05	1.70
Frequency of SHS exposure (n= 246)		
Daily	115	46.70
Weekly	21	8.50
Monthlly	04	1.60
Occationally	106	43.10
Type of tobacco expose (n= 246)		
Manufactured	171	69.50
Unprocessed cigerrete (Bidi)	38	15.40
Both	37	15.00

*Multiple responses

DISCUSSION:

In this study, majority of the participants i.e. 44.1% were in the age group 25-34 years with the mean age of 31.57±7.582 years which is very similar to another study finding in Bangladesh, where majority of the participants were between 25-39 years[9]. Regarding educational qualification, majority (27.2%) had Secondary education which is a lower than the findings of other Bangladeshi studies which revealed 35.1% and 59.9% of the participants had secondary education respectively[5,10]. In our study, most of the participants (87.2%) were house-wives which has inverse relation with another study in Bangladesh where only 6.8% participants were housewives[10]. Possibly this dissimilarity was due to this study was conducted only in rural setting of Bangladesh.

This study revealed that more than half (67.6%) of the participants were aware of secondhand smoking among them 37.6% and 31.4% participants believe that source of secondhand smoking is market place and home respectively. This result is inconsistant with another study conducted in Nigeria which showed source of secondhand smoking was bar/beer parlor and night club with percentages of 39.7% and 33.2% respectively[7]. Possibly this dissimilarity is because of Muslim predominance in Bangladesh. Regarding knowledge about helath consequences of secondhand smoking, 29.5% participants told about lung disease which is much lower than other studies conducted in Nigeria (56.4%)[7] and Ethiopia (70.5%)[11], 28. 4% reported about asthma which is a bit higher than the studyin Nigeria (20.3%)[7] and 20.1% mentioned heart disease as a health consequence of SHS which is higher than the study in Ethiopia (13.6%)[11] and lower than Nigeria (29.4%)[7].

Regarding attitude towards SHS, our study estimated that almost all (98.5%) the participants agreed with smokng shlould completely banned in all places which is much higher compared to other studies in Bangladesh (62.3%)[10] and Saudi Arabia (71.37%)[3], current study also revealed that 88.4% respondents knew that they have right to ask other people not to smoke, 87.3% reported presence of SHS encourages young people to begin to smoke and 79.2% told about allowing SHS at home discourages smoking from quitting which are lower than the Bangladeshi study conducted in 2018[10]. This dissimilarity may be due to now a days people are more conscious about

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right to protect their health from harmful effects of smoking.

Regarding exposure to secondhand smoke, most of the participants (95.0%) were exposed to seconhand smoke which is almost similar to the study in Nigeria where 93.2% of the participant were exposed to secondhand smoking[7]. Among the exposed population, more than half (53.6%) of the participants reported that they were exposed from husband which is inconsistent with another study conducted in Pondicherry, India where 83.33% participants were exposed from husband[12]. 46.7% of our participants reported that they were exposed to Secondhand smoking daily which is nearly similar with another study in India where 50.6% exposed daily and 43.1% of our respondents exposed occasionally which is much higher than the study in India (13.5%)[13].

CONCLUSION:

In this study it is observed that the level of knowledge about secondhand smoking among rural women is relatively low where exposure to secondhand smoke is very high. Efforts should be focused on providing health education through personal communication, films, posters, newspaper articles, folk dramas, radio & television programs regarding awareness of secondhand smoking. Future research should investigate how this exposure can be reduced, smoking initiation prevented, and smoking cessation facilitated. Therefore, more public health attention is needed to prioritize education advising people in terms of health hazards due to secondhand smoke which can motivate people to avoid exposure to SHS which will improve the population's health status in Bangladesh.

CONFLICT OF INTEREST:

There is no conflict of interest among the authors.

FUNDING:

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REFERENCES

1. Wang CP, Ma SJ, Xu XF, Wang JF, Mei CZ, Yang GH. The prevalence of household second-hand smoke exposure and its correlated factors in six counties of China. Tobacco control. 2009 Apr 1;18(2):121-6.

2. Ooi JX, Teh KX, Tam CL, Sadasivan S, Kadirvelu A. Passive smoking: Perceptions and practices among urban working adults. International Journal of Collaborative Research on Internal Medicine & Public Health. 2014;6(6):160-167.

3. Sam G, Alotaibi GA, Alotaibi GR, Hosain HA, Altharwi WF. A cross-sectional study: Exposure, Effect and Awareness of second-hand smoking in the central region of Saudi Arabia. Res Pharm Healt Sci. 2019;5(4):218-221.

4. Juraybi A, Arishy A, Qussairy E, Majrashi E, Alfaifi K, Al-Musalam J, Dyab OA, Yassin A. Awareness about passive smoking among Jazan University students, Saudi Arabia. Medical Science. 2021;25(110):973-84.

5. Fischer F, Minnwegen M, Kaneider U, Kraemer A, Khan MM. Prevalence and determinants of secondhand smoke exposure among women in Bangladesh, 2011. Nicotine & Tobacco Research. 2015 Jan 1;17(1):58-65.

6. Cheah YK, Teh CH, Lim HK. Factors associated with second-hand smoke awareness in Malaysia. Proceedings of Singapore Healthcare. 2018 Sep;27(3):148-56.

7. Essienudoh IG. Knowledge, Attitude and Prevalence of Secondhand Smoking among Undergraduate Students of the University of Ibadan, Ibadan, Oyo State, Nigeria (Doctoral dissertation).Ibadan, Nigeria: University of Ibadan; 2016.

8. Sultana P, Rahman MT, Roy DC, Akter S, Jung J, Rahman MM, Akter J. Tobacco control policies to promote awareness and smoke-free environments in residence and workplace to reduce passive tobacco smoking in Bangladesh and its correlates. PLOS One. 2018 Jun 19;13(6).

Received date: 17 August 2023
Accepted reviewed version date: 25 October 2023

9. Abdullah AS, Driezen P, Sansone G, Nargis N, Hussain GAKM, Quah ACK, Fong GT. Correlates of exposure to secondhand smoke (SHS) at home among non-smoking adults in Bangladesh: findings from the ITC Bangladesh survey. BMC Pulmonary Medicine. 2014; 14:117.

10. Rahman M, Hasan SM, Haque SE, Haque N, Rahman M, Mostofa G, Zahan S, Huda D, Sobaihi SA, Ahmed K, Mahmud HMM. Secondhand smoking, knowledge/attitudes and socioeconomic status among married Bangladeshi women: a cross-sectional study. Sao Paulo Medical Journal. 2019 May 8;137:13-24.

11. Petersen AB, Thompson LM, Dadi GB, Tolcha A, Cataldo JK. An exploratory study of knowledge, attitudes and beliefs related to tobacco use and secondhand smoke among women in Aleta Wondo, Ethiopia. BMC Women's Health. 2018;18:154.

12. Bharatwaj RS, Rathod SN. Perception to Second Hand Smoking Among Adult General Public in Rural Pondicherry-A Cross Sectional Study. International Journal of Pharma Research and Health Sciences. 2015; 3(1): 522-525.

13. Yavagal PC, Velangi CS, Desai JM, Gupta H, Sheik FS, Kaushal M. Knowledge, attitude, and behavior related to secondhand smoke exposure among pregnant women with smoking spouses in Davangere City: A cross-sectional survey. Journal of Indian Association of Public Health Dentistry. 2021 Jan 1;19(1):37-41.

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