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ORIGINAL RESEARCH **E-ISSN:**

AWARENESS ON HEALTH EFFECTS OF SMOKING AMONG SECONDARY SCHOOL CHILDREN IN BANGLADESH

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ABSTRACT

Background: Trends of smoking among the secondary school children have been increasing across the globe. According to Global Youth Tobacco Survey (GYTS), in Bangladesh about 3% secondary school children were tobacco smokes and 2% students were cigarette smoke in Bangladesh, whereas, globally 21% secondary school students were smoked tobacco.

Purpose: The purpose of this study is to assess the awareness on health effect of smoking among secondary school children.

Methods: A descriptive correlational study was conducted among 98 secondary school children who were read in class nine and ten in rural area. Convenience sampling technique was used to select the study participants. Data was collected by self-administered structured questionnaire. Descriptive analysis such as – frequency, percentage, mean and standard deviation was used to describe the sample characteristics. The Pearson product moment correlation co-efficient, two sample t-test and ANOVA test were used to describe the relationship among variables.

Results: A total 98 students in the age group of 14-17 years mean age 15.3 (.840) years. The awareness level on health effects of smoking mean score was 3.17(.290) relatively high among the participants. The result also revealed that age (p=.036), sex (p=.033), class (p=.000), parents' marital status (p=.047) and friend smokers (p=.023) were statistically significantly correlated with students' level of awareness on health effects of smoking.

Discussion: The findings of the study indicate that majority of the students were highly aware on harmful health effects of smoking. Despite high awareness level of effects of smoking

Key words: Awareness, health effects, smoking, secondary school children.

INTRODUCTION

Trends of smoking among the secondary school children have been increasing across the globe (Rao, Aslam, Zaheer, & Shafique, 2014). Globally 21% secondary school students smoked tobacco. In Bangladesh, the number of tobacco smokers are increasing rapidly. According to Global Youth Tobacco Survey (GYTS, 2013), about 3% secondary school children were tobacco smokers and 2% students were cigarette smokers in Bangladesh (World Health Organization [WHO], 2013). However, the prevalence of smoking

among secondary school children in India, Nepal, Maldives and Pakistan were estimated as 4.4%, 6.9%, 4.3% and 3.3% respectively (GYTS, 2009; GYTS, 2011; GYTS, 2011; GYTS, 2013). In Bangladesh approximately 57,000 deaths are caused by smoking and 1.2 million tobacco related illness per year (WHO, 2007). Cigarette smoking and exposure to cigarette smoking were associated with premature death, economic losses to society and a substantial burden on the health-care system (Center for Disease Control and Prevention [CDC], 2017). This cause lung cancer, chronic obstructive pulmonary disease, cardiovascular disease and deaths. Smoking affects the health of teeth and gums and cause tooth loss, increase risk for cataracts, rheumatoid arthritis and decreased immune function (CDC, 2017). The factors of smoking among the secondary school children in Bangladesh are peer pressure, exposure to second hand smoking, smoker parents or siblings, tobacco advertisement, accessibility and availability of cigarette (Islam, Mainuddin, Bhuiyan, & Chowdhury, 2016).

Many school children were unaware about the health effects of smoking. In Bangladesh approximately 64% students were unaware about the hazards of smoking (Hossain et al., 2017). However, in India, about 16% students were unaware of any complications of smoking like lung diseases, cardiovascular diseases, impotence, cancer, diabetes, infection and psychological effects (Ibrahim et al., 2016). Prior study found that around 30% students were unaware about the adverse effects of smoking as poor oral health, bad taste and breath, periodontal disease, dental caries, oral ulcer and oral cancer in Saudi Arab (Nazir & Almas, 2017). Another study in Poland about 11% and 31% of the students were unaware of negative health consequences of active smoking and passive smoking (Kaleta, Polanska, Wojtysiak, & Szatko, 2017). In Kashmir about 37.5% students were unaware regarding health effects of smoking (Manzoor, 2018).

Based on above discussion, it was observed that secondary school children were unaware about the health effects of smoking in different countries. In Bangladesh, most of the studies focused on incidence, prevalence, attitude and factors of smoking among secondary school children. But current study emphasized on awareness on health effects of smoking among secondary school children. Therefore, researchers' intention was to develop the strategy to enhance or increase awareness of smoking effects among the secondary school children. The findings of the study would help the school health nurse to develop school health program to increase the level of awareness among the secondary school children. The findings also help the policy maker to develop legislation or law about the secondary school children smoker in Bangladesh to reduce their smoking rate.

The general objective of the study was to assess the awareness level on health effect of smoking among secondary school children in Bangladesh.

METHODS

Study Design

This study was a descriptive correlational design.

Setting

This study was conducted on January until February 2019 in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh.

Research Subject

Convenience sampling technique was used to select the participants in the study.

The sample size was estimated by using G* power analysis. Estimated sample size was 98 with 20% attrition rate. The students those who were currently studying in class nine and ten were included in the study. The students who could read, write, listen and understand native Bengali language were also included.

Instruments

Self-administered structured questionnaire was used for data collection. This was a newly developed questionnaire developed by researcher based on existing literature available in the internet. Socio-demographic characteristics of the secondary school children was measured by using an 11 items Questionnaire including age, gender, religion, class, parent's educational level, parent's occupation, parents' marital status, living condition and family income. Smoking related characteristics were measured by a 4-items Smoking related Questionnaire (SQ). The item of the questionnaire included as family smoking history, family member smoker, self -smoking and friend smokers. Secondary school children's awareness level was examined by using a 20-items Awareness related Questionnaire (AQ). The reliability of the instruments Cronbach's alpha co-efficient were 0.72.

Data Analysis

After completion of data collection, data was entered, checked and coded manually to minimize the error. Data was entered into SPSS program 23.0 version. Descriptive statistics consisting of frequency, percentage, range, mean and standard deviation were used to analyze the subject's socio-demographic characteristics, Smoking related characteristics and level of awareness. The Pearson product moment correlation co-efficient (r), two sample t- test (t) and one way of ANOVA (F) test was used to analyze the relationship between the variables. A significant level of $p < 0.05$ was considered as a statistical significance.

Ethical Consideration

Prior to data collection approval was obtained from Institutional Review Board (IRB), National Institute of Advanced Nursing Education and Research (IRB No. Exp. NIA-S-2018-24) and Bangabandhu Sheikh Mujib Medical University (BSMMU). Data collection permission was obtained from the Head teacher of the selected school.

RESULTS

Distribution of Socio-demographic Characteristics of the Participants

Table 1. Distribution of Socio-demographic Characteristics of the Participants in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Categories	(n)	(%)	M±SD
Age (Years)				15.3±.840
Sex				
	Male	45	45.9	
	Female	53	54.1	
Religion				
	Muslim	71	72.4	
	Hindu	27	27.6	
Class				
	Ten	49	50.0	
	Nine	49	50.0	
Fathers' education				
	No formal education	17	17.3	
	Primary	30	30.6	
	Secondary	37	37.8	
	Higher education	14	14.3	
Mothers' education				
	No formal education	20	20.4	
	Primary	42	42.9	
	Secondary	32	32.7	
	Higher education	4	4.1	
Fathers' occupation				
	Farmer	42	42.8	
	Business	39	39.8	
	Private Job	9	9.2	
	Govt. service	8	8.2	
Mothers' occupation				
	Housewife	96	98.0	
	Govt. service	2	2.0	
Parents marital status				
	Currently married	95	96.9	
	Widow	3	3.1	
Accommodation				
	With parents	96	98.0	
	With relatives	2	2.0	
Family income				
	<20000	74	75.5	
	20001-30000	15	15.3	
	30001-40000	7	7.1	
	>40000	2	2.1	

Distribution of Smoking related Characteristics of the Participants

Table 2. Distribution of Smoking related Characteristics of the Participants in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Categories	(n)	(%)
Family smoking history	Yes	53	54.1
	No	45	45.9
Family member smoker	Father	48	49.0
	Brother	5	5.1
Self- smoking	No	96	98.0
	Occasionally	2	2.0
Friends smoker	None of them	89	90.8
	Some of them	9	9.2

Relationship between Socio-demographic Characteristics and Awareness on Health Effects of Smoking

Table 3. Relationship between Socio-demographic Characteristics and Awareness on Health Effects of Smoking in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Category	Mean (SD)	t/F/r (p-value)
Age			.212 (.036)
Sex	Male	3.11(.254)	-2.2(.033)
	Female	3.23(.310)	
Religion	Muslim	3.16(.303)	-.63(.533)
	Hindu	3.20(.251)	
Class	Nine	3.05(.310)	
	Ten	3.30(.210)	-4.5(.000)
Fathers' education	No formal education	3.10(.250)	
	Primary	3.21(.320)	.597(.619)
	Secondary	3.18(.221)	
	Higher education	3.19(.420)	
Mothers' education	No formal education	3.14(.251)	1.09(.393)
	Primary	3.23(.274)	
	Secondary	3.12(.325)	
	Higher education	3.15(.314)	
Fathers' occupation	Farmer	3.18(.290)	.605(.614)
	Business	3.16(.240)	
	Private Job	3.05(.210)	
	Govt. service	3.20(.303)	
Mothers' occupation	Housewife	3.18 (.290)	.611 (.543
	Govt. service	3.05 (.354)	
Parents marital status	Currently married	3.16 (.290)	-2.01(.047)
	Widow	3.50 (.132)	
Accommodation	With parents	3.18 (.292)	.364 (.717)
	With relatives	3.10 (.141)	
Family income	<20000	3.19 (.284)	1.23 (.302)
	20001-30000	3.12 (.345)	
	30001- 40000	3.03 (.206)	
	> 40000	3.38 (.035)	

Table 4. Relationship between Smoking related Characteristics and Awareness on Health Effects of Smoking in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Category	Mean (SD)	t/F/r(p-value)
Family smoking history			.299(.765)
	Yes	3.18 (.300)	
	No	3.16 (.279)	
Family member smoker			-.685(.497)
	Father	3.17 (.311)	
	Brother	3.27 (.160)	
Self-Smoking			.734(.464)
	No	3.18 (.291)	
	Occasionally	3.03 (.035)	
Friends smoker			2.31(.023)
	None of them	3.20 (.300)	
	Some of them	3.00 (.410)	

DISCUSSION

Current study findings revealed that most of the students' age group was between 14 and 17. Such age group was found in the previous studies conducted by Cosci et al. (2013); Kaleta, et al. (2017); Manzoor (2018); Nazir and Almas (2017); Salawu, et al. (2009); Varma and Prasad (2019). The reasons for the current study findings are student's age group might be due to school going age of the students or delayed admission into school. Other previous studies also supported with the current study result. The previous studies show that majority of the participants age group was between 13-15 in India, Nepal, Maldives and Pakistan (GYTS, 2009; GYTS, 2011; GYTS, 2011; GYTS, 2013). This result might be due to the cultural context, educational background and social norms. The teenager puberty or adolescents and the secondary school children age group are within this group. Sex contributes to abuse to teenage smoking. Present study found that female students' attendance to the school are more than male students. Bangladesh Government has given more priority to the female students about free education. Usually female students get stipend from the Government. That are the reason for female students' attendance to the school more than male students. This finding accordance with the results from the study conducted by Manzoor (2018); Raina et al (2015); Sharma and Chalise (2018).

Present study found that most of the students have history of family smoking and majority of the father were smoker. This result is similar from the previous studies by Flora, Taylor, Rahman, and Akter (2012); Hossain et al. (2017). This finding might be due to some reasons including family stress, low income, and culture or post history of fathers' smoking. Although current study findings show that majority of the students did not do smoking. However, students might not response due to sensitive question. This result contrary with Cosci et al. (2013) found that less than half of students were female smoker. This

result might be due to their culture, family status, peer pressure or availability of smoking. According to the findings of this study mean score of the awareness level of smoking effects was 3.17 which indicates high level of awareness. Similar results were echoed in the studies conducted by Caszo et al. (2015); Huong et al. (2016); Ibrahim et al. (2016); Raina et al. (2015). This result can be due to obtained because of culture, social system or family consciousness. In contrast, a study conducted by Manzoor (2018) showed that inadequate level of awareness about effects of smoking. This result might be due lack of knowledge, low economic status or family unconsciousness. Other previous study also supported with the current study result.

In bivariate analysis, the current study revealed that there was a significant relationship between awareness on health effects of smoking and age. The older students were more aware of the smoking effects. It is a commonly known concept claiming that students' awareness increases with increasing their age (Akhtar, Numan, Ahmed, & Anwar, 2015). This finding might be due to some reason including the older students may participated in any health education program, gained more knowledge from more study, media, newspaper or other friends who are aware about smoking. Similar result found in previous studies conducted by Ibrahim et al. (2016); Raina et al. (2015); Salawu et al. (2009). This study revealed that female students were more aware than male. This finding might be due to observance of local customs in which female smoking is not considered an acceptable behavior in Bangladesh. This finding is in accordance with previous studies conducted by Caszo et al. (2015); Huong et al. (2016). This study is inconsistent with Sharma and Chalise (2018) who found no statistically significant. This result might be due to social culture, high economic status, peer influence or fashion.

The present study shows that there was a highly significant relationship between students' awareness score and class. The higher class of education, the higher percentage of students presenting more awareness about smoking effects on health. Such a tendency is in accordance with a commonly known concept claiming that students' awareness increases with increasing years of education with more study. This result is similar with Varma and Prasad (2019) who found academic pressure was more amongst the senior students and gain more knowledge.

Parents' marital status was significant relationship with students' awareness (p=.047). The students who had no father, they had negative feeling of smoking and they were more aware than those had father alive. This finding is in accordance with previous studies conducted by Flora et al. (2012); Hossain et al. (2015); Khan, Afrin, Huq, Zaman, and Rahman (2014).

Students who have smoker friends have greater chances of becoming smoker than those students who have non-smoker friends (Laghari et al., 2014). Present study found that students who have nonsmoker friends were more aware on health effects of smoking than those who have smoker friends. Majority of the students had nonsmoker friends which was statistically significant. Similar results found in previous studies conducted by Hossain et al. (2015); Laghari et al. (2014).

The present study has some limitation. Convenience sampling technique was used. It was conducted on small sample size. Study was conducted in only one rural secondary school in Moulvibazar district. The data were collected through a self-reported and anonymous questionnaire

introducing the possibility of information bias.

CONCLUSION

Awareness on health effects of smoking was high among the students. However, only 2% of the students had the smoking habit at this young age. The result of this study also shows that elder and female students were more aware than younger and male students. Adolescence itself is the most vulnerable age to take any kind of risk and to save them from this hazard. The findings of this study suggest that the student with their awareness of smoking effects on health were less likely to smoke. This result may be put found to baseline data for further research.

SUGGESTION

The positive outcome of this study is that the majority of the students was aware of health consequences of active smoking. However, the awareness of harmful effects of passive smoking still requires improvement. Replication study is needed with large sample and more schools to generalize the findings. A comparative study may be conducted between urban and rural school. Farther research may be conducted relationship between awareness and behavior of health effects of smoking among secondary school children in Bangladesh.

REFERENCES

Aslam, N., & Bushra, R. (2010). Active Smoking in Adolescents of Karachi, Pakistan. *Oman Medical Journal*, *25*(2), 234-38.

Akhtar, S., Numan, S., Ahmed, S., & Anwar, M. (2015). Prevalence of smoking in a rural community of Bangladesh. *International Journal of Community Medicine and Public Health*, *2*(1), 59. doi: 10.5455/ 2394-6040.ijcmph 20150212.

Center for Disease Control and Prevention. (2017). *Fact sheet.* "*Health Effects of Cigarette Smoking". Smoking and Tobacco use*. Retrived from https:// www.cdc.gov/ tobacco/ data_ statistics/fact_ sheets/ health_ effects/effects_ cig_ smoking/index.htm.

Connell, M. M. (2015). *How Much Nicotine is in One Cigarette*? Retrieved from Electronic Cigarette Consumer Reviews Website: http:/www.electronic/ cigarette/ consumer reviews.com/ how- much-nicotine-is-in-one-cigarette.

Caszo, B., Khair, M., Mustafa, M.H., Zafran, S.N., Syazmin, N., Safinaz, R. N., & Gnanou, J. (2015). Common Misconceptions and Future Intention to Smoke among Secondary School Students in Malaysia. *Asian Pacific Journal of Cancer Prevention*, *16*(3), 1159-1164. doi: 10.7314/apjcp.2015.16.3.1159.

Cosci, F., Zaga, V., Bertoli, G., & Campiotti, A. (2012). Significant Others, Knowledge and Belief on smoking as Factors Associated with Tobacco Use in Italian Adolescent. *ISRN Addiction, 2013*(7). doi.org/10.1155/2012/968505.

Flora, M.S., Mascie-Taylor, C.G.N., Rahman, M., & Akter, S.F.U. (2012). Influence of parental smoking on smoking habit of Bangladeshi adult population in rural and urban areas. *American International Journal of Contemporary Research*, *2*(6), 221-227.

Ghosh, P. (2012). *As smoking declines in west, Bangladesh increase of tobacco epidemic*. Retrived from http://www. Ibtimes.com/smoking.

Global Youth Tobacco Survey. (2013). *Fact Sheet. Bangladesh report*. Retrived from http:// www. searo.who.int/ bangladesh/publications/gyts_ report_2013/en/

Global Youth Tobacco Survey. (2009). *Fact Sheet. India ages 13-15*. Retrived from https//www.who.int/fctc/ reporting/Annexoneindia.pdf.

Global Youth Tobacco Survey. (2011). *Fact Sheet. Nepal 2011 ages 13-15*. Retrived from https// www. mohp.gov.np/ downloads/ nep_gyts_ fs_2011.pdf.

Global Youth Tobacco Survey. (2011). *Fact Sheet. Maldives report.* Retrived from http://www.searo.who.int/entity/non communicable diseases/ data/ mav_gyts_fs_2011. pdf.

Global Youth Tobacco Survey. (2013). *Fact Sheet. Pakistan 2013*. Retrived from https//www.eww.emro.who.int/ images/stories/ tfi/ documents/gyts_fs_pak_2013.pdf.

Hossain, A., Hossain, Q. Z., & Rahman, F. (2015). Factors influencing teenager to initiate smoking in South-west Bangladesh. *Universal Journal of Public Health*, *3* (6), 241-250.

Hossain, S., Hossain, S., Ahmad, F., Islam, R., Sikder, T., & Rahman, A. (2017). Prevalence of Tobacco Smoking and Factors Associated with the Initiation of Smoking among University Students in Dhaka, Bangladesh. *Central Asian Journal of Global Health*, *6*(1), 244. doi: 10.5195/cajgh.2017.244.

Islam, S. M. S., Mainuddin, A. K. M., Bhuiyan, F. A., & Chowdhury, K.N. (2016). Prevalence of tobacco use and its contributing factors among adolescents in Bangladesh. *Heart India*, *4*(3), 85-90.

Ibrahim, A., Mathew, S.B., Arekal, S.S., & Kundapur, R. (2016). A study to Assess the Awareness of Ill Effects of Tobacco among Adolescents and Young Adults of Mangalore. *Nitte University Journal of Health Science*, *6*(3), 21.

Juslina, O., Leelavathi, M., Khairani, O., & Iryani, T. (2011). Prevalence of smoking among secondary school students in Sarawak. *Malaysian family physician: the official Journal of the Academy of Family Physicians of Malaysia*, *6*(2-3), 66.

Kaleta, D., Polanska, K., Wojtysiak, P., & Szatko, F. (2017). Involuntary smoking in adolescents, their awareness of its harmfulness and attitudes towards smoking in the presence of non-smokers. *International Journal of Environmental research and Public health*, *14*(10), 1095. doi: 10.3390/ijerph14101095.

Laghari, Z.A., Halepota, J. Palh, Z.A., Lashari, K.H., Baig, N.M., Menghwar, S.M.,….. Sahito, A.G. (2014). Factors associated with cigarette smoking among male students of colleges of district, Hyderabad, Pakistan. *International Journal of Advancements in Research & Technology*, *3*(12).

Mallol, J., Castro-Rodriguez, J.A., & Cortez, E. (2007). Effects of active tobacco smoking on the prevalence of asthma-like symptoms in adolescents. *International Journal of Chronic Obstructive Pulmonary Disease*, *2*(1). 65-69. doi: 10.2147/copd. 2007.2.1.65.

Manzoor, S. (2018). A study to assess the effectiveness of planned teaching programme knowledge regarding hazards of smoking among adolescents of selected high schools in Srinagar.

Indian Journal of Applied Research, *8*(6).

Nguyen, T.H., Hguyen, T.K., Kim, B.G., Hoang, V.M., Phan, T.H., Doan, T.H.,…..Pham, T.Q. (2016). Knowledge and Attitude towards Tobacco Smoking among 13-15 Years Old School Children in Viet Nam-Findings from GYTS 2014. *Asian Pacific Journal of Cancer Prevention, 17*(1),37-42.doi:10.3714/ apjcp.1016. 17.1.37.

Nazir, M. A., & Almas, K. (2014). Awareness about the effects of tobacco consumption on oral health and the possibility of smoking behavior among male Saudi school children. *European Journal of dentistry*, *11(*1), 29-35. doi: 10.4103/ejd.ejd 300 16.

Nordqvist, C. (2015). What chemicals Are In Cigarette Smoking? Retrived from *Medical News today* web site: http// www.Medicalnewstoday.com/artricle s/ 215420.php.

Peppone, L.J., Mahoney, M.C., Cummings, K.M., Michalek, A,M,, Reid, M.E., Moysich, K.B., & Hyland, A. (2008). Colorectal cancer occurs earlier in those exposed to tobacco smoke: implications for screening. *Journal of Cancer Research and Clinical Oncology*, *134*(7),743- 751. doi: 10.1007/s00432-007-0332-8.

Rao, S., Aslam, S.K., Zaheer, S., & Shafique, K. (2014). Anti-smoking initiatives and current smoking among 19,643 adolescents in South Asia: Findings from the Global Youth Tobacco Survey. *Harm Reduct Journal*, *11*(8).

Raina, R., Krishna, M., Murali, R., Shamala, A., Yalamalli, M., & Kumar, A.V. (2015). Knowledge, Attitude and behavioral determinants of tobacco use among 13-15 years old school children. *Journal of International Society of Prevention & Community Dentistry*, *5*(4), 321.

Shashidhar, A., Harish, J., Keshavamurthy, S.R. (2011).Adolescents smoking- a study of knowledge, attitude and practice in high school children. *Pediatric On Call*, *8*(1), 22-29.

Sharma, M.D., & Ravi, R. (2010).Visual effects of long term active smoking. *Indian Journal of Aerospace Medicine*, *54*(1), 18-25.

Salawu, F.K., Danburam, A., Desalu, O.O., Olokoba, A.B., Agbo, J., & Midala, J. K. (2009). Cigarette smoking habits among adolescents in Northeast Nigeria. *Sahel Medical Journal*, *10*(1).

Sharma, I., & Chalise, S. (2018). The knowledge and attitude regarding the health effect of smoking among secondary level students in Nepal. *Asian Journal of Humanities and Social Studies*, *6*(2), 83-90.

Tarafdar, M.M.A., Nahar, S., Rahman, M.M., Hussain, S.M.A., & Zaki, M. (2009). Prevalence and determinants of smoking among the college students in selected District of Bangladesh. *Bangladesh Medical Journal*, *38*(1), 3-8.

Varma, M. P., & Prasad, K.S.V. (2018). Awareness about harmful effects of cigarette smoking among adolescents in Shamirpet mandal, Hydrabad. *International Journal of community Medicine and Public Health*, *6*(1), 208-212.

Warnakulasuriya, S., Dietrich, T., Bornstein, M.M., Peidro, E.C., Preshaw, P.M., Walter, C.,...& Bergstrom, J. (2010). Oral health risks of tobacco use and effects of cessation. *International Dental Journal*, *60*(1), 7-30.

World Health Organization. (2007). *Impact of tobacco-related illness in Bangladesh*. New Delhi: World Health

Organization Regional Office for South- East Asia.