Original Article

Knowledge about Non-Communicable Diseases among Selected Urban School Students

Islam MZ[1], Rahman MM[2], Moly AH[3]

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Abstract

Introduction: The rise in the prevalence and significance of non-communicable diseases (NCDs) is the result of complex interaction between health, economic growth and development. Knowledge about NCDs and appropriate practices related to NCDs are keys to its proper management.

Objectives: To determine the level of knowledge about NCDs among the selected urban school students.

Materials and Methods: A cross-sectional study was conducted among the students of Adamjee Cantonment Public School & Shaheed Bir Bikram Ramiz Uddin Cantonment School of Dhaka Cantonment during 01 January 2017 to 31 December 2017. A total of 183 participants were selected by purposive sampling technique. Data were collected using a pretested interviewer administered semi-structure questionnaires and SPSS version 22 used for data analysis. Simple descriptive statistics were used to describe the study variables. Inferential statistics were include, chi-square test, to find out any significant relationship between two qualitative variables.

Results: Participants (n = 183) included 129 (70.49%) were male and 54 (29.51%) were female, aged between 13–19 years. Among 183 respondents, 106(57.9%) participants have good knowledge, 76(41.5%) participants had average knowledge and 1(0.5%) participant had poor knowledge. Level of knowledge had significant association with gender, age, education, father's & mother's occupational status, family income, physical activity, smoking & habit of taking hard drink.

Conclusion: The knowledge and practices related to NCDs among the participants were good in certain aspects but poor in others, suggesting the need for programs on NCDs awareness. Comprehensive community based health education program about NCDs is necessary to improve this situation.

Key-words: Non-communicable disease, Knowledge, Practice, Prevention.

Introduction

A non-communicable disease (NCD) is a medical condition that is caused by non-infectious agents like genetics, life style etc. NCDs are non-transmissible chronic diseases which last for long periods of time and progress slowly. A total of 56 million deaths occurred worldwide during 2012. Of these, 38 million were due to NCDs, principally cardiovascular diseases, cancer and chronic respiratory diseases. Nearly three quarters of these NCD deaths (28 million) occurred in low- and middle-income countries. The number of NCD deaths has increased worldwide and in every region since 2000, when there were 31 million NCD deaths. NCD deaths have increased the most in the WHO South-East Asia Region, from 6.7 million in 2000 to 8.5 million in 2012, and in the Western Pacific Region, from 8.6 million to 10.9 million. While the annual number of deaths due to infectious disease is projected to decline, the total annual number of NCD deaths is projected[1] to increase to 52 million by 2030.

According to WHO, NCD country profiles- 2014, in Bangladesh total deaths: 886,000 and NCDs are estimated to account for 59% of total deaths. The probability of dying between ages 30 and 70 years from the 4 main NCDs is 18%. NCDs are especially important for young people, now and in the future. Two thirds of premature deaths in adults are associated with childhood conditions and behaviors, and behavior associated with NCD risk factors is common in young people: over 150 million young people smoke; 81% adolescents don't get enough physical activity; 11.7% of adolescents partake in heavy episodic drinking and 41 million children under 5 years old are overweight or obese[2].

Adolescents are not immune to NCDs. Behaviors established during adolescence have life-long consequences for Non-Communicable Diseases (NCDs). Therefore a focus on adolescents in national programs is essential for preventing NCDs.

Materials and Methods

This descriptive type of cross sectional study conducted from 01 January to 31 December 2017. Schools located in the Dhaka Cantonment, Adamjee Cantonment Public School & Shaheed Bir Bikram Ramiz Uddin Cantonment School, were chosen purposively because of easy communication, accessibility, availability of samples and co-operation from the institution. Students of Class-IX & X of above mentioned schools who gave consent were selected as study population. Students unwilling to participate, physically ill and non-cooperative were excluded from the study. An interviewer administered semi-structured questionnaires & Likert scale were used in this study as a research instrument. Level of knowledge was seen by asking 20 questions to the respondents each carrying 1-5 point. The respondents' knowledge level wascategorized as; Good (score >60), Average (score 30-60) and Poor (score <30). Questionnaire was pre-tested adequately by researcher using interview technique among the student of Class-IX and Class-X of Bir Uttam Shaheed Lt. Anwar Girls High School & Muslim modern High School of Dhaka cantonment. Modifications were made

1. **Lt Col Md Zahirul Islam**, MBBS, MPH, Commanding Officer, Medical Record Wing, CMH, Dhaka (*E-mail:* zahir_masum@yahoo.com) 2. **Col Md Mahbubur Rahman (Rtd)**, MBBS, MPH, MPhil, Adjunct Instructor, AFMI, Dhaka. 3. **Maj Azmery Hossain Moly**, MBBS, MCPS, DCP, Graded Specialist in Pathology, AFIP, Dhaka.

after pre-testing. Informed consent was taken from respondents after explaining the purpose of the study by the researcher. Data was collected by face to face interview by using semi-structured questionnaires. Questionnaires were designed according to the objectives to get information on different variables. All data was checked for its completeness, correctness and internal consistency to exclude missing or inconsistent of data.

Results

Maximum respondent were in the 15-16 years age group (66.1%), followed by the 13-14 years age group (20.2%) and followed by 17-18 years age group (13.1%), 19-20 years age group (0.5%). The mean age of the respondents was 15.94±1.067 years. Among the 183 respondents, 129(70.49%) were male and 54(29.51%) were female. 179(97.8%) were Muslim, 3(1.6%) were Hindu and rest 1(.5%) was Buddist. Respondents' 98(53.6%) were Class-X students and 85(46.45%) were Class-IX students. The educational qualification of father, Degree & above qualified were 90(49.18%), HSC & Equivalent were 62(33.88%), SSC & Equivalent were 23(12.57%), Class I-V passed were 6 (3.28%) and Class I-V passed were 2 (1.1%). Out of all respondents, educational qualification of mother, SSC & Equivalent passed were 66(36.1%), Degree & above qualified were 63(34.4%), HSC & Equivalent passed were 36(19.7%), Class VI-X passed were 13 (7.10%), Class I-V passed were 4(2.2%) and illiterate were 1(.5%) mother. Regarding occupational status of father, 132(72.1%) were service holder and 51(27.87%) were businessmen, 157(85.8%) mother were housewives, service holder 24(13.1%) and 2(1.1%) were doing business. 78(42.62%) had monthly family income between TK. 20000-40000, 30(16.4%) between TK. 10000-20000, 26(14.21%) between TK. 40000-60000, 21(11.48%)between TK. 60000-80000,16(8.74%) between TK. 80000 -100000 and 12(6.56%) above TK. 100000. Maximum family members were in between 3-4(110, 60.1%), then in between 5-6(69, 37.7%) and very few are in between 7-8(4, 2.2%). The mean family members of the respondents were 4.42±.841.

Maximum 122(66.7%), 118(64.5%), 91(49.7%), 82(44.8%), 89(48.6%), 113(61.7%), 105(57.3%), 87(47.6%), 91(49.7%) respondents had average knowledge on definition of NCDs, Physical inactivity & NCDs, Family history & NCDs, Fast food & NCDs, Excess salt intake & NCDs, Unplanned industrialization & NCDs, Unplanned urbanization & NCDs, Indiscriminate use of NSAIDS & NCDs, Stressful condition & NCDs respectively. On the contrary, highest 141(77.0%), 127(69.4%), 86(47.0%) respondents had good knowledge on smoking, alcohol consumption & air pollution as a risk factor for NCDs respectively (Table-I). Respondents physical activity found, 129(70.5%) did perform moderate physical activity, 34(18.6%) did perform mild physical activity, 13(7.1%) did perform vigorous physical activity and 7(3.8%) did perform sedentary lifestyle (Table-II). Respondents practices for risk behaviors of NCDs found, 176(96.2%) were performing physical activity, 162(88.5%) had the habit of taking fast food, 162(88.5%) avoid the harmful radiation, 138(75.4%) avoid the air pollution, 122(66.7%) had the habit of taking red meat, 11(6.0%) were use tobacco products, 11(6.0%) were smoker, 11(6.0%) had the habit of drinking alcohol, 11(6.0%) were taking NSAIDS regularly, No one took sleeping pill as well as recreational drugs (Table-III). Respondents morbidity status found 24(13.1%) were suffering from bronchial asthma and 1(.5%) from cancer and none was suffering from DM, HTN, CHD, COPD, CKD, stress, anxiety or depression.

Table-I: Distribution of level of knowledge of respondents on NCDs (n=183)

Variables	Level of Knowledge		
	Poor	Average	Good
Definition of NCDs	16(8.7)	122(66.7)	45(4.6)
Examples of NCDs	13(7)	37(20.0)	133(73.0)
Duration & progression of NCDs	15(8.2)	98(53.5)	70(38.3)
NCDs are not transmitted from person to person	6(3)	66(36.0)	111(61.0)
NCDs are more common in geriatric people	13(7.1)	85(46.5)	85(46.5)
Habit of smoking & NCDs	2(1)	40(21.9)	141(77.0)
Physical inactivity & NCDs	15(8.2)	118(64.5)	50(27.3)
Obesity & NCDs	18(10)	97(53.0)	68(37.0)
Family history & NCDs	11(6.0)	91(49.7)	81(44.3)
Eating of fast food & NCDs	37(20.2)	82(44.8)	64(35.0)
Eating of red meat & NCDs	37(20.2)	90(49.2)	56(30.6)
Excess salt intake& NCDs	21(11.5)	89(48.6)	73(39.9)
Alcohol consumption& NCDs	10(5.4)	46(25.2)	127(69.4)
Unplanned industrialization & NCDs	38(20.8)	113(61.7)	32(17.5)
Unplanned urbanization & NCDs	45(24.6)	105(57.3)	33(18.0)
Indiscriminate use of NSAIDS & NCDs	55(30.0)	87(47.6)	41(22.4)
Air pollution & NCDs	16(8.7)	81(44.3)	86(47.0)
Exposure to harmful radiation & NCDs	31(17)	93(51.0)	59(32.0)
Stressful condition & NCDs	22(12.0)	91(49.7)	70(38.3)
Modification of lifestyle can prevent the development of many NCDs	5(3.0)	53(29.0)	125(68.0)

• Percentage in parenthesis

Table-II: Distribution of respondents by the type of physical activity for prevention of NCDs (n=183)

Type of physical activity	Frequency	Percentage
Sedentary lifestyle	7	3.8
Mild Physical activity	34	18.6
Moderate Physical activity	129	70.5
Vigorous physical activity	13	7.1
Total	183	100

Table-III: Distribution of respondents by the practices for risk behaviors of NCDs (n=183)

Practices for risk behaviors	Frequency	Percentage
Performing physical activity	176	96.2
Use of tobacco products	11	6.0
Status of present smoking condition	11	6.0
Habit of taking fast food	162	88.5
Habit of eating red meat	122	66.7
Habit of drinking alcohol	11	6.0
Avoidance of air polluted area	138	75.4
Avoidance of harmful radiation	162	88.5
Taking NSAIDS	11	6.0
Taking sleeping pill	0	0
Taking recreational drugs	0	0

Note: Due to multiple responses

Discussion

In this study, the mean age of the respondents were 15.44(±1.067) years, 70.49% were male and 54(29.51%) were female, 97.8%were Muslim, 1.6%were Hindu and 0.5% were Buddhist and 53.6% were Class-X students and 46.5% were Class-IX students. From various studies, it was established that above mention risk factors are related to the development of NCDs[3-8]. Among the respondents, poor level of knowledge about risk factors of NCDs were prevailing as-unplanned urbanization 24.6%, unplanned industrialization 20.8%, eating fast food 20.2%, eating red meat 20.2%, exposure to harmful radiation 17.0%, stressful condition 12.0% and excess salt intake 11.5%. Among the respondents, average level of knowledge about risk factors of NCDs were prevailing as- for physical inactivity 64.5%, unplanned industrialization 61.7%, unplanned urbanization 57.3%, obesity 53.5%, exposure to harmful radiation 51.3%, stressful condition 49.7%, eating red meat 49.2%, eating fast food 44.8%.

Among the respondents, Good level of knowledge about risk factors of NCDs, was prevailing as- smoking-77.0%, consumption of alcohol-69.4%, air pollution-47.0%. The good level of knowledge were also prevailing as - lifestyle modification can prevent the development of many NCDs-67.7%, NCDs are not transmitted from person to person-61.2% and NCDs are more in old age-46.4%. This study finding about the level of knowledge of NCDs, are not similar with the study findings of home and abroad[9-13]. Rafigue G, et al. in his study found that 48.2% had poor knowledge, 38.2% had acceptable knowledge and 13.6% had good knowledge[9]. In a study by Badruddin N, et al, overall diabetes knowledge was not very good: 54% poor knowledge, 34% fair knowledge, and 13% good knowledge[10]. In a study by Maina WK, et al. 29% had good knowledge and 71% had poor knowledge[11]. Saleh et al. conducted a study and findings were 16%, 66%, 18% of respondents had good, average & poor knowledge respectively[12]. But in rural area of Bangladesh knowledge of diabetes & its risk factors is very limited[13].

The increased prevalence of average and good knowledge about the above subjects among the school students may be due to health related subjects are included in school curriculum, such – as- Balanced diet, BMI, BMR, Calorie requirement according to the type of physical activity, Benefits of exercise & rest, obesity, DM, HTN, dyslipidaemia, MI, Br. asthma, CVD, cancer, harmful effects of smoking & alcohol consumption[14]. Moreover, digitalization of Bangladesh & government take initiative for the spread of education for all, health related various programs for the consciousness of general people through mass media. Health knowledge will prevent adolescent students from establishing unhealthy behavior and risky life style, thus it will consequently contribute for preventing the development of NCDs. Regarding practices for prevention of NCDs, majority 96.2% are performing physical activity. This study finding is similar to the study finding conducted of Anju Ade et al[15].

In this study 6.0% of respondents had habit of smoking as well as drinking alcohol each. Both of these factors are risk factors for developing NCDs. In this group, most are influenced by their peer initially and take as a fun but after that they cannot avoid these bad habits. The practices for prevention of NCDs were seen in this study. It showed that 3.8% had sedentary lifestyle, 88.5% were taking fast food, and 66.7% were eating red meat. It was found from the present study that 13.1% of the respondents were suffering from Br asthma. This may be due to air of Dhaka city is highly polluted[16]. Then living conditions may be congested. Therefore most of bronchial asthma develops in early life[17]. The present study revealed that the highest 37.7% had good knowledge and 28.4% had average knowledge in 15-16 years age group. This study showed that 36.6% male had average knowledge and 33.3% male had good knowledge. Whereas, 0.5% male had poor knowledge. In case of female, 24.6% had good knowledge, 4.9% had average knowledge & none of them had poor knowledge. It was seen in the present study that 42.1% students of Class X had the highest good knowledge and 11.5% students had average knowledge. In Class X, none had poor knowledge. On the other hand, 30.1% student of Class IX had average knowledge & 15.8% students had good knowledge. In Class IX, 0.5%respondents had poor knowledge.

This study revealed that 25.7% respondents of HSC & Equivalent qualified father had highest good knowledge and 21.9% respondents of Degree & above qualified father had good knowledge. At the same time, 7.7% respondents of SSC & Equivalent qualified father had good knowledge. It was found in present study that majority (54.1%) respondents of House wife had highest good knowledge and 31.7% had average knowledge. This study showed that 30.1% respondents of monthly family income between TK. 20000-40000, had highest good knowledge followed by12.6%respondents of monthly family income between TK.10000-20000, had good knowledge. This study revealed that more than half (55.2%) of respondents have highest good knowledge & they did perform physical activity. Physical activity can reduce the obesity related NCDs, such as- DM, HTN, and CVD. It was found in present study that more than half (55.2%) of the respondents had good knowledge regarding alcohol consumption as a risk factor for the development of NCDs and they did not have this bad habit also. But 6.0% respondents had the habit of drinking alcohol. This study revealed that 7.1% respondents had average knowledge & 5.5% respondents had good knowledge even though they are suffering from bronchial asthma. The presence of this disease may be due to environmental pollution in Dhaka city[18].

Conclusion

NCDs are recognized as a major public health problem in Bangladesh and it is strongly associated with universal trends such as ageing of the global population, rapid unplanned urbanization and the globalization of unhealthy lifestyles and obesity. Health awareness program is to be taken among the school children about ill effects of physical inactivity, obesity, radiation and measures for prevention of NCDs among respondents. Special emphasis is to be given for prevention of smoking and drinking of alcohol among school children.

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