

Pattern of Self-Reported Behavioural Risk Factors of Non-Communicable Diseases among Doctors Working in a Tertiary Care Hospital

Shoman Sarkar^{1*}
Raju Dey¹
Bidhan Roy Chowdhury²
Shahryar Ahmed³
Sagar Chowdhury²

¹Department of Medicine
Chittagong Medical College
Chattogram, Bangladesh.

²Department of Cardiology
Chittagong Medical College
Chattogram, Bangladesh.

³Department of Endocrinology
Chittagong Medical College
Chattogram, Bangladesh.

*Correspondence to:
Dr. Shoman Sarkar
Associate Professor
Department of Medicine
Chittagong Medical College Hospital
Chattogram, Bangladesh.
Mobile: 01554 33 20 10
Email: drshmn73@gmail.com

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Abstract

Background: Behavioural risk factors reduction is a key to Non-Communicable Diseases (NCDs) control. The doctors are educated and aware of society, yet their life-style and work habits have led them to suffer from NCDs. This study was carried out to determine the prevalence of the behavioral risk factors of major NCDs among doctors working at Chittagong Medical College Hospital (CMCH).

Materials and methods: This cross-sectional study included 145 doctors working at CMCH from April 2020 to September 2020. A structured self-administered questionnaire based on the WHO STEPS instrument for NCDs risks factors surveys was used to collect data.

Results: Out of 145 respondents, 104 doctors (71.7%) were males, and 41 doctors (28.3%) were females. Most doctors (50.3%) were aged 23 to 35 years and 29.7% were 35-44 years. The proportion of doctors currently smoking tobacco, drinking alcohol, being sedentary in daily life, and taking low vegetables and fruits was 8.3%, 8.3%, 18.6%, and 72.4%, respectively. No female doctor reported smoking or drinking. Ninety-one (62.8%) of doctors had one risk habit and 17.2% with two risk habits.

Conclusion: It is desirable that doctors voluntarily strive to have a favourable lifestyle and that medical institutions actively enlighten doctors' working at their institutions about this issue.

Key words: Behavioural risk factors, Doctors; Non-communicable diseases.

INTRODUCTION

The World Health Organization (WHO) global strategy for prevention and control of NCDs has identified Cardiovascular diseases, including ischemic heart disease, hypertension, stroke, Cancers, Diabetes mellitus, Chronic obstructive pulmonary disease, for integral surveillance, community-based prevention, and primary healthcare-based cost-effective management.¹ NCDs have been important in developed countries for several decades and are becoming recognized as a significant public health threat in the developing world.^{2,3} Number of lives lost due to ill-health and disability, NCDs account for 61% of the total disease burden in Bangladesh.⁴ A vast body of knowledge now exists about the risk factors of major NCDs. Most epidemiologists accept tobacco use, alcohol consumption, imbalanced nutrition, physical inactivity, obesity, high blood pressure, high blood glucose, and abnormal lipid profile as the key risk factors for the major NCDs. Among them, the first four are known as behavioral risk factors as they are characteristics or behavior of an individual that is associated with an increased probability of a specified outcome.⁵

Whereas there are increasing information about risk factors in the general population and consequently more population-based interventions, very little is known about the NCDs risk profile and health of healthcare workers.⁶⁻⁹ Identifying these risk factors is a major part of caring for patients. Physicians play an essential role in influencing adult patients to modify risk factors.^{10,11} Further, physicians who engage in behaviours that decrease their own risk are more likely to counsel their patients to reduce their risks.¹²

This study was conducted to determine the behavioural risk factors of major NCDs among doctors working in a tertiary care hospital. Studies in other parts of the world suggested that epidemiologic studies on NCDs risks should be performed and reported per target groups and not just in the general population.^{13,14} High prevalence of risk factors with low awareness was reported among doctors in those studies. The situation in our country is still unknown as this issue of NCDs risk is rarely addressed among Bangladeshi doctors. Our perception was that the problem was not better from the observation of other countries. If so, it is time to take care of the ones who tirelessly take care of the rest of society's health.

MATERIALS AND METHODS

This was a cross-sectional study, and data were collected from the working doctors of Chittagong Medical College Hospital, Chattogram, Bangladesh, from April'2020 to September 2020 after obtaining permission from the Ethical Review Committee of Chittagong Medical College. All doctors in CMCH were identified from the Director and Principal's office list. The written questionnaire was distributed to the participants with a reply card to ensure anonymity: it contained an identifier, but the questionnaire did not. The respondent returned the reply card separately to certify the completion of the questionnaire. Those doctors who did not return the reply card even after three reminders were considered non-responders. It was anticipated that about 15-20 minutes were required to fill up the questionnaire by an individual respondent. After seven days, it was collected, ignoring whether it was filled or not. Two hundred doctors were approached, and responses were received from 145 doctors (Response rate of 72.5%).

Data were collected by a self-administered questionnaire based on the WHO STEPS instrument for NCDs risk factors surveillance.⁵ Individuals who remained mainly sedentary in the three spheres of day-to-day life- at work or occupation, transportation and leisure-were considered inactive. Fruits and vegetable intake of fewer than five servings per person per day was deemed to be low fruits and vegetable intake.⁵ A serving of fruit was defined as one medium piece or two small pieces of fruit, or one cup of diced pieces. A serving of vegetables was defined as a half cup of cooked vegetables or one cup of salad vegetables.⁵

SPSS (Statistical Package for Social Science) for Windows version 23 software to process and analyze the data. Categorical variables were expressed as frequency and percentages and compared between groups by the Chi-square test. Continuous variables were reported as mean \pm Standard Deviation (SD). p-value <0.05 was considered as statistically significant.

RESULTS

Out of 145 respondents, 104 doctors (71.7%) were males, and 41 doctors (28.3%) were females. Most doctors (50.3%) were aged 23 to 35, followed by 35-44 years (29.7%) (Table I).

Table I The attributes of the respondents (n=145)

Variables	Category	Frequency (%)
Age groups	25-34 years	73 (50.3)
	35-44 years	43 (29.7)
	\geq 45 years	25 (20.0)
Sex	Male	104 (71.7)
	Female	41 (28.3)

Thirty-one (21.4%) reported smoking tobacco in their life, and 12 (8.3%) respondents reported smoking currently. Only three respondents reported the use of smokeless tobacco. Out of 145 respondents, 22 doctors said to drink an alcoholic beverage in their lifetime. However, only 12 (8.3%) reported drinking alcohol in the last 12 months. The majority of the current drinkers said to drink alcohol less than once a month. The mean daily consumption of fruits, raw vegetables, and cooked vegetables is shown in Table II. Out of 145 doctors, it was found that 72.4% of doctors take low fruits and vegetables daily. The respondents reported being sedentary in their occupation, transportation, and leisure time was 52.4%, 41.4%, and 49%, respectively (Table II). Twenty-seven (18.6%) doctors were found to be sedentary in all three spheres of life, and 32 (22.1%) were physically active in all three spheres (Table II).

Table II Pattern of Behavioural risk factors among the respondents (n=145)

Variables	Frequency (%) / Mean \pm SD
Ever smoked tobacco	31 (21.4)
Currently smoke tobacco	12 (8.3)
Current daily smoker	9 (6.2)
Use smokeless tobacco	3 (2.1)
Ever drink an alcoholic beverage	22 (15.2)
Drink alcoholic beverages in the last 12 months	12 (8.3)
Fruits intake, servings/day	1.63 \pm 0.99
Raw vegetable intake, servings/day	1.23 \pm 0.61
Cooked vegetable intake, servings/day	1.81 \pm 1.23
Low fruit and vegetable intake	105 (72.4)
Sedentary in all three spheres*	27 (18.6)
Active in all three spheres	32 (22.1)
Active in one sphere	40 (27.6)
Active in two spheres	46 (31.7)

*Occupation, transportation and leisure.

Out of 145 doctors, most (62.8%) of them had one risk habit (using tobacco, drinking alcohol, taking low fruits and vegetables and having a sedentary lifestyle). Only 24 (16.6%) doctors had no risk habits (Figure 1).

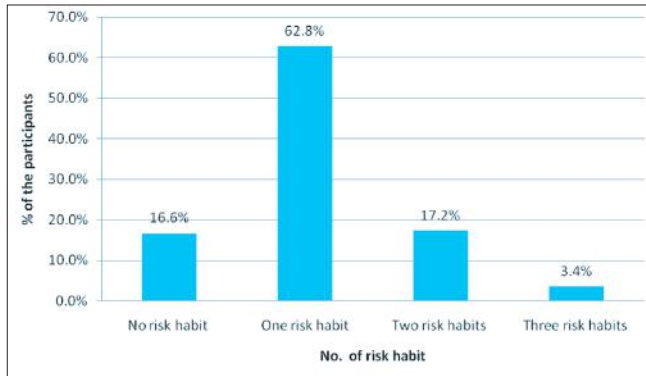


Figure 1 Occurrence of Behavioural risk factor combinations among the respondents (n=145)

Table III indicates that the risk habit of current smoking, current alcohol drinking and sedentary lifestyle were more prevalent in the doctors aged 45 years or more than in the other two age categories. Low fruit and vegetable intake were more frequent among young doctors (Age 25-34 years). However, none of these associations was statistically significant.

Table III Association between risk factors and age category

Risk factors	25-34 years (n=73)	35-44 years (n=43)	≥45 years (n=29)	p value *
Current smoker	5 (6.8)	4 (9.3)	3 (10.3)	0.811
Current alcohol drinker	6 (8.2)	2 (4.7)	4 (13.8)	0.385
Sedentary lifestyle	14 (19.2)	6 (14.0)	7 (24.1)	0.454
Low fruits and vegetable intake	58 (79.5)	28 (65.1)	19 (65.5)	0.161

Data were expressed as frequency (%). *Chi-square test.

All of the doctors who had reported to smoke tobacco currently or drinking alcohol now were male doctors. On the other hand, more female doctors were found to have a sedentary lifestyle or took low fruits and vegetables than male doctors. But the differences were not statistically significant (Table IV).

Table IV Association between risk factors and sex

Risk factors	Male (n=104)	Female (n=41)	p value *
Current smoker	12 (11.5)	0 (0)	0.020
Current alcohol drinker	12 (11.5)	0 (0)	0.020
Sedentary lifestyle	18 (17.3)	9 (22.0)	0.512
Low fruits and vegetables intake	72 (69.2)	33 (80.5)	0.172

Data were expressed as frequency (%). *Chi-square test.

DISCUSSION

The study demonstrated that many doctors were engaged in unhealthy lifestyles like smoking tobacco, drinking alcohol, being sedentary, and consuming low fruits and vegetables. Out of 145 doctors, a majority (62.8%) of them had one risk habit. Only 24 (16.6%) doctors had no risk habit. This survey suggests that enlightening hospital-employed physicians about favourable lifestyle items are desirable.

Regarding smoking patterns in the current study, 21.4% reported to smoke tobacco in their life, and 8.3% of respondents reported smoking currently. Only three respondents reported the use of smokeless tobacco. All the doctors who wrote to smoke were male doctors. In comparison with the general Bangladeshi population, the smoking rates in this study were low (54.8% in men and 1.3% in women).⁶ Comparatively lower rates in the doctors of the present study than in the general population might be due to the attributes of the participants. Doctors are comparatively higher educated and more aware of their health than the general population. A recent meta-analysis reported that the overall pooled prevalence of tobacco use in Health Care Workers was 21%, 31% in males and 17% in females. The highest estimates were in male doctors in upper-middle-income countries and lower-middle-and-low-income countries, 35% and 45%.¹⁶

Regarding drinking alcohol current study indicated a lower rate compared to smoking. Out of 145 respondents, 22 doctors reported drinking an alcoholic beverage in their lifetime and all of them were male. However, only 12 (8.3%) said to drink alcohol in the last 12 months. According to the national representative cross-sectional survey (STEPS 2010) 5.6% reported having drunk alcohol in the general population, and 94.4% were lifetime abstainers, 2.0% of participants reported having drunk alcohol within the last 12 months.¹⁷ However, it should be noted that current proportions of drinking may be significantly underreported, owing to social stigma and prohibition of alcohol use within both Bangladesh and the broader subcontinent.¹⁸

In the present study, the fruit intake in Bangladeshi was deficient in both frequency and quantity. The prevalence of inadequate fruit and vegetable intake in Bangladeshi adults was high (82.8%).¹⁹ The findings of the present and national representative survey from Bangladesh are similar to that of the World Health Survey: more than three-fourths of men and women from 52 lower-middle and low-income countries consumed less than the minimum recommended five daily servings of fruits and vegetables.²⁰

Gaertner et al. observed that, although the physicians were less physically active than the general population, they believed that exercise was important to them personally and that patients should be counselled about physical activity.²¹ In the present study, 18.6% of the doctors were sedentary in all three spheres of life, and 22.1% were physically active in all three spheres (Occupation, transportation, and leisure time). Another study from India reported that 20% of physicians had a low level of physical activity and a high risk for cardiovascular diseases.²²

LIMITATIONS

There are some limitations to this study. The sample size was relatively small, including from a public tertiary hospital, which might limit its capacity to generalize the results. All the information regarding the risk factors was collected with a questionnaire based on the respondents' memory. So, there is a chance of recall bias and over or underreporting.

CONCLUSION

The present study revealed the lifestyle status concerning NCDs of hospital-employed doctors in Chattogram, Bangladesh, particularly regarding smoking, drinking, exercise, and diet. Excluding smoking, the lifestyle of physicians in this study was not necessarily favourable compared to that of the general Bangladeshi population or physicians in other countries.

RECOMMENDATIONS

Enhanced consciousness of physicians about better lifestyles for themselves and organizational enlightenment activities promoted by medical institutions is desirable. Further study is needed to determine how applicable these results are to Bangladeshi doctors in general.

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DISCLOSURE

All the authors declared no competing interest.

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