



Health promoting behaviors among college students in Bangladesh

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ABSTRACT

Health promoting behaviors are the complex and multi-faceted determinant of health. This study was aimed to describe the health promoting behaviors among college students in Bangladesh. This a descriptive study conducted among 112 college students were selected randomly. The Adolescent Health Promotion Short-Form (AHP-SF) questionnaire was used to describe health promoting behaviors of college students. Data were analyzed using descriptive statistics, independent t-test, one way ANOVA and Pearson correlation to describe and examine the relationship participants' characteristics and health promoting behaviors. The mean age was 17.91(SD±.926) years and among them 95% were Muslims, 74.10% living in nuclear family and 83.03% living with their parents, mean score of health promoting behaviors of college students was 2.73±.620 in a 5 point Likert Scale, it indicates their moderate level of health promoting behavior. In this study gender (p.043), types of family (p.000), monthly family income (p.000), unhealthy behaviors (p.000) and skin diseases (p.011) were demonstrated significant association with the health promoting behaviors of college students. Develop and implement on effective health promoting programme at college students is crucial to encourage them to form lifelong healthy habits and improve quality of life.

INTRODUCTION

Health promoting behaviors are the complex and multi-faceted determinants of health status (Musavian et al., 2016). It has been considered as the multi-dimensional pattern of self-initiated feelings and behaviors to ensuring individual's health, self-actualization, and self-accomplishment (Wei, 2011). Health promoting behaviors are the main ways to maintain health and decrease treatment expenses developing the skills and capabilities of individuals' self-care (Shafaie et al., 2017). It is crucial for college students to adopt health promoting activities to continue throughout adulthood and thus many health problems and disabilities can be avoided in adulthood stage (Alzahrani et al., 2019). Any lesion in childhood can contribute to the subsequent stages of human through taking right decision (Han, 2005). In this childhood period they are exposed to any environment that places their health are vulnerable to health-related problems, because health promoting activities are

not voluntarily presented (Kim and Kim, 2018). Characteristically in this stage they have tendency to adopt easy risky and unhealthier behaviors and ignoring the importance of health promoting behaviors (Han, 2005).

Nurses are one the key health care provider, they can help the students to adopt healthy habits, prevent diseases, maintain and improve their overall health and wellness by making better choice.

The world Health Organizations estimated that 70-80% of deaths in developed countries and 40-50% of deaths in less-developed countries due to diseases associated with lifestyle (World Health Organization, 2018). It has also pointed out that 60% of the morbidity and mortality of non-communicable diseases are dependent on behavioral and lifestyle factors (Alzahrani, 2019). College students are exhibit distinct decline in unhealthy lifestyle often deteriorate during this time (Kim et al., 2006).

Health Promoting Behaviors of individual are not comprised of a single factor, but a complex set of similar actions in a more complex (Pender, 2010). It includes a variety of demographic, social, and psychological factors related to health promoting behaviors (Hee et al., 2016), and also involves the social norms, culture, media, watching television for more than two hours per day was found to be linked with health promoting behaviors (Aghamolaei and Tavafian, 2011). Other factors including health-related behaviors are influences such, national health policies, advertisements, and environment (Musavian et al., 2016).

Health promoting behaviors is an important determinant of health (Mirghafourvand et al., 2015), it is very important for college students to promote their own health and prevent from health-threatening behaviors, help in efforts to encourage them to form lifelong healthy habits (Kang and You, 2018). In general college students tend to practice unhealthy behaviors like physical inactivity, unhealthy diet, tobacco use, drug abuse and harmful use of alcohol (Jawed et al., 2018). Practicing these unhealthy behaviors link with the individual's vulnerability and susceptibility to bad health outcomes (Alzahrani et al., 2019).

In Bangladesh a number of studies have been performed on college students about health risk behaviors and awareness of health but still there is a lacking of information about health promoting behaviors. So it is important to assess the health promoting behaviors of college students in Bangladesh.

METHODS

A descriptive study design was used to assess the health promoting behaviors among college student in Bangladesh. The approval was obtained from Institutional Review Board of National Institute of Advanced Nursing Education and Research (NIANER) in Dhaka, Bangabandhu Sheikh Mujib Medical University (BSMMU) and principal of Bangabandhu Sheik Mujib Academy School and College at Dhaka.

This study was conducted between from July 2019 to June 2020. The data were collected of XI and

XII classes' students and random sampling technique was used.

Potential participants were explained about details of the study and were informed that they had the right to withdraw from the study any time with no harm. Participants who decided to participate in the study were asked to sign the consent form. Total of 112 participants were selected based on the following inclusion criteria: (i) participations were willing to participate. (ii) Conscious, mentally alert and able to co-operate in this study. (iii) That day those were present in the class.

A self-administered questionnaire was used to collect data. The Questionnaire was consisted of two parts: Part 1: Socio-demographic characteristics, including 12 items such as: participant's age, gender, religion, level of students, religion, types of resident, types of family, family income (monthly), living with, unhealthy behaviors, health problem, and body mass index. Part 2: Health Promoting Behaviors Questionnaires. The Adolescent Health Promotion Short-Form (AHP-SF) was developed by Chen et al. (2003), was used in this study to assess the health promoting behaviors of college students. The AHP-SF consists of 40 items with uses a 5-point Likert- scale ranging from 1 (never) to 5 (always). The total score ranges from 40 to 200. The higher scores indicating better practicing health promoting behaviors. Overall, the instrument had high internal consistency, with a Cronbach's alpha coefficient of 0.93. Alpha coefficients for the six subscales ranged from 0.75 to 0.88 (Chen et al., 2003). The AHP-SF is comprised of six subscales: social support (7 items), life appreciation (8 items), health responsibility (8 items), nutritional behaviors (6 items), exercise behaviors (5 items), and stress management (6items). For the purposes of this study, one item was excluded from exercise the original AHP-SF after expert opinion, because this item was not match with our country perspective, so total 39 items are prepared for this study. In present study Cronbach's α coefficient of reliability of the AHP-SF was 0.86.

RESULTS

Socio-demographic characteristics of the college students

The socio-demographic characteristics of the college students are presented in table 1. The mean age of the college students was 17.91± (0.926) with the range from 16-21 years. Most of the college students were 95% Muslim, 74.10% living in nuclear family, 83.03% living with parents and 52.68% live in apartment. The average monthly income was 31667.86± (12750.087). Among the respondents 27.68% college students have unhealthy behavior. Majority of students have at least one health problem 40.17% have skin diseases, 26.79% have dental problem, 21.43% have asthma, 17.86% have eye problem and 17.00% have common cold. The average body mass index was 23.31±3.559 of the college students.

Table 1: Socio-demographic characteristic of college students (112)

Variables	Category	n (%)
Age (Years)		17.91±.92
Gender	Male	60(53.58)
	Female	52 (46.42)
Religion	Muslim	107 (95.54)
	Hindu	5 (4.46)
Living with	Parents	93 (83.03)
	Hostel	12 (10.72)
	Relative	7 (6.25)
Types of Residence	Apartment	58 (51.78)
	Paca	42 (37.50)
	Semipaca	12 (10.72)
Types of family	Nuclear family	83 (74.10)
	Joint family	29 (25.90)
Family income(monthly)	<20000	24(21.62)
	20000-40000	75(66.96)
	>40000	13(11.60)
Having unhealthy behaviors	Yes	31 (27.68)
	No	81 (72.32)

Variables	Category	n (%)
Having Health Problems	Yes	98 (87.5)
	No	14 (12.5)
Skin diseases	Yes	45 (40.17)
	No	67 (59.82)
Dental problem	Yes	30 (26.79)
	No	82 (73.21)
Asthma	Yes	24 (21.42)
	No	88 (78.59)
Comoncold	Yes	20 (17.86)
	No	92 (82.14)
BMI	Underweight	12(10.7)
	Normal bodyweight	66(58.9)
	Overweight	34(30.4)

Distribution of health promoting behaviors of college students

Table 2 shows that in a 5 points rating scale (1-5) the mean score of health promoting behaviors of college students was 2.73±.495. Considering the six subscales higher mean score was found regarding ‘life appreciation’ (3.32±.891) and ‘social support’ (3.08±.870), then moderate score of ‘stress management’ (2.86±.861), ‘health responsibility’ (2.40±.642), and ‘nutrition’ was (2.37±.653) rather than lowest score of ‘exercise’ (1.96±.759). In term of individual health promoting behaviors 50 (44.64 %) students was always wash hands before meals, 56(50.0%) students always make an effort to believe that my life has purpose, 42 (37.50%) always think positively, 37 (33.00%) students always make an effort to feel happy and content, 31(27.67%) students always make an effort to know what’s important for me. Whereas most of individual of health promoting behaviors 76 (67.95%) college students never observe body at least monthly, more than half of 58(51.78%) students never exercise rigorously 30 minutes at least 3 time as per week, 61(54.46%) students never discuss health concerns with a doctor or nurse and 58(51.78%) students never perform stretching exercise daily.

Table 2: Distribution of health promoting behaviors of the college students (N= 112)

Statement	Never n (%)	Sometimes N (%)	Often N (%)	Routinely N (%)	Always N (%)	M±SD
Nutrition						
I eat meals.	15(13.39)	55 (49.1)	22(19.64)	13(11.60)	7 (6.25)	2.48±1.06
I choose foods without oil	17(15.17)	56(50.0)	27(24.10)	6(5.35)	6(5.35)	2.36±.98
Include dietary fiber	12(10.71)	59(52.67)	27(24.10)	10(8.92)	4(3.67)	2.42±.92
Drink water	30(26.78)	44(39.28)	19(16.96)	12(10.71)	7(6.25)	2.30±1.16
Each meals food groups	13(11.60)	54(48.21)	30(26.78)	8(7.14)	7(6.25)	2.48±1.00
Eat breakfast	29(25.89)	53(47.32)	15(13.39)	9(8.03)	6(5.35)	2.20±1.08
Social support						
I speak up	6(5.35)	39(34.82)	22(19.64)	11(9.82)	34(30.35)	3.25±1.35
I care about other people	8(7.14)	43(38.39)	34(30.35)	11(9.82)	16(14.28)	2.86±1.15
Make an effort to smile	8(7.14)	24(21.42)	33(29.46)	15(13.39)	32(28.57)	3.35±1.29
Enjoy keeping in touch	13(11.60)	37(33.03)	27(24.10)	11(9.82)	24(21.42)	2.96±1.32
Make an effort friendships	1(.89)	21(18.75)	33(29.46)	13(11.60)	44(39.28)	3.70±1.19
Talk about my troubles	16(14.28)	46(41.07)	26(23.21)	10(8.92)	14(12.50)	2.64±1.20
Health responsibility						
Read food labels.	34(30.35)	37(33.03)	19(16.96)	8(7.14)	14(12.50)	2.38±1.32
I watch my weight	36(32.14)	54(48.21)	12(10.71)	5(4.46)	5(4.46)	2.01±1.00
Discuss my health	61(54.46)	39(34.82)	10(8.92)	2(1.78)		1.58±.73
Observe my body	76(67.95)	31(27.67)	2(1.78)	2(1.78)	1(.89)	1.40±.70
Brush my teeth	22(19.64)	26(23.21)	24(21.42)	21(18.75)	19(16.96)	2.90±1.37
Wash hands	3(2.67)	15(13.39)	28(25.00)	16(14.28)	50(44.64)	3.85±1.21
Read health info	33(29.46)	45(40.17)	14(12.50)	6(5.35)	14(12.50)	2.31±1.29
Make an effort foods	18(16.07)	35(31.25)	29(25.89)	15(13.39)	15(13.39)	2.77±1.25
Life appreciation						
Make to like	9(8.05)	32(28.57)	32(28.57)	9(8.03)	30(26.78)	3.17±1.32
Make happy	4(3.57)	28(25.00)	29(25.89)	14(12.50)	37(33.00)	3.46±1.28
I think positively	2(1.76)	25(22.32)	27(24.10)	21(18.75)	37(33.00)	3.59±1.21
Make an understand	10(8.92)	34(30.35)	32(28.57)	11(9.82)	25(22.32)	3.06±1.28
Make an attempt concern	2(1.79)	29(25.89)	37(33.03)	14(12.5)	30(26.78)	3.37±1.18
Make an effort to know	2(1.78)	25(22.32)	30(26.78)	24(21.42)	31(27.67)	3.51±1.17
Make an effort to feel	17(15.17)	37(33.03)	26(23.21)	14(12.50)	18(16.07)	2.81±1.29
Make an effort to believe	6(5.35)	24(21.42)	23(20.50)	17(15.77)	42(37.50)	3.58±1.32
Exercise						
Perform ex	58(51.78)	43(38.39)	5(4.50)		6(5.35)	1.69±.97
Exercise rigorously	63(56.25)	37(33.00)	9(8.00)	1(.89)	2(1.78)	1.59±.82
Warm up	61(54.46)	34(30.35)	11(9.82)	1(.89)	5(4.46)	1.71±1.00
Make an effort to stand	11(9.82)	40(35.71)	34(30.35)	7(6.25)	20(17.85)	2.87±1.23
Stress management						
Make an effort to spend time	15(13.3)	39(34.82)	23(20.53)	15(13.39)	20(17.85)	2.88±1.31
Make an effort to determine	12(10.71)	33(29.46)	32(28.57)	13(11.60)	22(19.64)	3.00±1.28
Make an effort to watch	11(9.82)	43(38.39)	32(28.57)	12(10.71)	14(12.50)	2.78±1.16
Sleep night.	16(14.28)	30(26.78)	23(20.53)	19(16.96)	24(21.42)	3.04±1.37
Make schedules	34(30.35)	33(29.46)	20(17.85)	16(14.28)	9(8.03)	2.40±1.27
I try not to lose control	14(12.50)	32(28.67)	28(25.00)	9(8.03)	29(25.89)	3.06±1.38

Relationship between sociodemographic characteristics and health promoting behaviors of the college students

This table shows the relationship between socio-demographic characteristics of the college students with their health promoting behaviors. Study revealed that female students have significantly higher mean score of their health promoting behaviors than male students (3.01±.48). Similarly students living with joint

family reported significantly higher health promoting behaviors than students living in nuclear family (3.34±.47). It also found that students from the families that have more than 40000 TK they reported statistically significant higher health promoting behaviors than the students from less income family (t.438, p.001). Students having unhealthy behaviors (t.4.230, p.000) and skin diseases (t-2.596, p.011) showed statistically significant with health promoting behaviors (Table 3).

Table 3: Relationship between sociodemographic characteristics and health promoting behaviors of the college students (N=112)

Variable	Category	M±SD	t/F/r	p
Age			-152	.110
Gender	Male	2.49±.62	-4.921	.043
	Female	3.01±.48		
Religion	Muslim	2.95±.48	-1.649	.103
	Hindu	3.32±.59		
Living with	Parents	2.95±.50	.440	.645
	Mess	2.98±.46		
	Reletive	3.22±.44		
Types residence	Apartment	3.01±.49	.445	.642
	Pacca	2.97±.46		
	Semipaca	2.79±.59		
Types of family	Nuclear family	2.88±.46	-3.582	.000
	Joint family	3.34±.47		
Family income (monthly)	<20000	2.34±.58	.438	.000
	20000-40000	2.76±.57		
	>40000	3.30±.48		
Having unhealthy behaviors	Yes	2.36±.57	4.230	.000
	No	2.88±.57		
Having Health Problem	Yes	2.77±.62	.280	.782
	No	2.73±.60		
Skin diseases	Yes	2.91±.60	-2.596	.011
	No	2.61±.60		
Dental Problem	Yes	2.79±.57	1.490	.139
	No	2.59±.63		
Asthma	Yes	2.82±.65	.098	.922
	No	2.76±.61		
Common cold	Yes	2.72±.60	.315	.753
	No	2.72±.60		
Eye problems	Yes	2.50±.55	1.813	.592
	No	2.78±.62		
BMI	Underweight (<18.50)	2.89±.48	.387	.680
	Normal (18.50-24.99)	3.00±.50		
	Overweight (≥30.00)	2.94±.48		

Other characteristics such as age ($r = -0.70$, $p = .460$), types of residence ($F = 1.00$, $p = .371$), living with ($F = .999$, $p = .371$), health problems and BMI ($r = .387$, $p = .680$) also found to influence their health promoting behaviors but were not statistically significant with the health promoting behaviors of the college students.

DISCUSSION

The study findings revealed that health promoting behaviors of college students in Bangladesh had a relatively moderate level. This finding is similar with the study in Iran (Musavian, et al., 2016)

Considering the six subscales of health promoting behaviors of college students, comparatively high level score in 'life appreciation' and 'social support' rather than other subscales were observed. Similar findings were reported in Saudi Arabian in general university students by Montazeri et al. (2018). Similar finding was also found in a study among high school students with the age of 14 to 21 years in Iran (Musavian, et al., 2016). This might be due to prevailing culture and religious beliefs (Musavian et al., 2016).

In 'stress management' and 'health responsibility' subscales of health promoting behaviors of the college students showed the moderate level score. The similar findings were observed in Saudi Arabian university students study (Montazeri et al. 2018). The reason might be due to having tendency of college students to take unhealthier behaviors and ignoring the importance of health promoting behaviors (Han, 2005). However standardized educational programs are needed in school or college to change or modified behaviors of the students (Bastani et al., 2018).

On the other hand, the mean score of subscales including 'nutrition' showed lowest level. This finding is consistent with the previous college students study in Korea (Kim and Kim, 2018). The reason of this finding is that students are given more freedom upon entering college, may also be due to the tendency of college students to skip breakfast and irregular diet patterns (Joe et al., 2006).

The subscales 'physical exercise' showed lowest score for the college students. This finding is in agreement with findings in India, Saudi Arabia and Korea (Raj et al., 2012; Almutairi et al., 2018; Kim and Kim, 2018), because most of the college students did not take a part of moderate to vigorous physical activity in their daily life (Kim and Kim, 2018). In Bangladesh it would be due to rapid urbanization, decreasing number of playgrounds, increasing purchase of physical fitness equipment or gym center. In addition due to easy access to mobile phones and availability of hand-held computers contribute to less physical activity among Bangladeshi students (Hasan et al., 2020).

In terms of individual health promoting behaviors among college students more than half were shown in; 'always make an effort to believe that my life has purpose' and 'make an effort to know what's important for me' This finding is supported by the another study in India and Iran (Raj et al., 2012; Musavian et al., 2016).

In the present study more than sixty percent of students reported 'never observe body at least monthly', 'never exercise rigorously 30 minutes at least 3 times as per week' and 'never discuss health concerns with a doctor or nurse'. Similar findings were reported in South Korea high school students (Kang and You, 2018). This may be due to college students like to lead a carefree life and less concern about their health (Raj et al., 2012).

In the present study some demographic characteristics of the college students such as; gender, types of family, monthly income of the family, unhealthy behaviors and health problems like skin diseases have significant association with their health promoting behaviors. It is also reported in this study that gender of the students was a significantly influencing factor of their health promoting behaviors. Female students had better health promoting behaviors than male students. These results are consistent with an Iranian study on school students conducted by Musavian et al. (2016). The reasons of these significant results of the present study may be due

to female students are more conscious about their health than male students (Raj et al., 2013).

The current study result showed that types of family had significant associated with the health promoting behaviors of college students. College students who were live in joint family reported more health promoting behaviors than who live in nuclear family. The finding is similar to a study in India conducted by Bansal et al., (2014). Because in the nuclear families fathers and mothers do not have enough time to provide sufficient care to their children, due to increase of work load (Bansal et al., 2014).

The monthly family income of the college students was statistically significant with their health promoting behaviors. It is revealed that students from comparatively higher economic family reported better health promoting behaviors than from lower economic family. The finding is in contrast with other study of Rahman et al. (2020). However in present study it is observed that income is a major concern to health promoting behaviors among college students in Bangladesh. Higher income may encourage the student to help practice health-promoting behaviors (Kang and You, 2018).

Result of this study showed that unhealthy behaviors like smoking was significantly related with health promoting behaviors of the college students. This finding is supported by a previous study among university students in Bangladesh (Hossain et al., 2017). The reason would be that the college students like to easily engage in unhealthy behaviors such as smoking due to having comparatively less restricted rules and regulation on college environment (Kim and Kim, 2018). Therefore health-promoting programs in college may help to make students responsible not only for their own healthy behaviors, but also for the health of their families and society as well (Jawed et al., 2018).

Having health problems of the college students like skin diseases was significantly associated with their health promoting behaviors. It was found that the students who did not suffer from skin diseases, they were better health promoting

behaviors. The result was consistence with a previous study in India (Joseph et al., 2016).

However, the health problems have significant impact on quality of life, productivity. This health problem is substantial in lower socioeconomic populations with limited access to health care (Wootton et al., 2018).

CONCLUSION

The study showed that gender, types of family, monthly family income, unhealthy behaviors and skin diseases have significant impact on their health promoting behaviors. These finding highlighted that college students are key candidates for health prevention programme. Therefore, health promotion interventions targeted at college students are important. This could help in establishing healthy habits that will be adopted for their life.

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