Original Article

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Health Promoting Behaviors among Adolescents at Selected Schools of Chitwan

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ABSTRACT

Background: Health Promotion and maintenance are fundamental prerequisites to achieve optimum health in an individual and limit the illness. The objective of the study was to assess the health promoting behaviors among adolescents at selected schools.

Methods: A descriptive cross-sectional study was conducted among 238 adolescents age 14-18 years of age studying in three different government schools of Bharatpur-10 Chitwan. Probability simple random method was used for selecting the required respondent. Data were collected using Adolescents Health Promoting Scale questionnaire through self-administered technique. Obtained data were analyzed using descriptive and inferential statistics.

Results: The study revealed that 47.5% had high level of health promoting behaviors whereas 52.5% had low level of health promoting behavior. Regarding, the subscale, the highest score was obtained in the area of exercise (median percentage=72.5%) and lowest score was obtained in the area of stress management (median percentage=48%). Moreover, statistically significant variables for health promoting behavior were respondents age, availability of school health nurse, educational status of both the parents and and occupation of father ($p<0.05$).

Conclusions: More than half of the adolescents in schools have low health promoting behavior, particularly in the area of stress management and nutrition. Adolescence is the period when most of the healthy and unhealthy habits are developed. Hence, it is necessary to focus on developing efficient health promotion and disease prevention strategies in collaboration with school teachers and school health nurse.

Keywords: Adolescent; adolescent health; health promotion; health promoting behavior; school health.

INTRODUCTION

Adolescents bear substantial proportion of the global disease and injury burden. Nearly 35% of the global burden of disease has roots in adolescence and account for 6% of the world's global disease. Health risk behaviors predominantly begin in childhood and accounts for over 70% of all premature deaths among adults.[1] Though, it should be low in young people but epidemiological transition through change in lifestyle or behavior towards the unhealthy continuum had led to potential impact on adolescent.[1,2] In developing countries like Nepal, 71.1% of total mortality is due to non-communicable disease.[3] Global burden of diseases such as heart disease and cancer are now affecting far too many people at a young age.[4]

Adolescents should be aware of healthy behaviors in order to improve their quality of life.[5,6] Therefore, helping adolescents in establishing healthy lifestyles to avoid health risk behaviors is crucial and should be started before these behaviors are firmly established. Hence, this study aims to assess the health promoting behavior among adolescents among different government schools.

METHODS

A descriptive cross sectional research design was used to assess the health promoting behavior among adolescents studying at grade 10 aged 14-18 within June 2022 to July 2022 at three selected schools of Bharatpur-10, Chitwan. All the adolescents who were willing to participate and falling in age group 14-18 years of selected schools were taken as an sample.

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Considering, prevalence of 50% (Swaminathan et al.) [7], level of significance at 95% allowable error at 5% and 10% of non-response rate, a total of 238 adolescents from three different government schools were selected for this study. Schools were visited by the researcher prior to data collection in order to maintain the quality of sampling frame. Probability proportionate sampling was used at first for selecting equal number of adolescents from the selected population being based on their size and then after, final sample were selected using simple random sampling with the help of random table.

Data regarding socio-demographic characteristics of the adolescents were collected using semi- structured questionnaire and a standard and validated Adolescent Health Promoting Behavior Scale (AHPS) was used for assessing health promoting behavior. [6,7] Adolescent Health Promoting Behavior Scale questionnaire consists of 40 items five-point Likert scale questionnaire that presents way of life or personal habits of an adolescence consisting of six subscales. Question 1 to 6 measures respondent's nutrition (6 items), question 7 to 13 measures social support (7 items), question 14 to 21 measures Health responsibility (8 items), question 22 to 29 measures life appreciation (8 items), question 30 to 33 measures physical activity (4 items) and question 34 to 40 measures stress management (7 items). These subscales are scored as; never, sometimes, about half, often and always.The level of the adolescent's health promotion behavior was calculated on the basis of median of total AHP scales. The total score above and equal to 120 is considered as high health promoting behavior whereas score below 120 is considered as low health promoting behavior.

Institutional ethical clearance was obtained from Institutional Review Committee, Chitwan Medical College before commencing the study. Administrative approval was taken from Principals of three selected schools (Chitwan Higher Secondary School, Bharatpur Higher Secondary School and Narayani Model higher Secondary School) along with informed written assents from respondents and written consent from parents to ensure the rights and willingness of the participants to participate in the study. The participant's dignity was assured by allowing respondent's option to withdraw from the study.

Similarly, pre-testing was done on 29 adolescents of similar setting for checking its clarity, sequencing and feasibility. Data was collected through self-administered questionnaire in Nepali version which was used after two stages back translation with the help of language experts. In order to avoid the contamination bias each of the respondents were kept separately at certain distance during data collection time. The collected data were analyzed by using the SPSS Software version- 20. Descriptive statistics such as frequency, percentages, median, was used to analyze socio- demographic variables and other independent variables whereas inter-quartile range was used for determining the level of health promotion and inferential statistics (Chi-square test) was used to analyze association between independent variables and level of health promoting behaviors.

RESULTS

Socio-demographic characteristics of the adolescents shows among total study participants, 64.7 % respondents were younger than 15 years of age with a minimum age of 14 years and maximum of 18 years. More than half (54.6%) were male, 51.7 % belonged to Brahmin/Chhetri ethnicity, 87% of respondent's practiced Hinduism, 67.6% respondents were from nuclear families and 47.9 % respondents were living in their own home (Table 1)

Table 1. Socio-demographic Characteristics of the Adolescents (n=238).

Characteristics	Frequency	Percent (%)
Age		
<15 years	154	64.7
≥15 years	84	35.3
Median age:15 yrs, IQR:16-15, Min:14 yrs, Max:18 yrs		
Sex		
Male	130	54.6
Female	108	45.4
Ethnicity		
Brahmin/Chhetri	123	51.7
Janjati	64	26.9
Others*	51	21.4
Religion		
Hinduism	207	87.0
Other than Hinduism**	31	13.0
Family Type		
Nuclear	161	67.6
Joint	77	32.4
Residence		
Rented Home	115	48.3
Own Home	114	47.9
Hostel	9	3.8

**Others (Dalit, Muslim, Yadav, Mandal, Teli, Thakur)*
***Other than Hinduism (Buddhism, Christianity, Islam)*

Table 2. Personal habits and School Health Nurse related Information of the Adolescents(n=238).		
Variables	Frequency	Percent(%)
Exposure to smoking		
Yes	22	9.2
No	216	90.8
Exposure to alcohol		
Yes	20	8.4
No	218	91.6
Dietary pattern		
Vegetarian	30	12.6
Non- vegetarian	208	87.4
BMI		
Underweight	97	40.8
Normal	128	53.8
Overweight*	13	5.4
Presence of chronic disease		
Yes **	8	3.4
No	230	96.6
Recent illness		
Present	16	6.7
Absent	222	93.3
Medication history		
Yes	8	3.4
No	230	96.6
Health information received		
Yes	218	91.6
No	20	8.4
If yes, sources of receiving health information(n=218) ***		
Friends	104	43.7
School Health Nurse	114	47.9
Social Media	122	51.3
Course Books	139	58.4
Family Members	143	60.1
School Teachers	174	73.1
Availability of school health nurse	177	74.4
Utilization of school health nurse services (n=177)	119	67.2

**Overweight (overweight and obese) **Yes (Diabetes, Hypertension, Thyroid, Asthma)*

****Multiple Response*

Almost all (90.8%) respondents have never been exposed to smoking and 91.6% respondents have never been exposed to alcohol. Most (87.4%) of respondents were non- vegetarian. Regarding BMI, 53.8% had normal BMI index. Only 3.4% respondents had chronic disease and were under medication. Regarding health-related information, almost all

(91.6%) respondents had received health related information and among them most common source for receiving information was through school teachers (73.1%). Out of three selected schools, only one school had provision of school health nurse. Majority (74.4 %) of respondents reported having access to school health nurse services and among them 67.2 % had utilized the services provided by school health nurse in that respective school (Table 2).

Table 3. Parents related Information of the Adolescents(n=238)

Variables.	Frequency	Percent
Father's educational level		
Illiterate	21	8.8
Basic education	81	34.0
Secondary level	87	36.6
Bachelors and above	49	20.6
Father's employment status		
Health care worker	12	6.3
Foreign employment	22	9.2
Labor	24	10.1
Agriculture	47	19.7
Service	59	24.8
Business	71	29.8
Mother's educational level		
Illiterate	57	24.0
Basic education	70	29.4
Secondary level	89	37.4
Bachelors and above	22	9.2
Mother's employment status		
Labor	6	2.5
Health care worker	11	4.6
Agriculture	30	12.6
Service	32	13.5
Business	55	23.1
Homemaker	101	42.4
Presence of chronic disease		
Yes	71	29.8
No	167	70.2

Table 3 unveils that among total respondent, 91.2 % respondent's father and 76 % of respondents mother were literate. Majority (70.2%) of respondents' parents did not have a history of chronic disease. Regarding employment status, only 4.6% of respondent's mothers and 6.3% of respondent's fathers were health care worker.

Table 4. Score on Sub-Scales of Health Promoting Behavior among Adolescents(n=238).						
Sub-Scales of Health Promoting Behavior	No. of items	Maximum possible Score	Obtained score	Obtained Median Score	IQR(Q3-Q1)	Median Percentage (%)
Nutrition	6	30	11-27	19	21-16	63.3
Health Responsibility	7	35	12-34	23	25-20	65.7
Social Support	8	40	12-39	25	28-22	62.5
Exercise	8	40	16-39	29	32-26	72.5
Stress management	5	25	5-21	12	15-10	48.0
Life appreciation	6	30	10-28	20	22-17	66.6
Total Score	40	200	66-188	128	143-111	64

The scores on subscales of Health Promoting behaviors among adolescents showed median score was higher in subscale exercise (72.5%), life appreciation (66.6%) and health responsibility (65.7%) whereas lower scores were obtained on stress management (48%) (Table 4)

Table 5. Level of Health Promoting Behavior among Adolescents.	
Level of Health Promoting Behavior	n(%)
High (≥120)	113(47.5)
Low (<120)	125(52.5)
Total	238

Median Score: 120, IQR(Q3-Q1) = (137-118), Min:75 Max: 163

More than half (52.5%) of respondents had lower level of health promoting behavior whereas, 47.5% had high level of health promoting behavior as shown below (Table 5).

Table 6. Association between Level of Health Promoting Behavior and Adolescents Selected Variables (n=238).				
	Level of Health Promoting Behavior			
Variables	High No (%)	Low No (%)	x^2- value	p-value
Age groups				
<15 years	81(52.6)	73(47.4)		
≥15 years	32(38.1)	52(61.9)	4.584	0.032
School Health Nurse				
Yes	91(51.4)	86(48.6)		
No	22(36.1)	39(63.9)	4.285	0.038
Education status of father				
Illiterate	3(14.3)	18(85.7)		
Literate	110(50.7)	107(49.3)	10.18	0.001
Education status of mother				
Illiterate	18(31.6)	39(68.4)		
Literate	95(52.5)	86(31.6)	7.60	0.006
Occupation of father				
Health Care Worker	11(73.3)	4(26.7)		
Non- Health Care Worker	102(45.7)	121(54.3)	4.29	0.038

Significant at <0.05

The Pearson Chi-square test was used to identify the association; adolescents age(p=0.032), school health nurse availability(p=0.038), educational status of the respondent's father (p=0.001), mother (p=0.006) and also on occupation of respondent's father (p=0.038) showed the statistically significant association P-value=0.032 & 0.038. However, there was no association between health promoting behavior and respondent's sex, BMI, exposure to smoking and alcohol, presence of chronic disease, utilization of school health services, history of medication uses and dietary pattern and thus has not been shown in the table above (Table 6).

DISCUSSIONS

This study was intended to assess the health promoting behaviors among 238 adolescents studying in three different government schools of Bhartpur-10 Chitwan. The findings of the study showed 52.5% of respondents having low health promoting behaviors reportedly lower than a study conducted in India (mean score percentage=62.5%).[8,9] This unevenness might have been attributed due to the respondent's demographics, variation in geographical region, different instruments that have been used for assessing respondent's health promoting behavior and also might be due to the variation in sampling technique.

Research conducted found that majority (70.58%) of the students is actively involved in exercise behavior.[10] While similar results are obtained in the present study where respondents had obtained highest median score in the area of exercise with a median percentage of 72.5%. This may be due to the fact that adolescents these days are more concerned regarding their body physique and their overall appearance. Similarly, it is interesting to find that respondents of government school are on lower score in the area of nutrition with median percentage of 63.3% in comparison to other domains. This findings in line with the study conducted by Abd Allah et. al.[11] whereas the other study contradicts the findings where nutritional domain had higher score (Total mean Score= 62.83%) than that of other domains. [9] Various factors might have affected the nutritional score, a significant could be that all school did not had a facilities of mid-day meal and also a habit of taking pocket money might have resulted in indulging of snacking of non-nutritious food rather than nutritious one which could have led to poor score in nutritional domain.The findings of the present study in the area of health responsibility (median percentage= 65.7%) for promoting healthy behavior indicates that respondents those who participated in the study are eager about their own health and are interested in learning more about their body. This result is similar with findings of the study conducted in Iran (Mean Percentage=65.2%), other study in Iran (Mean percentage of 70%) and India (Mean percentage=72.2%).[12,13,9] In the area of stress management, the health behavior of respondents has lower than average median score with a median percentage of 48% similar with the study conducted in Iran (Mean score percentage= 42.1%).[13] However, Raiyat et. al. showed inconsistent findings where respondents had an average score between health promoting behaviors and stress management (Mean score percentage =58.5%).[14] This disparity might have resulted from variations in each person's characteristics.

The conducted study showed a statistical significant association between health promoting behaviors and respondents age (p=0.032), availability of school health nurse (p=0.038), mothers (p=0.006) and fathers(p=0.001) educational level and father's occupation (p = 0.038) which indicates above variables might influence the level of the health promoting behaviors.This finding in lines with the findings of the study conducted in different settings ($p<0.05$).[6,12] However, there are some studies that shows contrast findings where there is no statistical association.[6,13] This probably might have been because parents who are more educated have access to more health-related information and therefore could have emphasized more on educating their child regarding healthy behavior and also could help their children in adopting healthy behavior practices.

This study was based on the self-reported behaviors of respondents which could have been resulted in information bias. Hence, the findings may not be consistent with their actual behavior.

CONCLUSIONS

Based on the findings, it can be concluded that a greater number of the adolescents had low health promoting behavior. The adolescents obtained lowest median score in the area of stress management. Respondents age, educational status of parents, availability of school health nurse and occupation of father were found influencing the health promoting behavior of the adolescents.Considering the findings, further exploration on interventions that really can improve health-promoting behaviors can be attempted. Prioritizing the health education topics by focusing more on current health issues and health status and providing frequent educational sessions according to the adolescent's recent health behavior practices through

school health nurse/ school health educators should be emphasized.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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