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HEALTH PROMOTING BEHAVIORS AMONG ADOLESCENTS IN A SCHOOL OF RUPANDEHI, NEPAL

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ABSTRACT

Introduction: *Health promoting behavior is a multidimensional and spontaneous behavior and perception of individual that includes actions and perceptions aimed at maintaining or improving health, enhancing quality of life, self-actualization and self-satisfaction. During adolescence, rapid physical and physiological changes increase the need for effective health promotion measures to maintain optimal well-being. The major causes of morbidity and mortality in adolescence are not diseases themselves but health damaging behaviors. This study aimed to assess the health promoting behaviors among adolescents in a school setting.*

Materials and methods: *A cross sectional study was conducted to assess the health promoting behaviors among adolescents from 15th June to 15th September, 2025. Ethical approval was obtained from the Institutional Review Committee. Out of 160 adolescent students, 114 were selected using probability computer generated simple random sampling technique. A validated self-administered validated questionnaire, the Adolescents Health Promotion Short Form Scale (AHPSS) was used after obtaining permission with author via mail. Data were analyzed by using descriptive and inferential statistics with SPSS version 16.*

Results: *The findings of the study showed that 50.90% of respondents had good level of health promoting behaviors. Mean score of each domain were, nutrition was 16.53±4.88, social support was 24.86±5.77, health responsibility was 28.50±5.37, life appreciation was 34.56±4.90, exercise16.53±4.88, and stress management 23.19±4.36 respectively. Nutrition, social support, life appreciation, and exercise scores were significantly higher among males compared to females.*

Conclusion: *The study concludes that adolescents demonstrated generally good health promoting behaviors. There was a significant association between the level of health promoting behaviors and gender, mothers' and fathers' educational status. Nutrition, social support, life appreciation, and exercise scores were all significantly higher among males than females.*

Keywords: *Adolescents, Behaviors, Health, Promoting, School, Students*

INTRODUCTION

Health-promoting behaviors typically include adequate nutrition, physical activity, personal hygiene, stress management, adequate rest, and avoidance of harmful practices such as smoking, alcohol consumption, and substance abuse. Studies have shown that adopting such behaviors during adolescence not only improves current health but also reduces the risk of developing lifestyle-related diseases later in life.[1]

Adolescence is a critical period marked by rapid physical, psychological, and social changes, during which individuals develop lifestyle practices that often persist into adulthood. Establishing positive health-promoting behaviors during this stage is essential for preventing risk factors associated with chronic diseases and for supporting long-term well-being. However, adolescents remain vulnerable to peer influence, media exposure, and limited health-related knowledge, which may contribute to unhealthy lifestyle practices. School environments play an important role in shaping adolescents' health behaviors by providing opportunities for health education, peer interaction, and structured physical activities.[2]

In Nepal, nutritional challenges and lifestyle-related risks remain prominent among adolescents. A national assessment reported that 30.6% of adolescent girls had a low Body Mass Index (BMI < 18.5), while 40% had iodine deficiency and 47.4% had anemia.[3] Additionally, the prevalence of substance use has shown gradual increase, with 4.7% of individuals aged 15–16 years reporting psychoactive drug use at least once.[4] These findings highlight gaps in dietary habits, physical activity, and overall health responsibility during adolescence.

Understanding health-promoting behaviors in school-aged adolescents is vital for designing targeted interventions. Evidence suggests that inadequate dietary practices, limited physical activity, and the adoption of unhealthy lifestyle choices are common among adolescents, particularly in low- and middle-income countries.[5] strengthening health-promoting behaviors enables adolescents to develop responsibility for their own well-being and build lifelong healthy habits.[6]

Therefore, this study aims to assess the health-promoting behaviors among adolescents in a school, with the objective of identifying areas for improvement and informing evidence-based school health promotion strategies.

MATERIALS AND METHODS

A cross-sectional study was conducted to assess the health promotional behaviors among 114 higher secondary students (grade 11 and 12) at Kalika Secondary School, Butwal, Nepal. A simple computer-generated random sampling technique was used. The validated, self-administered Adolescents Health Promoting Short Form Scale (AHPSS) with permission from the author Chen, M.[7] via email. Data was collected over three months of period (15th June to 15th September 2025). The data were analyzed by using descriptive and inferential statistics with SPSS version16.

The sample size was calculated by using the Slovin's formula: $n=N/1+N\ (e)^2$

The Population=160= $160/1+160(0.05)^2$

Thus the calculated sample size was 114

Ethical approval was obtained from the Institutional Review Committee (IRC) of Universal College of Medical Sciences, Bhairahawa (Reference number UCMS/IRC/062/25). The Principal of Kalika Secondary School of Butwal, prior to data collection, also granted administrative approval. Written assent consent was obtained from participants under the age of 18 years, while informed consent was secured from participants from aged 18 years and above after clarifying the objectives.

Instrument and Scoring

It is a 5-points Likert type response format to obtain data regarding frequency of reported behaviors with scores ranging from "never, rarely, sometimes, often, always", with the rating score ranging from 1 to 5. Scale consisted of 40 items instrument design to assess health promotion behaviors among adolescents. AHPSS is comprised of six subscales: social support (7 items), life appreciation (8 items), health responsibility (8 items), nutrition (6 items), exercise (5 items), and stress management (6 items). The total score of instruments is 200. AHPSS has demonstrated excellent reliability with a Cronbach's alpha coefficient of 0.93. Alpha coefficients for the six subscales ranged from 0.75 to 0.88. 16 Reliability test of the instrument was conducted among 14 students in Shree Lila Ram Neupane Secondary School of Rupandehi district. Reliability of the instrument was tested by using Cronbach's alpha test. The reliability score of the instrument was 0.77.

RESULTS

Out of 114 respondents, 60.57% were in age group of 16-17years, whereas 39.43% were of 18-19 years. Similarly, 70.17% respondents were male and 29.83% were female. Similarly 75.44% of respondents were staying with their parents where 10.52% were living alone. More than half of the respondents 69.29% had elderly siblings at home. In context of types of family, 81.57% belonged to single family and 1.77% belonged to extended family. Likewise 93.90% respondent had no health problem in the present and past six months, whereas 28.57% had asthma and 28.57% had refractive error and 14.28% had skin allergy problem.

Table1: Respondents' health promotional behaviour regarding nutrition and social support n=114

Nutrition	Never No. (%)	Rarely No. (%)	Sometimes No. (%)	Others No. (%)	Always No. (%)
I eat three meals daily.	-	10 (8.71)	28 (24.56)	18 (15.78)	58 (50.87)
I choose foods without too much oil.	6 (5.26)	30 (26.3)	40 (35.08)	22 (19.29)	16 (14.06)
Include dietary fiber (e.g. fruits or vegetables).	1 (0.90)	12 (10.5)	38 (33.33)	23 (20.17)	40 (35.08)
Drink at least 1500cc of water daily (or 6-8 cups).	4 (3.50)	8 (7.01)	15 (13.15)	30 (26.31)	57 (50.00)
Each meal includes five food groups(e.g. bread, meat, milk, fruits, vegetable)	8 (7.00)	39 (34.21)	34 (29.82)	19 (16.66)	14 (12.28)
Eat breakfast daily.	8 (7.04)	18 (15.78)	20 (17.54)	12 (10.52)	56 (49.12)
Social Support	Never No. (%)	Rarely No. (%)	Sometimes No. (%)	Others No. (%)	Always No. (%)
I speak up and share my feelings with others	12 (10.52)	23 (20.20)	29(25.43)	21 (18.42)	29 (25.43)
I care about other people	6 (5.30)	8 (7.00)	15 (13.14)	28 (24.56)	57 (50.00)
I talk about my concerns with others	8 (7.00)	27 (23.68)	40(35.09)	16(14.03)	23(20.20)
Make an effort to smile or laugh every day	5(4.38)	9(7.89)	24(21.05)	19(16.66)	57(50.00)
Enjoy keeping in touch with relatives	8 (7.00)	27(23.68)	23(20.20)	23(20.20)	33(28.92)
Make an effort to have good friendship	6(5.30)	12(10.52)	14(12.28)	20(17.54)	62(54.36)
Talk about my troubles with others	16(14.03)	31(27.29)	30(26.30)	23(20.20)	14(12.28)

Mean score Nutrition 16.53±4.88 Total score 25

Mean score Social Support 24.868±5.775 Total score 35

The results show generally positive nutrition and social-support behaviours, with respondents demonstrating strong habits in drinking adequate water (50% "always"), eating three meals a day (50.87%), and consuming breakfast regularly (49.12%). However, fewer consistently choose low-oil foods (14.06%) or include all five food groups in each meal (12.28%), indicating areas for dietary improvement. Socially, participants report high levels of caring for others (50%) and making an effort to maintain good friendships (54.36%), reflecting strong interpersonal engagement. Yet, lower "always" scores for speaking up about feelings (25.43%) and talking about troubles (12.28%) suggest that emotional communication remains a weaker aspect of their social support patterns. The mean score and standard deviation of subscale nutrition of AHPSS was 16.53±4.88. The mean score and standard deviation of subscale social support of AHPSS was 24.868±5.775.

Table 2: Respondents' health promotional behaviour regarding health responsibility and life appreciation

Health Responsibility	**Never** **No. (%)**	**Rarely** **No. (%)**	**Sometimes** **No. (%)**	**Others** **No. (%)**	**Always** **No. (%)**
Read food labels when I shop	25 (21.93)	15(13.15)	23(20.17)	19(16.66)	32(28.07)
I watch my weight	10(8.78)	20(17.55)	45(39.47)	12(10.52)	27(23.68)
Discuss my health concern with doctor/nurse	20(17.55)	38(33.33)	32(28.07)	12(10.52)	12(10.52)
Observe my body at lease monthly	19(16.66)	34(29.82)	21(18.42)	12(10.52)	28(24.56)
Brush my teeth and use dental floss after meals	3(2.64)	5(4.38)	10(8.78)	13(11.40)	83(72.80)
Wash hands before meals	-	4(3.50)	7(6.14)	5(4.38)	98(85.98)
Read health information	7(6.10)	6(5.30)	20(17.50)	35(30.70)	46(40.40)
Make an effort to choose foods without preservatives	12(10.52)	17(14.91)	33(28.95)	20(17.55)	32(28.07)
Life Appreciation	Never No. (%)	Rarely No. (%)	Sometimes No. (%)	Others No. (%)	Always No. (%)
Make an effort to like myself	6(5.26)	8(7.01)	11(9.67)	19(16.66)	70(61.40)
Make an effort to feel happy and content	2(1.75)	5(4.38)	8(7.01)	22(19.29)	77(67.54)
I usually think positively	4(3.50)	7(6.14)	14(12.28)	21(18.43)	68(59.65)

Make an effort to understand my strengths, weakness and accept them	2(1.75)	3(2.63)	17(14.92)	30(26.32)	62(54.38)
Make an effort to correct my defects	1(0.87)	3(2.63)	7(6.14)	30(26.32)	73(64.03)
Make an effort to know what's important for me	2(1.75)	6(5.26)	14(12.28)	19(16.66)	73(64.03)
Make an effort to feel interesting and challenged everyday	3(2.63)	6(5.26)	21(18.42)	18(15.78)	66(57.89)
Make an effort to believe that my life has purpose	4(3.50)	7(6.14)	15(13.15)	16(14.04)	72(63.15)

Mean score of Health responsibility 28.50±5.373 Total score 40

Mean score of Life Appreciation 34.56±4.90 Total score 40

The findings indicate moderate engagement in health-responsibility behaviours, with 24.56% of respondents always observing their bodies monthly and 16.66% never doing so. Stronger habits were seen in oral and hygiene practices, as 72.80% consistently brushed and flossed after meals, 40.40% always read health information, and 85.98% regularly washed their hands before eating. Additionally, 40.70% reported always choosing foods without preservatives. These patterns correspond to a mean Health Responsibility score of 28.50 ± 5.37 out of 40, suggesting a moderate level of responsibility. In terms of life appreciation, respondents demonstrated consistently positive emotional and reflective behaviours: 61.40% always made an effort to like themselves, 67.54% to feel happy and content, and 59.65% to think positively. Many also worked to understand their strengths and weaknesses (54.38%), correct personal defects (64.03%), identify what mattered to them (64.03%), feel challenged (57.89%), and find purpose in life (63.15%). These favorable patterns are reflected in a mean Life Appreciation score of 34.56 ± 4.90, indicating generally high emotional well-being.

Table 3: Respondents' Health Promotional Behaviour regarding Exercise and Stress Management

Exercise	**Never** **No. (%)**	**Rarely** **No. (%)**	**Sometimes** **No. (%)**	**Others** **No. (%)**	**Always** **No. (%)**
Perform stretching exercise daily	18(15.78)	14(12.28)	26(22.83)	18(15.78)	38(33.33)
Exercise rigorously 30minutes at least 3times/week	21 (18.42)	19(16.66)	20(17.54)	22(19.29)	32(28.08)
Participate fitness class at school weekly	36(31.57)	21(18.42)	24(21.05)	13(11.40)	20(17.54)
Warm up before rigorous exercise	19(16.66)	16(14.03)	18(15.78)	25(21.92)	36(31.56)
Make an effort to stand or sit up straight	6(5.26)	7(6.14)	25(21.92)	30(26.31)	46(40.37)
Stress management	Never No. (%)	Rarely No. (%)	Sometimes No. (%)	Others No. (%)	Always No. (%)
Make an effort to spend time daily for relaxation	6(5.26)	9(7.89)	31(27.19)	20(17.54)	48(42.1)
Make an effort to determine the source of my stress	9(7.89)	9(7.89)	23(20.16)	23(20.16)	50(43.9)
Make an effort to watch my mood changes	8(7.01)	14(12.28)	24(21.06)	27(23.68)	41(35.9)
Sleep for 6-8 hours each night	4(3.50)	10(8.80)	19(16.66)	16(14.03)	65(57.0)
Make schedules and set priorities	14(12.28)	14(12.28)	21(18.43)	22(19.29)	43(37.7)
I try not to lose control when things happen that are unfair	4(3.53)	9(7.89)	14(12.28)	29(25.43)	58(50.8)

Mean score of Exercise 16.53±4.88 Total score 25

Mean score of Stress Management 23.19±4.36Total score 30

The findings reveal clear patterns in students' exercise and stress-management behaviours. In terms of physical activity, 33.33% of students reported always performing daily stretching exercises and 22.83% did so sometimes, while only 28.08% consistently engaged in rigorous exercise for at least 30 minutes three times weekly. Participation in school fitness classes was low, with 31.57% never joining and only 17.54% always participating. Warm-up practices were more favorable, with 31.56% always warming up before strenuous activity, whereas 16.66% never did. Posture awareness showed stronger adherence, with 40.37% consistently maintaining correct posture. Overall, these patterns reflect a moderate level of exercise engagement. Stress-management behaviours were generally stronger, with 42.1%

always taking time to relax, 43.9% consistently identifying sources of stress, and 35.9% regularly monitoring their mood. Healthy sleep habits were the most established, with 57% sleeping 6–8 hours nightly, and 37.7% always setting schedules and priorities. Additionally, 50.8% consistently maintained self-control in unfair situations, indicating a relatively high level of stress-management competence.

Table 4: Respondents' level of health promotional behaviours

Level of Health Promotional Behaviours	Mean Score	Number of Students	% of Students
Good	≥149.473	58	50.90
Poor	≤149.473	56	49.10

Mean Score of Respondents 149.473 Total Score 200

Table 4 shows that, out of 114 respondents, majority of respondents 58 (50.90%) had good health promotional behaviors, whereas, 49.10% had poor health promotional behaviors.

Table 5: Mean score of each dimensions of AHPS between gender

Variables	Male	Female	p value (t-test)
Nutrition	22.57±3.71	20.02±3.41	0.001
Social Support	25.77±5.40	22.73±6.00	0.014
Health responsibility	28.77±5.51	27.94±5.06	0.457
Life appreciation	35.22±4.64	33.00±5.22	0.036
Exercise	17.47±4.64	14.32±4.79	0.002
Stress management	23.70±4.33	22.00±4.27	0.057

Significance level at $p<0.05$

Table 5 shows that the mean score in nutrition, social support, and life appreciation, exercise dimension was significantly higher in males as compared to the females respectively.

DISCUSSION

The present study revealed that the mean score in the nutrition dimension was 21.81 ± 3.78, which is consistent with Almutairi et al. (2018) in Riyadh, Saudi Arabia, who reported a mean nutrition score of 20.97 ± 4.57.[8] The mean score in social support (24.86 ± 5.77) was lower compared to Wang et al. (2012)[7] in Mainland China, who reported significantly higher mean scores (68.29 ± 16.45).[9]

Health responsibility showed a mean of 28.50 ± 5.37, which contrasts with the much lower mean of 2.94 ± 0.29 reported by Khadka, Sharma, and Gautam (2020)[10] in Sandhikharka, Nepal. Life appreciation was the highest subscales (34.56 ± 4.90), differing from the lower mean of 3.99 ± 0.07 study conducted Musavian et al. (2014)[11] in Rasht, Iran. The mean exercise score was 16.43 ± 4.88, comparable to Shaheen et al. (2014)[12] in Jordan (16.53 ± 4.88). Overall, consistent with Koirala et.al (2020)[13] in Chitwan, Nepal, our study also showed that among all AHPS subscales, life appreciation scored highest while exercise was lowest.

This finding that life appreciation is the highest scoring dimension is congruent with multiple studies of adolescents using AHPS or similar health promotion / health behavior scales. For example, Gürkan & Ayar (2020)[14] reported that among Turkish high-school students, life appreciation was among the highest subscale scores of AHPS, while exercise behavior was among the lowest. Temel et al., in their psychometric evaluation of the AHPS in populations including Taiwanese adolescents, also found life appreciation to explain a relatively large proportion of variance and to be a dimension with high mean responses.[15]

In contrast, the low mean for exercise in our study is consistent with many reports showing that adolescents tend to underperform in physical activity-related health promotion behaviors. For example, Gürkan & Ayar[14] found that the exercise subscale was among the lowest, reflecting challenges of allocating time or motivation for exercise amid school and academic pressures.

However, there are contradictory findings: some studies report health responsibility or nutrition as being among the lower scoring domains, or show social support lower, depending on culture, resources, or socio-demographic context.

More than half of respondents (50.9%) exhibited good health-promoting behaviors, aligning with Koirala et al (2020)[13] in Chitwan, Nepal, who reported similar findings with 55.2% of adolescents showing high AHPS scores. Significant gender differences were observed across several subscales. Female respondents scored higher

in nutrition (p=0.001), consistent with Almutairi et al. (2017) in Riyadh, Saudi Arabia, who also found statistically significant differences between male and female students in nutritional practices.[8] Conversely, male respondents scored significantly higher in life appreciation (p=0.036), supporting the findings of Aghamolaei and Tavafian (2013) in Iran, who reported higher life appreciation among males.[16]

Physical activity was also significantly higher among males (p=0.002), consistent with Raiyat et al. (2012) in Qazvin, Iran, where male students demonstrated greater engagement in exercise compared to females.[17] Similarly, social support was significantly higher among males (p=0.014), in line with Wang, Qu, and Duan (2012) in Mainland China, who also found male students reporting stronger social support systems than females.[9] These findings suggest that while females may engage more in nutrition-related behaviors, males are more active in life appreciation, exercise, and social support dimensions, reflecting the influence of gender roles, cultural expectations, and lifestyle preferences on health-promoting behaviors.

There is no significant gender difference in the mean score of health responsibility (p=0.475). This finding contrasts with Shaheen et al. (2015) in Jordan, who reported that female respondents had significantly higher health responsibility scores than males (p=0.003), possibly due to cultural and contextual variations between populations.[12] Similarly, our study showed no significant gender difference in stress management (p=0.057), which is consistent with Musavian et al. (2014) in Rasht, Iran, who also found no significant sex difference in stress management scores (p=0.605).[11] These results indicate that, in our setting, gender may not play a decisive role in health responsibility or stress management, unlike other AHPS dimensions such as exercise or social support, where disparities were observed.

CONCLUSION

Health-promoting behaviours among adolescents play a crucial role in shaping their present well-being and future health outcomes. This study highlights that while many adolescents demonstrate awareness of healthy practices, gaps remain in areas such as physical activity, balanced nutrition, and stress management. Strengthening supportive environments through schools, families, and communities alongside targeted health education programs is essential for fostering sustainable healthy lifestyles. Future interventions should focus on culturally relevant, adolescent-centered strategies that empower young people to take active responsibility for their health, thereby contributing to the prevention of life-styles related diseases and the promotion of long-term wellness.

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