Original Article

Health promoting behavior among college students in Chandigarh, India

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Abstract

Background: India faces multiple threats of diseases. The increasing trend of lifestyle related health problems is becoming a serious issue in India. The best strategy to tackle this changing health concern is adoption of healthy lifestyle and health promotion activities.

Objectives: To determine the level of involvement in health promoting behaviors of college students in Chandigarh.

Material & Methods: This college based cross sectional study was conducted in four randomly selected colleges of Chandigarh during September 2007 to June 2008.

Results: Two hundred students (F=100, M=100) were studied by using self administered health promoting lifestyle profile (HPLP) questionnaires. Mean HPLP score was 138.69 (M=137.98, F=139.39). Female students were more likely to have better health promoting practices than their counterpart male students, but difference was not significant. Female students showed more sense of health responsibility than male students (p=0.00), whereas male students were significantly more involved in physical activities than female students (p=0.02). Overall, only few students (18.5%) searched health related article from the internet; 26% went for normal health check up in the last year; 13.5% students practiced yoga regularly; 24.5% of them tried to choose diet with low fat content; 30% of them skipped meals regularly, and 25.5% of them ate processed food regularly.

Conclusion: The study results showed that college students in Chandigarh had reasonably good orientation towards health promoting practices.

Key words: Health promotion, Lifestyle, College health, Health behavior.

Introduction

The rapidly increasing epidemic of non-communicable diseases (NCDs) in our society is one of the major public health problems of 21st century which is worrying the health care planners. This clearly visible epidemiological transition affects quality of life as well as the life expectancy of the people profoundly and is responsible for 60% of deaths globally[1]. The main contributing factor for this epidemiological transition is the shift in lifestyle towards the unhealthy continuum e.g. tobacco use, excessive alcohol consumption, unhealthy dietary habits and physical inactivity. In India, National Family Heath Survey III reported that 40% of youth consumed some form of tobacco, about 19% men smoked. One-fifth of young men and 1%young women age 15-24 consumed alcohol[2]. Another study reported that prevalence of physical inactivity among adult in rural and urban area as 9.4 % and 14% in India[3]. A study conducted among adults (25years & above) in five major cities of India reported that the prevalence of obesity, overweight and sedentary behaviors was reported 6.8%, 33.5% and 58.9 % respectively[4].

Developing countries like India where health promotion is relatively unexplored, are facing a double burden of disease i.e. the combination of long-established, unconquered infectious diseases and rapidly growing disease related with undesirable lifestyle e.g. (NCDs). So, studies about health promotion and its related factors certainly need to be conducted. Consequently, more attention is now being given to the role of behaviors in control of such diseases. Thus, lifestyle has emerged as useful construct in the health field. Change in lifestyle is becoming a major strategy for both prevention of non-communicable diseases and for promotion of health. Generally, interventions are planned for non-communicable diseases when damage to health has already occurred. It is also very apparent that health professionals often intervene only after people develop acute or chronic disease and experience compromised lives. Moreover, due to involvement of high costs

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care planners have advocated more emphasis to be given to promotion of health and prevention of disease, rather than focusing mainly on treatment of disease.

Hence, health promotion is the best strategy for prevention of NCDs. And the best time to lay the foundation of health promotion activities or healthy lifestyle is in adolescence[5]. Against this background, present study was planned with an objective to determine the level of involvement in health promoting behaviors of college students in Chandigarh.

Material & Methods

This cross sectional study was carried out during the September 2007 to June 2008. Four out of eight colleges of Chandigarh were selected randomly, and from each college 50 1st year graduate students with equal number of female and male students were recruited for the study. There were two private colleges in the study and simple random methods were used for selection of students. A total of 200 students were included in the study (100 female and 100 male). The minimum sample size (N=198) was calculated using the formula $N=(1.96)^2pq/d^2$ wherein p=50% and allowable error L=7% of p based on pilot study finding in different group 1st year graduate students.

Health Promoting Lifestyle Profile (HPLP) scale was used to measure health promoting behaviors. HPLP instrument provides a multidimensional assessment of health promoting behaviors and psychosocial well being of individual[6]. It measures health promoting lifestyles by focusing on self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self actualization, and fulfillment of individual. It has been used extensively in health promotion research and was reported to have sufficient validity and reliability for use among various populations including adolescent, young adult[7].

For the purpose of present study, two items were deleted from the original HPLP after pretest among 10 female and 10 male students. This was not included in the main survey i.e. one from Physical Activities subscale i.e. "Check my pulse rate when exercising" and other one from Nutrition Habits subscale i.e. "Eat only two to three servings from the meat, poultry, fish, dried beans, eggs each day". In addition, requisite minor language changes was done in some of HPLP items to make it understandable to study population e.g. five items from Health Responsibility subscale, four items from Physical Activities subscale, two items from Nutrition Habits subscale, one item of Interpersonal Relationship subscale, three items from Stress Management and one item from Spiritual Growth.

So, a total 50 items were prepared and grouped into six similar subscales: 1. Health responsibility: This had 9 items focused on the individual's general health concerns e.g. Consult a doctor whenever have any health problem". 2. Physical activities: there were 7 items in this subscale about exercise and recreational activities, Example: "Do exercise such a brisk walking/aerobic dancing" 3. Nutrition habits: This subscale contained 8 items on nutrition, dealing with choices of a good and balanced diet. e.g. "make effort to choose low fat diet". 4. Stress management: the eight questions on stress management focused on relaxation methods to control stress. e.g. "Practice relaxation or meditation techniques" 5. Interpersonal relationship: This had nine questions dealing with meaningful relationships with friends and others. e.g." Spend time with close friends". 6. Spiritual growth: The items on spiritual growth referred to one's attitude towards life and purpose of life. e.g. "Remain hopeful about future". For grading purpose HPLP score was divided as excellent (150-200), good (100-150), average (75-100), and poor (<75).

Each item was scored by a fixed 4-point Likert-type format where: "never" was coded as 1, "sometimes" as 2, "often" as 3, and "routinely" as 4. The term "routinely" was chosen to represent the most frequent response category because it suggested a regular pattern of behaviors or characteristic of life-style. Six items were negatively stated. So, before computing total score necessary reversion was done. To calculate a mean score for each subscale, the scores of those particular items were summed up and then divided by the numbers of respondents. Higher mean scores denoted positive health promoting lifestyle or behaviors. The internal consistency, reliability coefficients for total scale, and subscales ranged from 0.7-0.83. The original HPLP had reliability with internal consistency for the total score and subscale ranging from 0.7-0.92. During item analysis of health promoting behaviors, only those who reported "often" or" routinely" or similar option or those who got 3 or 4 score in each items were considered as practicing health promoting behavior and those reported "never" or "sometimes" or got 1 or 2 score were considered as not practicing the particular health promoting behaviors. The data were analyzed using SPSS 16. Descriptive statistics was used to calculate frequency of health promoting behavior. To compare mean score, t-test for independent samples was used

promoting behavior. To compare mean score, t-test for independent samples was used and ÷2-test was used to compare frequency of response. Before study, consent of the students was taken. Confidentially of data was ensured.

Results

HPLP questionnaires were completely filled up by all the students (N=200) without missing any item. The age of students were ranged from 17 to 26 years, with mean age of 18.6 (SD=1.3). Majority of students were Hindu community, smaller proportion in the Sikh community. More than half of students were in Arts stream than the science (table 1). Over 56.5% were living in hostel and 13.5% were living in private rented (table 1).

Mean HPLP score was 138.68 (SD=14.50). Female students were more likely to have better overall health promoting behavior as compared to male students, but difference was not significant. Considering the subscales of HPLP, female students showed more sense of health responsibility than male students (p=0.00; table 2), whereas male students were significantly more involved in physical activities than female students (p=0.02; table 2).

Female students consulted doctors for their health problems and washed hand more frequently as compared to male students (p<0.05). While male students did muscle stretching exercise and played outdoors game more frequently than female students (p=0.00), female students practiced yoga more than their counterpart male students (p=0.04).

Female students reported that they read labels to identify the contents foods more than male and consumed processed/ fast food regularly than male students (p<0.05). More of female students reported that they had meaningful relationships with friends and used to listen to their friend's problem more than male students (p<0.05). Likewise, more female students have faith in God and reported that they knew importance of life than male students (p<0.05).

Overall, only few students (18.5%) searched health related articles from the internet; 26% went for normal health check up in the last year; 13.5% students practiced yoga regularly; 24.5% of them tried to choose diet with low fat content; 30% of them skipped meals regularly, and 25.5% of them ate processed food regularly. There was no significant gender wise differences in the overall health promoting behaviors score (table 2).

Table 1. Socio-demographic profile of study population

Variable	Male (n=100)	Female (n=100)
Mean age (SD)	19.76 (1.4)	18.59 (1.1)
Religion		
Hindu	74	72
Sikh	17	21
Christian	3	2
Other	6	5
Accommodation		
Rented	18	9
Hostel	52	61
Paying guest	3	4
Other (home)	27	26
Stream of study.		
B. A	46	68
B. Sc	32	12
Other	22	20

Table 2: Subscale Score of HPLP between Male & Female Students

Domains/subscale of HPLP	Students(N=200)		P-value
	Mean Score		
	Male (n=100)	Female (n=100)	
Health responsibility	24.40	25.83	**0.00**
Physical activity	18.32	16.92	**0.02**
Nutritional habits	21.73	21.85	0.82
Stress management	20.93	21.02	0.84
Interpersonal relation	25.32	25.82	0.33
Spiritual growth	27.28	27.95	0.25
Total score	**137.98**	**139.39**	**0.49**

Discussion

In India, health promotion is now receiving an increasing attention regarding the prominent role it plays in health. Health promoting lifestyle is one factor that positively contributes to quality of life. When a person engages in health-promoting lifestyle, he/she has a greater potential to remain healthy and possibly live longer without the burden of disease.

Overall, mean HPLP score (138.69) among our respondents was higher that the reported from other studies. For example, the reported HPLP score among Hong Kong university students was 119.78[8], adult women in Tuscaloosa, USA (131.45)[9] and women in Taiwan (132.03)[10]. This indicated that the lifestyle of educated youth in north India had reasonably good orientation towards health promotion.

Considering gender difference of health promoting behaviors among study population, female students had higher sense of health responsibility than male counterparts. This was mainly due to a higher rate of consultation with doctors and the practice of washing hand before meals by female students. This reflects that girls were more conscious about their health and hygiene than boys. On the other hand, overall low consultation rate (26%) implied that going for a health check up was not favored by most of students. In general, due to their younger age, students are often among the most physically active and healthy part of life span. So, they are care free by virtue of their age.

Another issue is that not many students (18%) used internet for searching health related articles regularly implied that health was not the major agenda for the students as far as use of internet or media is concerned. Mostly, they surf internet for entertainment. Similarly, participation in or initiation of health related program or activities was also not a routine part of their life. It was not their major concern. This reflects that their priorities lay elsewhere e.g. entertainment, hanging out etc.

In comparison, male students were more likely to engage in physical activities than female students. This is may be due to stereotype of more physical active role of males in our society. This reflects that by nature, boys are more involved in outdoor activities, game and exercise etc.

Yoga was not much popular among students as only 13.5% of students practiced it. But female students practiced yoga more than males. Possibly, girls preferred yoga because it was considered as less strenuous than physical exercise. In contrast, boys tend to go to gymnasium for exercise. Possibly they consider it is a more macho option for keeping physically fit. This finding is consistent with study in Western society where, yoga is more popular among women[11]. Moreover, male students opt for outdoor games more often than females.

One fourth of students reported regular consumption of processed or fast food like burger, pizza and hot dog etc. but frequency of fast food consumption was higher among female students as compared to male students. These findings indicate a cause of concern for the health care planners as these habits may expose students to risk of non-communicable diseases. So, good nutrition should be promoted to college campus. Healthy food choices should be made available for students. It should be obligatory for student canteens to provide food with health value. Fruits stalls, salad bars, and healthy snacks counters should also be launched in canteens, allowing students the choices to purchase healthy food. It is again a matter of concern that one third students skipped their meals 2-3 times or more in a week. Skipping meals is bad for health of students who need sufficient energy and nutritive diet since they live an active life.

Female students reported better meaningful relationship with friends than male students. Most of them reported that they listened to their friends' problems. This reflects the basic caring & nurturing nature of females. Since college students spend most of their time in the class and with the friends in campus, so having a meaningful relationship with friends is important. It makes student's life easier as he/she can talk and share his/her problems and feelings with his/her friends. This helps them to release tension they face in studies. More faith in God by female students than males may again be due to their nature & the cultural ethos of Indian people where females are more involved in prayers etc. Similar results was also reported from survey by the Pew Forum on Religion & Public life, USA and American Religious Identification Survey 2008 where females believed in God more than males[12,13].

Limitations

All the information collected in the study was based on self report. So, it is possible that these may be socially desirable responses i.e. the health promoting behaviors may not be their real or actual behaviors. The reproducibility of the study result is limited to similar population only.

Conclusion

The result of the study showed that north Indian students had reasonably good orientations towards health behaviors. But, attention need to be paid in some of issues like searching of health related articles from internet, health

checked-up, practices of muscle stretching exercise and yoga, choose of low fat diet and sugar, relaxation etc., since it was shown as practices by very few students of north Indian. Further research may be necessary to examine the determinants of health promoting behaviors of north Indian students.

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