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Original Research Article

Analysing health promoting life styles of medical students in Bhopal, Madhya Pradesh, India by HPLP-II

Sunil Chouhan*

Department of Physiology, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India

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***Correspondence:**
Dr. Sunil Chouhan,
E-mail: sunil.physiology@aiimsbhopal.edu.in

ABSTRACT

Background: Cost effective and feasible instrument is required to assess the health promoting behaviours of Medical students from the stressful and hectic schedule of their training in the Medical College. Hence with the help the of HPLP-II questionnaire, lifestyles of first year MBBS students were assessed. The primary objective of this cross-sectional study was to assess the health promoting behaviors of 287 medical students in Bhopal using HPLP II questionnaire.
Methods: This cross-sectional self-administered health Promotion Lifestyle Profile II (HPLP-II) questionnaire study was undertaken among the MBBS first year students, aged 18-22 year, in the region of Bhopal to find out the health promoting behaviors among them.
Results: Out of total 324 medical students from 3 different medical colleges, 248 completed the HPLP-II questionnaire. The mean score of this scale was 2.47(SD=0.34) for male and 2.41(SD=0.27) for female students. The highest mean out of a scale of 4, was 2.96(SD=0.55) & 2.96(SD=0.49) for spiritual growth in male and female students respectively. The lowest mean score for female was 1.96(SD=0.53) in term of Physical activity subscale. Except for Physical activity subscale, there was no major difference between other subscales by gender.
Conclusions: By adopting a healthier lifestyle, Health status of an individual can be significantly improved. Since this study shows low health promoting behaviors in medicos, there is need to develop guidelines, interventions and periodic investigation for the students for their good health.

Keywords: Health-promoting lifestyles, Medical students

INTRODUCTION

Most of the Students (Male and female) coming to Medical college are at the age group of 16-21 year of age, and are not able to anticipate and cope with the sudden increase of professional studies on one hand and at the same time on other hand, physiological changes in the body that is in the process of making a impact in the body.[1] Medical students also suffer in term of Health and very little is being said about the empowerment of health to these students in their vigorous study timetable. Health is taught but health promotion is not done. There is no place of physical activity in the Medical curriculum.[2] Medical Students committing suicide increasing day by day.[3-6] In India out of the total number of suicide reported by students (5%), the leading cause for suicide were 1.6% is due to failure in examination and 1% due to career problem.[7] These suicide can be prevented by timely intervention.[8] Beside stressful condition leading to suicide, there are some other appalling habits slowly assimilate by the medical students. In one study conducted in Italy on first year Medical students it was

found that students indulge themselves in smoking, alcoholism but at the same time these students also agreed that healthy diet is very important for Healthy body.[9] In another study conducted on Medical students in United Arab Emirates and in Iran it was found that majority of the students have limited / insufficient physical activity.[10,11] Even the study on Indian students have shown that there is increase trend of using alcohol, smoking after the students are admitted to the medical college.[12] Health-promoting lifestyle should be promoted by setting example rather than delivering lecture.[13] The *unhealthy* life style and behaviour adopted during the college can have a sustaining impact on a individual health latter in the life.[14,15]

Healthy life style is one of the imperative factors affecting health of a individual person.[16-19] Hence promoting healthy lifestyle in students can have long term positive effect, since many of the behaviours and lifestyle habit are formed during this period .These young students can be molded in better way to cope with their life by taking responsibility for their personal health.[20] The health promoting lifestyles are multidimensional and hence keeping in mind Walker et al have developed the Health Promoting Lifestyle Profile (HPLP) for the assessment of an individual's health promotion lifestyle.[16,20] The study examined the health-promoting lifestyles of medical students with the HELP-II.

METHODS

The Questionnaires HPLP II survey was done on 284 male and female MBBS students, aged 18-22 aged in their first year of three different medical college in Bhopal. The survey of medical students was done in two parts. The first part includes demographic questions (i.e., gender, age,) and second part 52 questionnaires related to Health-Promoting Lifestyle Profile (HPLPII). The revised HPLP II questionnaire develops by Walker measure behaviours in the theorized dimensions of health-promoting lifestyle which were divided into six subscales.[20] These subscales were spiritual growth (11 Questions), interpersonal relations (08 Questions), nutrition (08 Questions), physical activity (08 Questions), health responsibility (13 Questions) and stress management (06 Questions). The items were subjectively attempt by the medical students and each item has a 4 point likert scale scoring range of 1 to 4 for never, sometimes, often, and always respectively. For each subscale, the scores for each item were added and were divided by the number of item in the subscale for obtaining the subscale scores. The final total score was obtained for this scale was by adding the scores for all the items and dividing by the total number of items. The HPLP-II has been used by many researchers for health promotion and is reported to have high validity and reliability for use in different population. The English version of this overall scale reported a Cronbach alpha of 0.94 and an alpha ranging from 0.79– 0.87 for the six subscales. The higher the mean sore obtain, higher is the index of health-promoting lifestyle.

The project was approved by the Institute Institutional Review Board and Ethics committee. The copy right permission was taken for using the HPLP-II. All the students participated in the study voluntarily and thereafter written consent were taken from them before filling the questionnaire. There were no exclusion criteria so as to maximize the study population. The questionnaire was administered to the students after their theory lecture in the morning. The time allotted to complete the questionnaire was 30 min.

Statistical analysis

Statistical analysis was done by using IBM SPSS Software Version 21 (2012) using both using both descriptive (for frequencies, ranges, means, medians and SD for the participant's and HPLP-II) and inferential statistics. For differences in HPLP-II scores and its subgroup in-dependent sample t-test was used. To relate between continuous variables Pearson's correlation coefficient wad done.

RESULTS

This survey was completed by 284 of 324 (87% response rate) students of either sex in which 168 were females and 118 males. The gender categorization (Table 1) of students who responded to the survey was 41.3 % female and 58.7% male.

Table 1: Distribution of students by their age, gender and institution.

Variable		n	%
Gender	Male	168	58.7%
	Female	118	41.3%
	Total	286	100.0%
Age	18	121	42.3%
	19	104	36.4%
	20	43	15.0%
	21	14	4.9%
	22	4	1.4%
	Total	286	100.0%
Place	AIIMS Bhopal	98	34.3%
	GMC Bhopal	97	33.9%
	LNMC	91	31.8%
	Total	286	100.0%

The mean age of students was 18.67 ± SD 1.8 year (range 18-22 year). The 6 dimensions of HPLP-II mean score was 2.44(SD=0.34) of the achievable score ranged from 1 to 4 (Table 2).

The subgroup of spiritual growth has the highest score of 2.96 (SD=0.26) from four with the lowest score of 2.0 (SD=0.43) in Health responsibility as a whole in HPLP-II

scale. The result showed that the lowest mean score for the female students was in the dimension of physical activity 1.96 (SD=0.53) and highest in spiritual growth 2.96 (SD=0.49) whereas in male it was highest and lowest in spiritual growth 2.96 (SD=0.55) and health responsibility 2.01 (SD=0.45) respectively. It was found p<0.05 for all pairs, except Spiritual Growth Vs Interpersonal Relations-Table 3. It was also found statistically significant differences between students in physical activity (M=2.26 vs. F=1.96) (P=0.003). This mean score of the scale was divided into 3 levels- Good (>3); Average (2.5-3) and poor (<2.5) which have been summarized in table 3 and 4.In all the 6 subscale analyze it was found that none had a score greater than 3(Good). This study revealed that mean score was better in male as compare to their counterpart but the difference was not statistically significant. As far as physical activity was concern, significant difference was found with male reporting more than the female students. We have used repeated measures ANOVA with post-hoc pair wise Bonferroni test to find out whether mean scores of subscales were different from each other. Mean scores of all subscales were significantly different from each other except for pair of Spiritual Growth and Interpersonal Relations sub-scale (Table 3).

Table 2: Distribution of HPLP-II score and its sub-scales.

Scale	Mean	Standard deviation
HPLPII score	2.44	0.31
Health responsibility	2.00	0.43
Physical actvity	2.08	0.57
Nutrition	2.16	0.43
Spiritual growth	2.96	0.53
Interpersonal relations	2.90	0.44
Stress management	2.53	0.43

Table 3:Pair-wise comparison of subscales of HPLP-II.

HPLP	Mean	Std. Error	95% Confidence interval		p-value test of within subject effects	p-value tests of between subject effects	Pairwise comparisons
			Lower Bound	Upper Bound			
Health responsibility (A)	1.997	0.026	1.946	2.047	<0.001	<0.001	p<0.05 for all pairs, except Spiritual Growth Vs Interpersonal Relations
Physical activity (B)	2.079	0.034	2.013	2.145			
Nutrition (C]	2.159	0.025	2.109	2.208			
Spiritual growth (D)	2.962	0.031	2.901	3.023			
Interpersonal relations (E)	2.898	0.026	2.847	2.949			
Stress management (F)	2.531	0.025	2.482	2.581			

Table 4: Gender-wise distribution of HPLP-II score and its sub-scales.

	Male		Female		p-value
	Mean	Standard deviation	Mean	Standard deviation	
HPLPII score	2.47	0.34	2.41	0.27	0.088
Health responsibility	2.01	0.45	1.98	0.40	0.533
Physical actvity	2.16	0.58	1.96	0.53	0.003
Nutrition	2.20	0.46	2.10	0.38	0.060
Spiritual growth	2.96	0.55	2.96	0.49	0.991
Interpersonal relations	2.93	0.48	2.85	0.37	0.102
Stress management	2.52	0.45	2.55	0.40	0.618

DISCUSSION

This aim of this pilot study was to evaluate the health-promoting lifestyle behaviours among medical students (first year) in the beginning of their career so as to find effective intervention measures related to their health status. The HPLP-II score reflect the Medical student's commitment of health maintaining act, so better is the score, better will be the health profile of a student. The highest score on spiritual growth were same in male and female with a mean 2.96 out of a scale of 4.The lowest score was on physical activity in female. Similar result have been reported in a study on medical students by Al-Kandari et al in Kuwait and Baheiraei et al., in Iran.[21-23] In Indian medical colleges, physical activity is not compulsory. The benefit of physical activity is being taught but compulsion to implement the physical activity

among the students is missing, leading to a sedentary lifestyle. It may be that physical inactivity might be associated with irregular eating habits resulting in either overweight or underweight status. Interpersonal relations score were more in male as compare to female. However female score more than their counterpart in stress management, which are similar to study done by other researchers.[24-26] The significance of each person to take care of their health is clear.[27] The overall study indicate that the health status of medical students is low in Bhopal has a mean of 2.44(SD= 0.31) out of 4. The overall low health status based on HPLP-II is consistent with previous study.[28-32] According to this study, medical students are not adopting health promoting lifestyle behaviours on daily basis and their life-style behaviours is disturbingly low.

Limitations

Since this was the pilot study consisting of only 3 Medical colleges, more advance research should be done among medical students considering a bigger sample size. The data was collected from self-reported questionnaires which could be one of the favouritism biases for self.

CONCLUSION

We observed by this study that more health promotion should be done among students at regular interval for improving self care of a individuals. At regular interval of time basic investigation should be done as a routine procedure.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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