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Health-promoting lifestyle behaviours of nursing students in a tertiary care institute of a city in western India

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ABSTRACT

Introduction: Nurses work on the front lines of disease cure and the delivery of health care. Like any other student, nursing students face environmental changes, changes in peer groups, social, economic or academic stress. Nursing students' beliefs and behaviours could affect the clinical services, which they will offer to their patients.

Objectives: To assess the level of the health-promoting lifestyle behaviours of nursing students and to determine association of health-promoting lifestyle behaviours with socio-demographic factors.

Materials and Methods: Nursing student from selected tertiary care institute of Ahmedabad city, who give informed consent for participation will be included in the study. A predesigned Health Promotion Lifestyle Profile II (HPLP II) was used. The data analysis was done by using SPSS software version 21 using appropriate statistical tests.

Results: Out of the total 182 nursing students enrolled in the study across of all three years, 163 (89.6%) possessed good health promoting behaviours. Only 39.56% (n=72) of the nursing students were of normal weight. Overall score for Promotion Lifestyle Profile II (HPLP II) had come out to be 135.14 (64.97%). Overall, variables such as BMI and Socio-economic class had significant statistical associations with specific sub-class of HPLP-II.

Conclusion: Health promoting behaviours were good for most of the nursing students. However, sub-class like spiritual growth and interpersonal relations had better score compared to sub-classes such as physical activity and health responsibility.

1. Introduction

Health care practitioners have a responsibility to promote health at all levels: individual, group, and community. In India, nursing is a demanding branch and comprise the largest group of health professionals. Nurses, the unsung heroes provides autonomous and collaborative care to individuals of all ages, families, groups and communities, sick or well in all settings.[1] Today's nursing students will become tomorrow's health care providers. Nursing students are exposed to concepts of health promotion in the nursing curriculum, but do not necessarily apply them to their own lives.[2] It can be due to challenges they face because of changes like leaving home, changes in peer groups, maintenance of academic responsibilities, increased access to addictive substances, lack of hygiene, being more independent, intake of high-calorie foods, low physical activity, and disturbed sleep patterns.[3,4] It can affect their lifestyles and hence expose them to health-related problems. Moreover, promoting healthy behaviours during this period increase their chance to be healthy adults in the future.

A health-promoting lifestyle is a pattern of self-initiated actions which individuals take to control, maintain, or

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enhance their own health. Health-promoting behaviours include healthy diet, sufficient sleep, physical activity, controlling weight gain, avoiding smoking and alcohol, and emotional management skills to achieve a desirable health status.[5] Mental outcomes along with physical are found to be associated with health-promoting life style.[6,7] Studies have demonstrated that healthy lifestyles not only promote the health, but can mitigate the negative effects of chronic disease, improve the quality of life (QOL), decrease medical costs and the healthcare burden on society especially in the young adults.[8]

Nursing students' beliefs and attitudes or perhaps their behaviours may affect the clinical services, which they will offer to their patients.[9] This can be evaluated by the health promoting activities they are engaged in to maintain or improve their personal health. This is of special importance for them individually and professionally. However, there is a paucity of research studies investigating the health-promoting lifestyles of nursing students in India. Therefore, this study was undertaken to determine the health-promoting lifestyle behaviours of nursing students of a tertiary care institute in Ahmedabad city, Gujarat.

2. Objectives

1. To assess the level of the health-promoting lifestyle behaviours of nursing students at a tertiary care institute in Ahmedabad city, Gujarat.
2. To determine association of health-promoting lifestyle behaviours with socio-demographic factors.

3. Materials and Methods

A Cross sectional study was done on 182 nursing students at a tertiary care institute in Ahmedabad city over a period of two months i.e. January and February 2023. From previous studies, it was found that 71.3% students were highly active physically.[10] So using the formula $4pq/L^2$, where p (prevalence) = 71.3%, q= 100-p and L (allowable error) = 10%, the total sample size was 161.[11] Considering 10% as non-response rate, the sample size came out to be 177. All the nursing students (First, second and third year) from the selected institute who gave informed consent for participation were included in the study. After getting approval from the Institute Ethical Committee and Principal of the Institute, nursing students were explained about the purpose of the study in detail and informed consent was taken. A predesigned and pretested Health Promotion Lifestyle Profile II (HPLP II) questionnaire developed by Walker, Sechrist, and Pender (along with the socio- demographic and personal details of the participants) was shared with the participants. It includes 52 items and contains 6 sub-scales: Health responsibility (9 items), Nutrition (9 items), Physical activity (8 items), Stress management (8 items), Interpersonal relations (9 items), and Spiritual growth (9 items). The scale measures health-promoting behaviours ranging from never to routinely on a four-point Likert scale. The alpha reliability coefficient of the original version of HPLP II for the total scale is 0.922; alpha coefficients for the subscales range from 0.702 to 0.904.[12] By calculating the mean of the individual's responses to all fifty-two items, a score for overall health-promoting behaviours was achieved. Similarly, the 6 subscale scores were obtained by calculating an average of the sub-scale item responses. The total HPLP II score is further classified as: Poor for the range 52 to 104 and Good for the range 105 to 208. The data entry was done in Microsoft Excel and data analysis was done by using trial version of SPSS (SPSS Inc. USA) software version 21 using appropriate $\chi 2$ test to find the association of health-promoting lifestyle behaviours with various socio-demographic factors.

4. Results

In the present study, a total of 182 nursing students were enrolled in the study. Out of total nursing, there were 16 (8.8%) males and 166 (91.2%) females. The mean age of the participants was 19.9 ± 1.63 years. There were 59, 62 and 61 nursing students from 1^{st}, 2^{nd} and 3^{rd} professional year of the study respectively. About 163 (89.6%) possessed good health promoting behaviours, whereas 19 (10.4%) had poor health promoting behaviours.

In the present study, the about 32.97 % (n=60) belonged to Class II of the modified Prasad's classification, followed by Class I (29.67%, n=54), Class III (20.33%, n=37), Class IV (15.93%, n=29) and Class V (1.10%, n=2).[Table 1] In the present study, most of the respondents belonged to urban (n=151, 82.97%) areas while rest (n=31, 17.03%) were from rural residence. There was no significance difference as far as the good practices of nutrition and place of residence is concerned. (p=0.48, Chi-square table value: 0.498). It can be observed from the study that only about 39.56% (n=72) of the respondents had normal Body Mass Index (BMI), while more than 37.36% (n=68) were underweight. On the other hands, few proportions of the respondents were either overweight (9.34%) or obese (13.74%).

It can be seen from the above Table 2 that overall score for Promotion Lifestyle Profile II (HPLP II) had come out to be 135.14 (64.97%) out of maximum of 208, which indicates a good value as far as health promoting lifestyle behaviour is concerned among the respondents. Except for Health responsibility (mean score 20.55, 57.08%) and physical activity, (mean score 18.23, 56.97%), for all the other categories the mean scores came out to be more than 60% of the maximum values for all the questions for that particular category.

The following Table 3 shows the statistical association between the five health subscales (Health responsibility, Physical Activity, Nutrition, Spiritual growth, Interpersonal

Table 1: Distribution of different socio-demographic characteristics among the respondent nursing students (N=182)

Variable	Categories	Frequency	Percentage
Gender	Female	166	91.2
	Male	16	8.8
Professional Year	1^{st}	59	32.41
	2^{nd}	62	34.06
	3^{rd}	61	33.51
Residence	Urban	151	82.97
	Rural	31	17.03
Socio-economic class (Modified B. G .Prasad)	Class V	2	1.1
	Class IV	29	15.93
	Class III	37	20.33
	Class II	60	32.97
	Class I	54	29.67
Body Mass Index (kg/m^2)	Underweight	68	37.36
	Normal weight	72	39.56
	Overweight	17	9.34
	Obese I	18	9.89
	Obese II	7	3.85

Table 2: Mean and standard deviation values of health promotion lifestyle profileII (HPLP II) overall scores according to the categories (N=182)

HPLP category	Minimum score	Maximum score	Mean score	Standard Deviation	Percentage of the maximum score
Overall	52	208	135.14	25.74	64.97
Health responsibility	9	36	20.55	4.75	57.08
Physical activity	8	32	18.23	5.18	56.97
Nutrition	9	36	23.24	4.86	64.56
Spiritual growth	9	36	26.48	6.14	73.56
Interpersonal relations	9	36	25.39	5.09	70.53
Stress Management	8	32	21.25	4.78	66.41

relations and Stress Management) and selected variables such as sex, residence, Socio-Economic class and Body Mass Index among the respondents) among all three years' students. It can be seen that for the most of the variables, the scores among the most of the health subscales do not have significant statistical association (at 5%), except BMI where there was significant association between "health responsibility" scores and Body Mass Index of the respondents. The sub-class scores were statistically significant for associations between socio-economic class and health sub-classes like physical activity (p=0.016), nutrition (p=0.004), spiritual growth (p=0.002), interpersonal relations (p=0.012) and stress management (p=0.002).

5. Discussion

In the present study of 182 nursing students, there were 16 (8.8%) males and 166 (91.2%) females. The mean age of the participants was 19.9 ± 1.63 years in the present study, while it was on a higher side (23.08± 5.39) for a study done among nursing students of Malaysia which can be due to the fact of higher age of enrolment in course in the country.[13] However, age itself was not significantly associated with health responsibility scores, which is similar to the results obtained by Al-Qahtani in Saudi Arabia, Gilan et al in Iran, Lolokote et al. in China, Borle et al. in India and Kurnat-Thoma et al. in the United States.[14,15]

In the present study, gender was not significantly associated with any HPLP sub-scales, on the other hand gender had a significant statistical association among MBBS students in a study done in central India, particularly with respect to Health-Promoting Lifestyle (p=0.009), Health Responsibility (p=0.021), Nutrition (p=0.046) and Physical Activity (p=0.004), where males having higher scores than females. This can be due to the differences in the sex composition (higher among medical students then nursing) as well as socio-cultural backgrounds of the students.[16] Similar findings of males having higher physical activity scores was also seen a study done among nursing students of Indonesia.

About 163 (89.6%) possessed good health promoting behaviours, whereas 19 (10.4%) had poor health promoting behaviours. On the other hands, poor health promoting behaviour (46%) was also seen in the research done by Deekala RS et al. among nursing and MBBS students in

Table 3: Association between Socio-demographic parameters and Health sub-scales among the respondents (N=182)

Health sub-scales	Sex	Residence	Socio-economic class	BMI Category
Health responsibility	Chi-square value: 0.381 P value: 0.537	Chi-square value: 0.805 P value: 0.365	Chi-square value: 3.589 P value: 0.464	Chi-square value: 142.7 P value: < 0.000*
Physical Activity	Chi-square value: 0.49 P value: 0.597	Chi-square value: 0.143 P value: 0.706	Chi-square value: 12.24 P value: 0.016*	Chi-square value: 3.195 P value: 0.526
Nutrition	Chi-square value: 1.668 P value: 0.312	Chi-square value: 0.498 P value: 0.48	Chi-square value: 15.349 P value: 0.004*	Chi-square value: 1.385 P value: 0.847
Spiritual growth	Chi-square value: 1.645 P value: 0.253	Chi-square value: 0.104 P value: 0.747	Chi-square value: 16.938 P value: 0.002*	Chi-square value: 6.735 P value: 0.151
Interpersonal relations	Chi-square value: 0.041 P value: 0.69	Chi-square value: 0.14 P value: 0.708	Chi-square value: 12.802 P value: 0.012*	Chi-square value: 4.7 P value: 0.319
Stress Management	Chi-square value: 0.255 P value: 0.614	Chi-square value: 0.143 P value: 0.706	Chi-square value: 17.251 P value: 0.002*	Chi-square value: 2.205 P value: 0.698

* Significant at 5% level

Arunachal Pradesh.[17] In the current research, the highest percentage for maximum score was seen for spiritual health subclass (73.56%), whereas the lowest percentage of maximum score was seen for physical activity (56.97%) subclass. [Table 2]. These findings coincide with the observations made by Borle, P et al. in their research for the same subclass HPLP scores.[18] The highest scores were observed for interpersonal relations in studies done by Mak et al. in China and Gilan et al. in Iran.[14,19]

It was seen that only about 39.56% (n=72) of the respondents had normal Body Mass Index (BMI), while more than 37.36% (n=68) were underweight. On the other hands, few proportions of the respondents were either overweight (9.34%) or obese (13.74%). While in a study by Riza et al. showed the proportion of nursing students having normal BMI was is 49.38% and that of underweight was 24.84%, which means the students were healthier than the present study. The difference may be due to diet and variations in cultural factors among nursing students of India and Indonesia.[20] Overall score for Health Promotion Lifestyle Profile II (HPLP II) had come out to be 64.97%, which was higher than the study done among students of Arunachal Pradesh (46.3%).[17] Except for "health responsibility", the mean HPLP -II scores were significantly associated with socio-economic class among the students. [Table 2]. This finding is consistent with the research done by Gilan et al., where subjects with high economic status had a higher mean HPLP-II score than those with middle or low status.[14]

6. Conclusion & Recommendations

The majority of nursing students possessed good health promoting behaviours; whereas few had poor health promoting behaviours. Spiritual growth subscale had the highest mean score while physical activity had the lowest mean score. Health responsibility subscale was significantly associated with Body Mass Index in all the professional year of study. College administrators and staff should provide guidance and plan actual strategies to improve nursing students' health-promoting behaviors in subscales like physical activity and health responsibility.

7. Source of Funding

None.

8. Conflict of Interest

None.

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