Health-promoting behaviors in persons admitted to the health center selected in Tehran

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Abstract

Health-promoting behaviors in people admitted to selected health centers in Tehran. The significance of health-promoting behaviors in maintaining people's performance and independence and promoting the quality of life increases with age. This analytical cross-sectional study was conducted to determine health-promoting behaviors in people admitted to selected health centers in Tehran in 2010. In this study, 612 people (239 men and 373 women) admitted to Tehran's selected health centers were selected purposefully. The data were collected using "Health-Promoting Lifestyle Profile II." This standard instrument consists of 6 subscales namely, nutrition, physical activity, spiritual growth, health responsibility, interpersonal relations, and stress management. To maintain weight of the items, the total scores of the instrument and subscales were calculated using mean scores. To do so, each item was assigned a score of 1-4. The independent t test and Pearson correlation coefficient were used to analyze the data. The spiritual growth and physical activity subscales comprised the maximum and minimum mean scores, respectively. The health responsibility and physical activity showed the maximum significant correlation, and the physical activity and the interpersonal relations scores showed the minimum significant correlation. The physical activity and health responsibility subscales got minimum scores. This necessitates the health care staff and authorities to pay more attention to these two subscales and take action to obviate or reduce these problems.

Keywords: Behavior, Health center, Health promotion

Introduction

Due to its outstanding role in health care, health promotion has been focused in recent years [1]. Health promotion is the process in which people become empowered to increase their control over health determinants, and consequently promote their health [2]. The health and psychosocial well-being promoting behaviors are the important determinants of health status and the quality of life [3]. Health-promoting behaviors are actions people perform intentionally to promote their health [4,5]. In order to have a healthy lifestyle, people must exercise health-promoting behaviors during their daily activities [6]. The World Health Organization emphasized on a healthy lifestyle in its objectives in 2000. Maintenance and promotion of lifestyle involves a wide range of the objectives of the World Health Organization [7]. According to Pender a well-known theorist in Health sciences, healthy lifestyle behaviors include self-

transcendence, health responsibility, exercise, nutrition, interpersonal support, and stress management [8]. Habits and lifestyle of people make them capable of doing some health-controlling actions. People can have a longer life, remain safer, and postpone aging process through controlling health-related habits [9]. Moreover, health-promoting behaviors reduce the incidence of diseases and mortality rate [10]. People with a healthier lifestyle live approximately 6-9 years more than others and will be disabled 9 years later at their final years of life [11].

Several studies have revealed that social-demographic variables such as age, education, income, and perceived health status have a positive significant correlation with the total scores and subscales of the health-promoting lifestyle profile [8].

In most countries, especially developing countries, the primary health care is provided by the public sector. The role of public and private sectors in providing health services is a hot topic in most countries. A considerable part of health services in Iran, like vaccination, family planning, prenatal care, and child growth monitoring is also provided within a broad and comprehensive network by the public sector free of charge. Families' files for recording and monitoring their health status, in terms of the above services, are available in health care centers near their residence [12].

Various studies have been conducted in different areas of health-promoting behaviors and will be reviewed briefly in this section. Brown conducted a study (2009) to examine and describe the correlation of health status, marital status, income level, educational level, age, and body mass index with added effect of spirituality on health-promoting behaviors of African American women in South Florida. The participants of the study were 137 women of 18-64 years old. The results showed a significant correlation between health-promoting behaviors and educational level [13]. Another study on the correlation of job conditions with the health-promoting methods in Japanese agricultural and non-agricultural

workers revealed that there was no significant correlation between these behaviors in the two occupational groups [14]. Furthermore, a study was performed to determine health-promoting behaviors of Spaniards and the variation in these behaviors in terms of acculturation, demographic characteristics, and perceived health status on 545 people selected using convenience sampling method. In the above study, among the 6 subscales of the instrument "Health-Promoting Lifestyle Profile II," the physical activity and the spiritual growth comprised the minimum and maximum scores, respectively [15].

The results of a cross-sectional study in Iran on 440 students of Yazd University of Medical Sciences with the aim of determining the status of exercising health-promoting behaviors in the students and the influential factors showed the total mean of the Health-Promoting Lifestyle Profile II as 3.130 ± 0.19. The maximum and minimum scores in the study were related to the spiritual growth and the physical activity, respectively [16]. The present study was conducted to determine health-promoting behaviors in people admitted to the selected health centers in Tehran.

Method

This analytical cross-sectional study was conducted on 612 people (239 men and 373 women) admitted to 3 active health centers in Tehran. In this study, psychometric test of the instrument "Health-Promoting Lifestyle Profile II" was also carried out. The number of samples for this test was determined regarding the number of samples required for structural validity (5-10 people) [17]. The minimum sample size was estimated 520 people that were changed to 612 people for more assurance. The reason for selecting the above 3 heath centers was that these large principal centers were in the area covered by Shahid Beheshti University of Medical Sciences and that these centers had samples of all the studied age groups and environmental health and occupational health units and were doing vaccination for those men dispatched

to the military service from all parts of Tehran and screening examinations. The samples were selected using the convenience sampling method. The population of this study was patients referring to the vaccination unit, maternal and child health unit, family planning unit, occupational health unit, environmental health unit, and general practitioners of health centers affiliated to ShahidBeheshti University of Medical Sciences and Health Services in order to receive health services for mild and transient diseases like a cold. The inclusion criteria of the study were as follows: 1- 18 years old up to retirement age, 2- living in Tehran, 3- being Iranian, 4- having a healthy appearance, and 5- being content with participating in the study. The instrument used in this study was "Health-Promoting Lifestyle Profile II" that examined people's health-promoting lifestyle and measured health-promoting behaviors, health protective behaviors reducing the risk of diseases, and health-promoting behaviors including Well-being, self-transcendence, and doing personal tasks [18]. Today, the instrument "Health-Promoting Lifestyle Profile II" is widely used to measure and assess the lifestyle and daily activities [13].

This instrument consisted of 6 subscales namely, nutrition, physical activity, spiritual growth, health responsibility, interpersonal relations, and stress management; and 52 items. Options included 1 to 4. The items were scored as 1 for "never," 2 for "sometimes," 3 for "often," and 4 for "routinely" with minimum total score of 52 and maximum total score of 208. The total score for the entire health-promoting lifestyle was obtained through calculating mean individual answers given to the 52 items, and scores of the 6 subscales were obtained through calculating mean individual answers given to the items of the subscales. The use of mean scores rather than the total scores was suggested in order to maintain the 1-4 scores of the answers given to the items and compare the scores of the subscales together purposefully. The psychometric test of the instrument was done through determining the validity, which was consisted of content validity and structural validity, and reliability using internal and external consistency. The validity of the instrument, using Waltz and Basel index, showed minimum score of 70.84% and maximum score of 100%. The structural validity indicated that the instrument had 6 subscales. The reliability of the instrument was determined through measuring internal consistency (Cronbrach's alpha) and external consistency using Wilcoxon test and intra class coefficient (ICC). The internal consistency (Cronbrach's alpha) of the instrument was 0.95 that indicated an appropriate reliability [19]. The ICCs of the subscales are shown in Table 1.

Table 1 *The intra class coefficients (ICC) and Spearman correlation coefficients of the subscales of the instrument "Health-Promoting Lifestyle Profile II"*

Subscale	Intraclass coefficient (ICC)	Spearman correlation coefficient
Health responsibility	0.772	0.619
Physical activity	0.876	0.780
Nutrition	0.713	0.772
Spiritual growth	0.686	0.659
Interpersonal relations	0.671	0.707
Stress management	0.770	0.780

Upon coordinating with authorities of the health centers and receiving consent of the samples, the questionnaires were given to the patients. The time required for answering the questionnaire was 15-20 minutes.

The data were analyzed using SPSS17 software. The results were described using mean, standard deviation, and percentage. The independent t test and Pearson correlation matrix were used to analyze the data.

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Results

The results showed that mean standard deviation of samples' age was 34.02±12.11 years. More than 60% of the samples were female, and more than 73% of them were married. Of the samples, 43.6% had academic education, and 32% were clerk. More than 50% of the samples owned their home. The demographic specifications of the samples in terms of sex and p-value are shown in Table 2.

The in dependent t test showed a significant difference between men's and women's scores of health responsibility, nutrition, and interpersonal relations subscales, as women got higher mean score. In terms of educational level of the samples, the results indicated that only the stress management subscale was significantly different from others (P<0.05). Maximum mean was related to the spiritual growth among illiterate samples (3.64), and minimum mean was related to the physical activity among samples with primary education (2.03). Regarding the marital status of the samples, the results showed there was a significant difference among the health responsibility, nutrition, and spiritual growth subscales (P<0.05). In this regard, maximum mean and minimum mean were related to the spiritual growth in widowed samples (3.80) and physical activity in single samples (2.03), respectively.

Table 2 *The demographic specifications of the studies samples*

Variable	Variable classes	Female		Male		P-value
		Number	Percent	Number	Percent	
Marital status	Single	84	22.7	61	25.5	0.754
	Married	276	74.6	174	72.8	
	Divorced	2	0.5	3	1.3	
	Widowed	5	0.0	1	0.8	
	Other	1	0.4	1	0.3	
Educational level	Illiterate	9	2.4	6	2.5	0.883
	Elementary	30	8.1	16	6.7	
	Middle school	49	13.2	29	12.2	
	High school	115	31.1	88	37	
	University	167	45.1	99	41.6	
Occupation	Worker	10	2.8	32	13.7	0.001
	Clerk	108	29.9	88	37.6	
	Self-employed	6	1.7	83	35.5	
	Retired	8	2.2	6	2.6	
	Housewife	178	49.3	0.00	0.00	
	Student	51	14.1	25	10.7	
Home owner-ship	Owned	198	55	112	50.7	0.597
	Rental	135	37.5	86	38.9	
	Leased	27	7.5	23	10.4	

In this study, male and female samples showed a significant statistical difference only in the occupation. The descriptive statistics of the subscales showed that maximum mean (3.49) and minimum mean (2.08) were related to the spiritual growth (SD 0.61) and the physical activity (SD 0.60), respectively. Furthermore, the descriptive statistics of the subscales with regard to the sex of the samples revealed that maximum mean standard deviation was related to the spiritual growth that comprised 3.47 and 3.53 for women and men, respectively. In this regard, minimummean standard deviation was related to the physical activity that comprised 2.08 and 2.08 for women and men respectively. Therefore, there was no significant statistical difference between the two sex groups (Table 3).

Table 3 *Comparison of the subscales of the instrument 'Health-Promoting Lifestyle Profile II' in terms of sex in patients admitted to the selected health centers in Tehran in 2010*

Subscale	Female		Male		Total		P-value
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	
Health responsibility	2.64	0.59	2.38	0.61	2.54	0.61	0.001
Physical activity	2.08	0.59	2.08	0.62	2.08	0.61	0.94
Nutrition	2.97	0.52	2.79	0.47	2.90	0.51	0.001
Spiritual growth	3.47	0.59	3.53	0.64	3.49	0.61	0.16
Interpersonal relations	3.10	0.48	2.96	0.49	3.05	0.49	0.001
Stress management	2.61	0.52	2.56	0.57	2.59	0.54	0.28
Total	2.75	0.41	2.68	0.42	2.77	0.56	0.02

Table 4 *The correlation among the subscales of the instrument 'Health-Promoting Lifestyle Profile II' in patients admitted to the selected health centers in Tehran in 2010*

Subscale	Health responsibility	Physical activity	Nutrition	Spiritual growth	Interpersonal relations	Stress management
Health responsibility	1					
Physical activity	0.603*	1				
Nutrition	0.510*	0.429*	1			
Spiritual growth	0.439*	0.427*	0.464*	1		
Interpersonal relations	0.492*	0.375*	0.484*	0.600*	1	
Stress management	0.594*	0.578*	0.466*	0.551*	0.51*	1
Total: health-promoting lifestyle	0.770*	0.751*	0.721*	0.766*	0.760*	0.798*

*The correlation is significant at 0.01 value

As shown in Table 4, the health responsibility and physical activity scores showed the maximum significant correlation (r=0.60 and P<0.01), and the physical activity and the interpersonal relations scores showed the minimum significant correlation (r=0.375 and P<0.01).

Regarding the educational level of the samples, the results indicated that only the stress management subscale was significantly different from others (P<0.05). In terms of the marital status of the samples, the results showed there was a significant difference among the health responsibility, nutrition, and spiritual growth subscales (P<0.05). Regarding the occupation of the samples, the results revealed that the health responsibility, nutrition, and stress management subscales were significantly different from each other (P<0.05).

Discussion

The results of this study showed that the spiritual growth and physical activity subscales comprised the maximum and minimum rate, respectively. The health responsibility and physical activity showed the maximum significant correlation, and the physical activity and the interpersonal relations scores showed the minimum significant correlation. Regarding the samples' sex (comparison between men and women), there was no significant difference between the age, marital status, religion, and educational level of the

men and those of women. The two groups of men and women differed significantly from each other only in terms of the occupation, which seemed normal considering that fact that most men work outside and most women are housewife.

In the present study, the education level of the samples showed a significant difference only in the stress management subscale, as samples with lower educational level could manage their stress better than others. It seemed that samples with low education had fewer expectations from their life, and consequently, they could better control their stress. Unlike the results of this study, the study performed on African American women showed a significant correlation between health-promoting behaviors and the education level, which might be due to the stress management methods taught in official education in Western countries [12].

In the present study, maximum mean scores of men and women were related to the spiritual growth subscale, and minimum mean scores of men and women were related to the physical activity subscale. There was no significant difference between the two sex groups. Given that Iran has a powerful cultural and religious history and Iranians have paid little attention to physical aspects, such as exercising and physical activities, the results of this study is not too far from the expected. However, Al-Maaitah performed a study on health-promoting behaviors in Jordanian women and reported high scores for self-transcendence, interpersonal support, and nutrition. Meanwhile, the African American women got low scores for self-transcendence, exercising, and interpersonal support [7]. In line with the results of the present study, the Spaniards, who have a rather traditional community in Europe, also showed minimum scores for the physical activity and maximum scores for the spiritual growth [15].

Similar to the results of the present study, the women were significantly different from men in terms of the 3 subscales of health responsibility, nutrition, and interpersonal relations [12]. However, regarding that women exercise

healthcare more than men, they are more sociable than men, and they are responsible for family feeding, results of the two studies are justifiable.

In the present study, maximum mean scores were related to the spiritual growth subscale, and minimum mean scores were related to the physical activity in samples that were self-employed. Besr et al.'s study on 264 workers of a food products factory in Turkey showed that maximum mean scores were related to the interpersonal support and self-transcendence. Compared to other reports in this regard, samples of the above study had lower scores for interpersonal support, self-transcendence, nutrition, and stress management [8], which might be due to the more suitable support for the Turkish workers than that for the Iranian workers. Considering the samples' sex, the present study did not show any significant difference in the educational level and marital status of the samples although there was a significant difference in age, nutrition, and exercise between the two sex groups. In their study on the subscales of the instrument "Health-Promoting Lifestyle Profile II," Zhang et al. concluded that the spiritual growth and the physical activity subscales comprised significant maximum scores and minimum scores, respectively [14].

The non-randomly method of sampling was of the limitations of this study.

Conclusion

Based on the results of the present study, investment in cultural and religious backgrounds can be cost-effective and favorable for promoting health. Training and promoting physical activities, especially in educational and health-related programs seem necessary. The results of this study may be applied by policy-makers, those in charge of welfare and healthcare, and social health and wellbeing managers in order to plan and implement practical programs promoting society's health, particularly weak dimensions of health.

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Contributions

Study design: MH
Data collection and analysis: MH, PS, SG
Manuscript preparation: MH,SP

Conflicts of Interest

"The authors declare that they have no competing interests."

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