Chronic Diseases Journal

DOI: 10.22122/cdj.v8i3.521 Published by Vesnu Publications

The effects of healthy lifestyle promoting behaviors on general health of the employees working in Isfahan University of Medical Sciences, Iran

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Original Article

Abstract

BACKGROUND: The objective of this investigation was to assess the effects of health promotion behaviors on general health, which is one of the main determinants of health, preventing many diseases.

METHODS: This cross-sectional descriptive analytic study was performed in Isfahan University of Medical Sciences, Isfahan, Iran. A total of 175 employees working in Isfahan University of Medical Sciences were enrolled into the study via random sampling. In this study, Health Promoting Lifestyle Profile II (HPLP-II) questionnaire, General Health Questionnaire (GHQ), and a demographic questionnaire were used. The collected data were entered into SPSS software and analyzed using descriptive statistics and multiple regression tests.

RESULTS: Based on the results of multiple regression analysis, at a significance level of 5%, health promotion behaviors had a significant effect on mental health (P = 0.003). Considering the calculated coefficient (0.283), every one unit of increase in health promotion score increased the mean mental health score by 0.24 units.

CONCLUSION: Protecting the psychic health of the staff is one of the critical issues which plays a role in increasing the efficiency of the organization. Thus, it is of great importance to take steps to promote healthy lifestyle behaviors among employees and implement various interventions in this field.

KEYWORDS: Healthy Lifestyle; Health Status; Occupational Groups

Date of submission: 18 July 2019, ***Date of acceptance:*** 12 Sep. 2019

Citation: Fathizadeh S, Khatti-Dizabadi F, Amirsardari M, Ahmadi-Baseri E, Eslami AA. **The effects of healthy lifestyle promoting behaviors on general health of the employees working in Isfahan University of Medical Sciences, Iran.** Chron Dis J 2020; 8(3): 99-104.

Introduction

The Ottawa Charter for Health Promotion declares that equal opportunities and resources to secure "access to information, life skills, and opportunities for making healthy choices" are some of the prerequisites for health improvements.[1] Health promotion programs put emphasis on behaviors such as regular exercise, eating nutritious foods, overcoming challenges, avoiding smoking, alcohol, and drugs, living in clean air, and having a goal in life.[2] Health problems, such as insulin resistance, cardiovascular disease (CVD), osteoporosis, and cancer share some common risk factors, including unhealthy and excessive nutrition, a lack of physical activity, smoking, and heavy drinking.[3] According to a report by the Statistical Centre of Iran published in 2011, of a total of 380 thousand cases of death, at least 180 thousand deaths are associated with seven

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major causes (smoking/hookah, unhealthy eating, sedentary lifestyle, obesity, high blood pressure, high blood sugar, and high blood cholesterol), and by the year 2025, about 70% of diseases in the country will be associated with non-communicable diseases (NCDs), and the rest will be related to infectious diseases such as acquired immunodeficiency syndrome (AIDS).[4,5] Healthy lifestyles contain an array of likely flexible behaviors that can prevent a wide dimension of diseases, such as some cancers, congestive heart failure (CHF), stroke, dementia, mental illness, and diabetes.[6] Rastegar et al. conducted a study in Mashhad, Iran; they found that the volunteer healthcare providers had a moderate to low level of health promoting lifestyle.[7] Moreover, the results of previous research show that a large number of deaths among young people and people of working age are due to suicide and murder, which are more or less associated with the mental health of people.[8] Mental health problems are inseparable from the environment[9] that is an essential factor for maintaining and sustaining social, occupational, and educational performance of the community.[10] Sadeghpour et al. conducted a study on relationship between physical activity and psychic health among the staff working in Isfahan University of Medical Sciences, Isfahan, Iran, and found that the level of physical activity was lower than the mean level and the sample group had a good psychic health status.[11] Undoubtedly, in a healthy organization, the organization's management not only puts emphasis on production and productivity but also has an interest in physical and mental health of its employees. In a healthy society, the responsibility of organizations is not solely limited to generating more profitable goods and services, and managers in such organizations know that more productive outputs can be achieved through effective management; furthermore, effective management cannot be achieved without considering and addressing the mental health of the employees.[12] Surely, the intelligent and expert staff in every country play a vital role in the progress of their country. They can largely affect different aspects of their life in the community. Therefore, the measurement of the level of mental health and physical health promotion behaviors as well as determining the relationship between them in staff working in Isfahan University of Medical Sciences can help authorities improve the provision of health services and address the needs of the staff.

Materials and Methods

This study was a cross-sectional descriptive analytic study which was conducted among 175 employees (non-faculty members). The subjects were selected via random sampling method. Only the staffs who had declared full consent for participation were enrolled into the study. After obtaining permission from the Ethics Committee of Isfahan University of Medical Sciences (No. IR.MUI.REC.2017.1.216), the data were collected with informed consent from the target group.

In order to collect the required data, we used Health Promoting Lifestyle Profile II (HPLP-II) questionnaire, General Health Questionnaire (GHQ), and a demographic questionnaire. The questionnaires had been localized and the validity and reliability of the questionnaires had been confirmed by previous studies.[13] The first questionnaire is related to the variables of health promoting behaviors in employees; its original English version, i.e., HPLP-II, is a 52-item tool. As reported, the reliability of the questionnaire measured by Cronbach's alpha coefficient is 0.82 and the reliability of its various areas has been reported between 0.64 and 0.91.[14] This questionnaire contains 52 items in six domains including: nutrition, physical activity, health responsibility, stress management, interpersonal relationships, and spiritual growth. The second questionnaire was Goldberg and Hillier's GHQ with 28 items

(GHQ-28). The questions were based on the Likert scale and were scored from one to four. The questions in this questionnaire were classified in four domains: physical impairment, anxiety, performance, and depression, with seven questions in each domain.

The collected data were entered into SPSS software (version 19, SPSS Inc., Chicago, IL, USA) and analyzed using descriptive statistics and multiple regression tests.

Results

A whole of 175 employees were engaged in this study. The mean age of the participants was 39.60 ± 8.29 years. Based on the self-reports, 14.4% of employees had a monthly income of less than 50 USD and 4.2% earned more than 200 USD per month. Moreover, 57.2% of the staff owned a personal home. Table 1 presents the demographic characteristics of the participants.

Based on the outcome of multiple regression analysis at a significance level of 5%, health promotion behaviors had a significant effect on mental health (P = 0.003). Taking into account the calculated coefficient (0.283), every one unit increase in health promotion score increased the mean mental health score by 0.24 units. Since after the control of the confounders, the adjusted R-squared was equal to 0.242, health promotion behaviors accounted for 24% of the variability in mental health.

Considering the P-values obtained in multiple regression analysis, we observed significant effects in the following cases: stress management on functional disorders, physical activity on physical impairment, nutrition on anxiety disorders, physical disorders, and functional disorders, and interpersonal relationships on functional disorders and depression disorders.

The percentage of variability in anxiety disorders, functional disorders, depression disorders, and physical impairment explained by health promotion dimensions was 95%, 91%, 92%, and 82%, respectively, which indicates the strength of these factors in explaining factors affecting mental health.

Table 1. Frequency distribution of the participants in terms of demographic characteristics

Demographic characteristics	Demographic levels	n (%)
Age (year)	Younger than 30	33 (15.3)
	31 to 40	106 (49.3)
	41 to 50	52 (24.2)
	Older than 50	24 (11.2)
Sex	Female	88 (50.3)
	Male	87 (49.7)
Marital status	Married	45 (82.9)
	Single	25 (14.3)
	Divorced	5 (2.9)
Employment status	Official	68 (31.6)
	Contractual	109 (50.7)
	Newly graduated staffs	6 (2.8)
	Short period employment	15 (7.0)
	Other	17 (7.9)
Family size	One to two people	51 (29.1)
	Three to four people	108 (61.7)
	Five to six people	13 (7.4)
	More than six people	1 (0.6)
Educational status	High school diploma	45 (25.7)
	Associate diploma	15 (8.6)
	Bachelor	68 (38.9)
	Master	45 (25.7)
	PhD	1 (0.6)
	Other	1 (0.6)
Work experience (year)	Less than 10	51 (33.1)
	10-15	46 (26.3)
	16-20	27 (15.4)
	21-25	20 (11.4)
	More than 25	24 (13.7)

The table below presents the magnitude of the significant effects as shown by the coefficients. For example, one unit increase in the mean nutrition score improved the mean score of anxiety disorders by 0.299 units. One unit increase in stress management score improved the mean score of functional disorders by 0.432 units. In addition, one unit increase in the mean nutrition improved the mean functional disorders by 0.350 units, one unit increase in the mean interpersonal relationship improved the mean functional

disorder by 0.203 units, one unit increase in the mean interpersonal relationship improved the mean score of depression disorders by 0.410 units, one unit increase in the mean score of nutrition improved the mean score of physical disorder by 0.397 units, and one unit enhancement in the mean score of physical activity improved the mean score of physical impairments by 0.208 units (Table 2).

Discussion

The objective of this study was to investigate the effect of healthy lifestyle promotion behaviors on general health. We analyzed the effect of different dimensions of health promotion behaviors on different dimensions of general health and the outcomes of this survey showed that nutrition had an effect on anxiety disorders, physical disorders, and functional disorders; in addition, the improvement in nutrition improved the status of the mentioned general health dimensions. Anxiety disorders are one of the most frequent types of psychiatric disorders that affect one quarter of world population throughout their life. On the other hand, obesity is perhaps one of the risk factors for anxiety disorders. Obesity causes anxiety disorders in a variety of ways, for instance, the discrimination and stigma due to overweight can deeply perplex obese people. In addition, the negative impact of obesity on health and quality of life can be particularly stressful. Both of them can eventually lead to anxiety disorder.[15]

The results of the study show that stress management is effective on functional disorders and the ability to manage stress improves the performance of the staff. In addition, improvement in interpersonal relationships improves people's performance and reduces their depression. When people are stressed, they must develop the necessary coping skills to be able to reduce stress. If stress is managed and effective coping skills are provided, one will be able to better address the needs and challenges in his/her life.[16]

Table 2. Parameter estimates

Dependent variable	Parameter	B	t	P
Anxiety disorder	Health responsibility	-0.062	-0.458	0.648
	Spiritual growth	0.117	0.927	0.355
	Stress management	0.288	1.543	0.125
	Physical activity	-0.056	-0.544	0.587
	Nutrition	0.299	2.441	0.016
	Interpersonal relationship	0.231	1.891	0.060
Functional disorder	Health responsibility	-0.082	-0.779	0.437
	Spiritual growth	0.046	0.467	0.641
	Stress management	0.432	2.987	0.003
	Physical activity	-0.106	-1.318	0.189
	Nutrition	0.350	3.676	< 0.001
	Interpersonal relationship	0.203	2.146	0.033
Depression disorder	Health responsibility	-0.115	-0.547	0.585
	Spiritual growth	0.200	1.025	0.307
	Stress management	0.277	0.963	0.337
	Physical activity	0.044	0.278	0.781
	Nutrition	0.018	0.095	0.924
	Interpersonal relationship	0.410	2.179	0.031
Physical disorder	Health responsibility	-0.012	-0.093	0.926
	Spiritual growth	0.219	1.762	0.080
	Stress management	0.304	1.656	0.100
	Physical activity	0.208	-2.038	0.043
	Nutrition	0.397	3.285	0.001
	Interpersonal relationship	0.099	0.822	0.412

As reported by World Health Organization (WHO), there are 10 coping skills including effective communication, effective interpersonal communication, confrontation with emotions (failure, anxiety, depression, etc.), and coping with stress.[17] The important thing is that all of these skills can be learned; these skills help the person control problems such as depression, anxiety, loneliness, rejection, shyness, anger, conflict in interpersonal relationships, failure, and lack of support.[18]

The results also showed that increased physical activity was effective in reducing physical disorders. Physical activity is one of the most critical behaviors that can affect NCDs. There are numerous physical, mental, and social health benefits of sport but unhealthy food in sports settings competes with these health benefits.[19] Physical inactivity doubles the risk of CVD, type 2 diabetes, and obesity. It also increases the risk of breast and bowel cancer, hypertension (HTN), lipid disorders, osteoporosis, depression, and anxiety. Daily physical activity is one of the ways to strengthen the immune system which prevents more than 20 diseases.[14] As reported by WHO, lack of awareness about the advantage of physical activity, lack of adequate information on the level and the range of physical activity, lack of supportive commitments, insufficient co-operation, lack of community access to sports facilities, economic pressure, time constraints, cultural problems hindering women's physical activity, population density, lack of security, air pollution, lack of parks, and lack of sports and simple recreational activities and walking make it difficult for people to choose their favorite type of physical activity.[19]

One of the limitations of this research is non-cooperation of employees in filling out the questionnaire. It is of great importance to take steps to promote healthy lifestyle behaviors among employees and implement various interventions in this field.

Conclusion

Considering the results of this study, it was found that different dimensions of health promotion had an impact on mental health; it was also found that psychic health of the staff was one of the most critical issues in increasing the efficiency of an organization. Thus, it is of great importance to conduct studies and adopt measures to improve healthy lifestyle promotion behaviors and carry out related interventions among the staffs.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

The researchers appreciate the sincere help of the collaborating staff of Isfahan University of Medical Sciences. The present study was conducted with the financial support of the Student Research Committee of the School of Public Health, Isfahan University of Medical Sciences with the registration number of 196216 (No. IR.MUI.REC.2017.1.216).

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