

# Promoting Healthy Lifestyles for Women in Kerman, Iran: A Population-Based Study

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## Abstract

**Background:** A healthy lifestyle plays an important role in promoting good health and preventing diseases.

**Objectives:** This study aimed to investigate the promotion of healthy lifestyles for women in Kerman, Iran.

**Materials and Methods:** A cross-sectional study was conducted on 400 women admitted to urban health centers in Kerman during 2014. Data was collected using a questionnaire containing demographic data and a health-promoting lifestyle profile. Scores ranged between 0 and 100. Higher scores indicated healthier lifestyles. The data was analyzed using SPSS software.

**Results:** The mean age of the participants was 33.94 years. Most were married, unemployed, and had a high school diploma. The mean score for health-promoting lifestyles was  $50.62 \pm 14.16$ . Nutrition and physical activity had the highest and lowest scores, respectively. Married women had higher scores in health responsibility and nutrition.

**Conclusions:** Data from our study revealed the necessity for women to pay more attention to planning healthy lifestyles, especially in terms of physical activity. Since women play a crucial role in shaping their children's habits, more educational intervention is needed to improve healthy lifestyle habits.

**Keywords:** Health Promotion, Lifestyle, Women, Kerman

## 1. Background

Noncommunicable diseases (NCDs) kill more than 36 million people each year. These diseases have four risk factors: unhealthy diet, physical inactivity, tobacco use, and alcohol abuse (1). The prevalence of many chronic conditions is increased by unhealthy lifestyles; therefore, lifestyle modification is important in reducing the burden of these diseases (2). Community-based lifestyle intervention programs can be effective for promoting healthy lifestyles in developing countries (2), which should be a priority in our health system, as previous studies found that the prevalence of unhealthy lifestyles is very high in Iran (3).

Different groups' lifestyles in Iran have been studied in terms of their levels of health promotion. Researchers have concluded that it is essential for health-related educational programs to be directed at lifestyle modification (4, 5). Musavian et al. found that the risk of developing an unhealthy lifestyle is higher among females and older adolescents (6). Harooni et al. revealed that 85% of the elderly living in Dena had intermediate health-promoting behaviors and 15% had proper health-promoting behaviors (7). Enjezab et al. found that the majority of middle-aged

women in Yazd were at the moderate level for having a health-promoting lifestyle (8). Sehhatie et al. found similar results among postmenopausal women in Langroud, Iran (9). Since mothers play a crucial role in shaping their children's habits and behaviors, they are effective in creating and shaping their children's lifestyles.

## 2. Objectives

This study investigated the health-promoting lifestyles of women admitted to urban health centers in Kerman

## 3. Materials and Methods

A cross-sectional study was conducted on 400 women aged between 15 and 64 years admitted to urban health centers in Kerman during 2014. The sample size was calculated using the following formula with a confidence interval of 95%, a standard deviation of 19% (based on previous studies), and an error rate of 2.6%.

A multistage sampling method was used. Due to the sampling method, a design effect of 2 was also considered. The city was divided into five sections; from each, two centers were selected randomly. At each of the centers, the

participants were selected through non-probability convenience sampling. Inclusion criteria were participants between the ages of 15 and 64 years old, and informed consent was required for participation. Data was collected using a two-section, self-administered questionnaire. The first section contained demographic data, such as age, marital status, employment status, level of education, and income. The second section was the health-promoting lifestyle profile designed by Walker et al. (10). We used the Persian version of the 34-item form, which has confirmed validity and reliability (11). The questionnaire consists of four dimensions, including nine questions about health responsibility, eight questions about physical activity, nine questions about nutrition, and eight questions about stress management. Each question is graded with a Likert scale of 4 degrees (1 = never, 2 = sometimes, 3 = often, 4 = always). Total scores and the score of each dimension were calculated by summing the scores and converting them to a value between 0 and 100. Higher scores indicated the promotion of a healthy lifestyle.

This study was approved by the research review board at Kerman University of Medical Sciences. The questionnaires were completed anonymously by a trained interviewer after oral consent was obtained. The participants were assured that the data would be used for research purposes only. Data was analyzed using SPSS statistical software version 19. T-test and ANOVA were used for comparing the health-promoting lifestyle scores between two groups and between more than two groups, respectively. Linear regression was used for the analysis of variables in predicting health-promoting lifestyle scores.

#### 4. Results

Four hundred questionnaires were completed. The participants were between the ages of 17 and 64 years with a mean of 33.94 years  $\pm$  10.54. Most participants were married (88.4%) housewives (75%) with high school diplomas (37.2%) and a household income of less than 5 MRIs (49.6%). Table 1 shows the health-promoting lifestyle scores and their dimensions in terms of the demographic data. As shown in Table 1, health-promoting lifestyle scores were higher in married women, unemployed women, and women with higher incomes and education levels. However, the differences were not statistically significant ( $P > 0.05$ ). For the linear regression analysis, only the employment status and the income of the women were considered. Table 2 shows the health-promoting lifestyle predictors for the linear regression model ( $R^2 = 0.23$ ). As shown in Table 2, only employment status was a significant predictor of health-promoting lifestyle scores ( $P = 0.04$ ). Lifestyle

scores were 3.66 points higher in housewives than in employed women. The scores of all dimensions except physical activity were higher among married women. These differences were statistically significant only for health responsibility and nutrition scores. The health responsibility of employed women and other dimensions of housewives were higher, but the difference was not statistically significant. The correlation between age, total scores and the scores of each dimension was not statistically significant ( $P > 0.05$ ).

#### 5. Discussion

This research investigated the promotion of healthy lifestyles in a population-based study. We found a total score averaging at 50.62, a result that is compatible with similar studies (8, 9). In our study, physical activity had the lowest score among the subscales. In almost all similar studies (8, 9, 12), physical activity had the lowest score among all dimensions of healthy lifestyles. Gokyildiz et al. found that physical activity had the lowest scores in pregnant women in Turkey (13). In addition, Tol et al. revealed that physical activity had the lowest score among students in health school in Isfahan (14). Finally, Motlagh found similar results among medical students (4). These results show that physical activity levels in our country are low; indeed, Esteghamati found that 40% of Iranian adults (31.6% of men and 48.6% of women) had low physical activity levels (15). Further more, many factors can reduce women's participation in physical activity, including less attention to women's sports by authorities compared to men's sports, less investment in women's sports compared to men's sports, limited access to suitable facilities, job involvement, insufficient time due to household chores and child care responsibilities, lack of interest, low self-esteem, parental and spousal disapproval, and economical issues (16).

Physical inactivity is a modifiable risk factor for chronic diseases such as cardiovascular diseases, diabetes, and certain types of cancer; therefore, it is necessary that health-promoting programs focus more on physical activity to lower the risks of developing these diseases.

Our study found that nutrition had the highest score among four dimensions (health responsibility, physical activity, nutrition, and stress management). Motlagh also showed that of these dimensions, nutrition had the highest score among medical students in Yazd (4). A similar study in Turkey and Iran (Tehran) revealed that health responsibility had the highest score among the same dimensions (5, 13).

A Turkish study found that older women, women with higher educational levels, and women with better socioe-

**Table 1.** Health-Promoting Lifestyle Scores and Its Dimensions According to Demographic Data<sup>a</sup>

Data	Health Responsibility	Nutrition	Physical Activity	Stress Management	Health-Promoting Lifestyle
<b>Total</b>	59.69 (17.74)	64.78 (16.37)	28.64 (21.25)	46.38 (18.65)	50.62 (14.16)
<b>Marital status</b>					
Single	48.96 (18.56)	59.57 (16.32)	33.22 (21.19)	45.00 (19.84)	47.51 (15.01)
Married	61.09 (17.19)	65.33 (16.33)	28.02 (21.19)	46.49 (18.51)	50.98 (14.03)
<b>P Value</b>	0.001	0.04	0.15	0.63	0.20
<b>Occupation status</b>					
Unemployed	59.48 (18.10)	65.21 (15.51)	29.27 (22.10)	47.61 (18.46)	51.43 (14.27)
Employed	61.86 (15.88)	64.74 (17.67)	27.15 (18.44)	43.45 (18.07)	49.41 (12.91)
<b>P Value</b>	0.26	0.83	0.43	0.06	0.30
<b>Education level</b>					
Illiterate	49.76 (20.05)	61.31 (13.39)	23.75 (20.94)	44.44 (16.84)	46.65 (17.75)
Elementary	58.85 (21.12)	63.63 (17.22)	27.58 (20.98)	48.30 (20.86)	50.33 (14.59)
High school	60.19 (15.47)	64.91 (15.39)	27.86 (20.99)	44.68 (17.84)	49.82 (13.77)
Academic	62.08 (14.62)	66.83 (16.37)	32.40 (21.84)	47.41 (17.08)	52.77 (13.14)
<b>P Value</b>	0.06	0.47	0.23	0.42	0.36
<b>Household income</b>					
< 5MRIs	59.39 (18.46)	62.67 (15.96)	27.12 (21.99)	46.20 (19.27)	49.49 (14.40)
5 - 10 MRIs	60.04 (16.11)	66.57 (16.38)	29.38 (20.05)	46.10 (18.16)	51.57 (13.56)
10 MRIs <	62.89 (16.94)	67.43 (16.54)	30.72 (19.42)	45.91 (15.03)	52.06 (13.10)
<b>P Value</b>	0.44	0.07	0.49	0.99	0.45

<sup>a</sup>Values are expressed as mean (SD).

**Table 2.** Health-Promoting Lifestyle Predictors in the Linear Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	95.0% Confidence Interval for B	
	B	Standard Error	Beta			Lower Bound	Upper Bound
<b>Constant</b>	82.28	3.68		22.36	0.00	75.04	89.52
<b>Age</b>	-0.016	0.071	-0.014	-219	0.82	-0.156	0.12
<b>Marital status</b>	3.29	2.24	0.083	1.46	0.14	-1.12	7.72
<b>Occupation status</b>	-3.66	1.80	-0.140	-2.03	0.04 <sup>a</sup>	-7.20	-0.11
<b>Household income</b>	1.64	1.09	0.104	1.49	0.13	-0.51	3.79
<b>Education level</b>	0.448	0.64	0.051	.69	0.49	-0.82	1.72

<sup>a</sup>Statistically significant.

conomic statuses all had healthier lifestyles (13). In our univariate analysis, we found the same results, but the differences between the women were not statistically significant. However, in our multivariate analysis, we found that housewives' healthy lifestyle scores were higher than those of employed women, which may indicate that employed women's lifestyles are negatively affected in terms

of health promotion due to their different role.

Married women had higher health responsibility and nutrition scores than single women. Many studies have showed that marriage has a positive influence on individual health (17), as marriage increases social support and income and reduces risky behavior and stress, all of which contribute to better health (18).

### 5.1. Conclusion

Data from our study revealed that it is necessary for women to pay more attention to planning for healthy lifestyles, especially in terms of physical activity levels. Since women play a crucial role in shaping their children's habits, more educational interventions are needed to improve their lifestyles in terms of health promotion.

### 5.2. Limitations

Our cross-sectional study was limited temporally in terms of the examination of relationships. Another limitation was that the data collected was self-reported by participants; therefore, precise evidence of their actual behaviors was not provided.

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### Footnotes

**Conflict of Interest:** The authors have no conflicts of interest.

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