

Middle-Aged Women's Quality of Life and Health-Promoting Lifestyle

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Abstract

Background: Middle age is among the most important periods in women's lives that is associated with different changes. Health-promoting lifestyle significantly affects health and quality of life.

Objectives: The aim of this study was to investigate middle-aged women's quality of life and health-promoting lifestyle.

Methods: This descriptive-analytical study was conducted in 2016 on 290 middle-aged women who aged 35 - 59 years and lived in Birjand, Iran. Study sample was recruited through multi-stage cluster random sampling. The 52-item health-promoting lifestyle profile and the 36-item quality of life questionnaire were used for data gathering. The measures of descriptive statistics (such as mean and standard deviation) were employed for data description and presentation while Pearson correlation analysis, one-way analysis of variance (ANOVA), Tukey's post hoc, and independent-sample t tests were used to analyze the data at a significance level of less than 0.05.

Results: The mean values of women's age, quality of life score, and health-promoting lifestyle score were 41.06 ± 7.60 , 56.47 ± 14.28 , and 124.42 ± 19.18 , respectively. Women's quality of life was significantly correlated with their age so that women who aged 30 - 39 and 50 - 59 acquired the highest and the lowest quality of life scores, respectively (59.08 vs. 52.94 ; $P = 0.006$). Moreover, women whose husbands were employees had higher quality of life and healthier health-promoting lifestyle compared to women whose husbands were unemployed (57.61 vs. 46.99 and 128.21 vs. 113.63 ; $P = 0.001$ and 0.002 , respectively). However, quality of life and health-promoting lifestyle were not significantly correlated with other demographic characteristics. Besides, quality of life was positively correlated with health-promoting lifestyle.

Conclusions: Middle-aged women's quality of life is significantly correlated with their health-promoting lifestyle. Health authorities and policy makers can use these findings to develop and implement programs to promote middle-aged women's engagement in health-promoting behaviors and thereby, improve their quality of life.

Keywords: Quality of Life, Health-Promoting Behaviors, Middle-Aged Women

1. Background

Women are the keystone of family health and social development. They play significant roles in families and society. Good physical and mental health is a key prerequisite to the successful fulfillment of their roles (1). Middle age, i.e. an age of 30 - 59 (2), is among the most important periods in women's lives. It is the transition from young adulthood to older ages and is considered as the longest period of adulthood (3). This period is associated with many different physical, mental, social, and family changes, which severely affect the quality of life (QOL) of women (4).

In recent years, assessment of health and the effects of illnesses on daily activities and behaviors have been the center of attention. Such an assessment is generally known as QOL assessment (5). World Health Organization defines QOL as perfect physical, mental, and social health and well-being as perceived by an individual or a group of individuals that is affected by different factors. According to this

definition, QOL is not just the standard level of living and having the minimum level of well-being; rather, it also includes the quality of interpersonal and social relationships (6). QOL is now so much important that health authorities named the present century as the "century of QOL and health improvement" and referred to QOL as a main health outcome (7).

One of the main factors affecting QOL is lifestyle habits and behaviors. Health-promoting lifestyle (HPL) is a significant predictor of health. HPL is a contextual factor in disease prevention and health promotion (8). Thus, HPL should be considered as a main strategy for maintaining and improving health.

Women constitute one half of the total population. Thus, their health is the keystone of families' and societies' health. In other words, women's problems affect the health of their families, societies, and future generations. Consequently, women's QOL has received considerable attentions (5). Lee et al. (2006) reported that health-

promoting behaviors such as physical activity, stopping alcohol consumption, and regular blood pressure measurement can significantly improve QOL (9). Moreover, lifestyle components can significantly predict the prevalence of chronic conditions as well as mortality rate. On the contrary, smoking, physical inactivity, weight gain, and poor nutrition can increase the risk of developing chronic conditions (10-12).

Lifestyle modification necessitates changes in behaviors which form a large part of daily habits. However, those lifestyle modifications which do not improve QOL may reduce individuals' motivation for adhering to them. Some studies show the significant relationship of lifestyle with QOL (13, 14). For example, Feizi (2011) assessed the relationship of stress and key components of lifestyle (namely physical activity and nutrition) with QOL among adults who aged nineteen or more in Isfahan, Iran. He found that better health status was associated with better QOL and higher satisfaction in life. Moreover, he reported stress as a significant factor affecting QOL (15). Pisinger et al. (2009) also carried out a study in Finland and found significant correlations between physical activity and physical health, mental health status, and healthy nutrition. Moreover, they reported that people with unhealthy lifestyle have lower physical and mental health status compared to people who had a healthier lifestyle (16).

2. Objectives

Given the importance of assessing factors contributing to lifestyle and QOL, the present study was conducted to investigate middle-aged women's QOL and HPL.

3. Methods

This descriptive-analytical study was conducted in 2016 on 290 middle-aged women who aged 35 - 59 and lived in Birjand, Iran. Study sample was recruited through multi-stage cluster random sampling. Initially, the city of Birjand was divided into six regions according to the regions covered by healthcare centers. Then, a healthcare center was randomly selected from each region. After that, five blocks or clusters were randomly selected from all blocks affiliated to each already-selected healthcare center. Afterward, a list was created of all middle-aged women who received healthcare services from each selected cluster. Finally, ten eligible women were recruited from each list through systematic random sampling. Consequently, 300 women were recruited in the study. However, ten women were excluded due to the incompletely filled out data collection tools. Eligibility criteria were an age of 30

- 59 years, residence in Birjand, Iran, ability to communicate, written consent for participation, and no affliction by chronic and refractory illnesses such as cancer, cardiovascular diseases, diabetes mellitus, renal and mental disorders, hypertension, and pulmonary diseases.

Data were collected using a demographic questionnaire, the 36-item QOL questionnaire (SF-36), and the 52-item Health-Promoting Lifestyle Profile II (HPLP-II). The items of the demographic questionnaire were birth date, family size, marital status, residence place, job, husband's job, educational status, husband's educational status, menopausal age, family income, and self-assessment of income.

SF-36 is a standard 36-item questionnaire which includes eight dimensions, namely physical functioning, social functioning, physical role performance, emotional role performance, mental health, vitality, physical pain, and general health. The total score of each dimension and the total score of the questionnaire range from 0 to 100 the higher the score, the better the QOL. This questionnaire was developed by Ware et al. in 1998 (17). Montazeri et al. (2005) translated it into Persian and evaluated its psychometric properties. They reported that the Cronbach's alpha values of the questionnaire and its dimensions were 0.777 - 0.90 (18).

On the other hand, participants' health-promoting behaviors were assessed using the 52-item HPLP-II. The items of HPLP-II assess HPL in six subscales, namely nutrition, physical activity, spiritual growth, health responsibility, interpersonal relationships, and stress management. The possible answers to HPLP-II items are "Never", "Sometimes", "Often", and "Always", which are scored 1 to 4, respectively. The total score of HPLP-II can range from 52 to 258. Moreover, subscale scores can be calculated. HPLP-II was developed in 1987 by Walker et al. (19). Mohammadi-Zeidi et al. (2012) reported that the Cronbach's alpha value of the profile and its subscales were 0.82 and 0.64 - 0.91, respectively (20). Pourmeidani et al. (2014) also reported that the Cronbach's alpha value of the profile was 0.83 while the coefficients of the correlations between the total HPLP-II score and the scores of its subscales ranged from 0.68 to 0.80 (21). In the present study, the Cronbach's alpha values of the profile and its subscales were 0.86 and 0.63 - 0.86, respectively.

Study data were gathered by the first author who held a master's degree in health education. She attended participants' homes and provided them with the questionnaires. Those participants who were illiterate or had primary education completed the questionnaires through the interview method while other participants personally completed the questionnaires.

The data were entered into SPSS software (v. 18.0).

The measures of descriptive statistics (such as mean and standard deviation) were employed for data description and presentation while Pearson correlation analysis, one-way analysis of variance (ANOVA), Tukey's post hoc, and independent-sample t tests were used to analyze the data. The level of significance was considered to be less than 0.05.

4. Results

This study was carried out on 290 middle-aged women who lived in Birjand, Iran. The mean age of the women was 41.06 ± 7.60 , while the mean of their family size was 4.38 ± 1.33 . Most women were married (96.9%), literate (81.3%), and housewives (75.2%) that lived in their private houses (80.3%). Their income levels were either high (45.6%), moderate (44.2%), or low (10.2%).

The mean scores of women's QOL and HPL were 56.47 ± 14.28 and 124.42 ± 19.18 , respectively. Table 1 shows the mean scores of SF-36 dimensions and HPLP-II subscales. Study findings revealed that women's QOL was significantly correlated with their age and their husbands' job. In other words, older women as well as those women whose husbands were unemployed had lower QOL. However, women's QOL was not significantly correlated with their marital status, place of residence, job, family income, as well as their own and their husbands' educational status. On the other hand, HPLP-II score had a significant correlation with the job of the women's husbands. The results of the Tukey's test also illustrated that the HPLP-II score of women who were housewives was lower than that of the other women. But, HPLP-II score was not significantly correlated with other variables (Table 2).

The Pearson correlation analysis revealed a significant positive correlation between women's QOL and their HPL ($r = 0.33$ and $P < 0.001$) and a significant negative correlation between QOL and age ($r = -0.19$ and $P = 0.001$). However, women's age was not significantly correlated with their HPLP-II score ($r = -0.02$ and $P = 0.77$).

5. Discussion

The present study was performed to investigate middle-aged women's HPL and QOL. The mean score of the women's QOL was 56.47 ± 14.28 . The highest and the lowest scores were related to the dimensions of physical functioning and physical pain, respectively. Montazeri et al. (2005) also conducted a study on women who lived in Tehran, Iran, and reported the same findings (18). Bayat and Bayat (2010) also assessed women's QOL in Mashhad, Iran, and found that the physical functioning and the

mental problems dimensions of QOL acquired the highest and the lowest dimension scores (87 and 57.3, respectively) (5). Two other studies showed that the mean QOL scores of pregnant women who lived in Kashan and Farrokhsar, Iran, were 61.18 ± 13.21 and 66.48 ± 15.57 , respectively (22, 23), showing that those pregnant women had higher QOL compared to our participants. Another study on elderly women who lived in Kahrizak nursing home, Tehran, Iran, also showed that the scores of QOL as well as its physical functioning, social self-care, and life satisfaction dimensions were higher while the scores of the depression and anxiety and the cognitive dimensions were lower than the other dimensions (24).

Study findings also revealed a significant correlation between middle-aged women's QOL and age ($P = 0.006$). Moreover, there was a significant difference between the QOL of women aged 30 - 39 years and that of women aged 50 - 59 years. In other words, women with older ages had lower QOL. In agreement with our findings, Safizadeh et al. (2006) also reported a negative correlation between QOL and age (25). Similarly, Montazeri et al. (2005) found lower QOL scores among older people (18). Moreover, Maftoon et al. (2005) found that the scores of the physical functioning and the vitality dimensions of QOL were lower among elderly people who aged 75 years or older (26). Besides, Bayat and Bayat (2010) reported significant differences among different age groups regarding the scores of the physical functioning, physical health problems, and general health dimensions of QOL so that people with older ages had lower QOL scores. However, different age groups in their study did not significantly differ from each other regarding the mean scores of the physical pain, vitality, social functioning, mental problems, and mental health dimensions of QOL.

The findings also indicated significant differences among the age groups regarding the scores of the physical functioning and the general health dimensions of QOL so that women with older ages obtained lower scores in these two dimensions. Lower QOL in middle ages predisposes people to severely low QOL in older ages. Thus, a prerequisite to the prevention of low QOL in older ages is to improve QOL in middle ages.

We found no significant difference between married and widowed participants regarding the mean score of QOL ($P = 0.33$). Safizadeh et al. (2006) also reported the same finding (25) while Bayat and Bayat (2010) and Maftoon et al. (2005) found a significant correlation between marital status and QOL (5, 26).

The findings also showed that women's QOL was not significantly correlated with the place of residence ($P = 0.14$) and their own job ($P = 0.2$) while it was significantly correlated with the job of their husbands ($P = 0.01$). Accord-

Table 1. The Mean Scores of SF-36 Dimensions and HPLP-II Subscales

Variable	Minimum	Maximum	Mean	Standard Deviation
QOL dimensions				
Physical functioning	0	100	66.21	24.03
General health	10	100	61.22	17.54
Emotional well-being	0	100	61.16	19.46
Social functioning	12.50	100	60.82	18.45
Energy/vitality	0	100	57.96	18.08
Emotional role disorder	0	100	56.44	38.40
Physical role disorder	0	100	54.76	33.15
Physical pain	1	51.50	33.2	13.12
HPLP-II subscales				
Health responsibility	14	56	35.21	7.13
Spiritual growth	12	36	25.50	4.93
Interpersonal relationships	8	32	22.03	4.53
Nutrition	7	28	18.54	3.96
Stress management	5	20	12.53	2.85
Physical activity	6	24	10.60	3.77

ingly, women whose husbands were employees had higher QOL compared to women whose husbands were either unemployed ($P = 0.007$) or self-employed ($P=0.014$). Contrarily, women's QOL was not correlated with their family income ($P = 0.83$). However, Sajadi and Biglarian (2007) found that people with higher income had lower QOL (24). These findings denote that social status has more significant contribution to QOL compared to income.

Our findings also revealed that women's QOL had no significant correlation with their own and their husbands' educational status ($P = 0.18$ and 0.58 , respectively). However, Safizadeh et al. (2006) reported that except for the general and the mental health dimensions of QOL, the scores of all the other QOL dimensions were significantly higher among patients with university education (25). Maftoon et al. (2005) and Bayat (2010) also reported better QOL among people with university education (5, 26). Furthermore, Fritzell et al. (2007) showed that lower educational status is associated with higher rates of mortality, poverty, unemployment, poor housing, and unhealthy behaviors (27).

The findings of the present study showed that the mean score of women's HPL was 124.42 ± 19.18 . Similarly, Gokyildiz et al. (2013) reported that the mean score of Turkish pregnant women's HPL was 126.45 ± 21.58 (28). The highest subscale score in the present study was related to the health responsibility subscale. This finding shows that

the participating women were able to identify and manage the influential factors behind their health and had the potential for maximizing it. Walker et al. (1987) also reported the same finding (19). On the other hand, the lowest score was related to the physical activity subscale. This was in agreement with the findings reported by Lin et al. (2009) and Hegaard et al. (2010) (29, 30). As a major risk factor for most illnesses, physical inactivity is a major health challenge worldwide. Thus, reasons behind women's physical inactivity need to be assessed and effective strategies need to be employed to improve the level of their physical activity. Contrary to our findings, Pender et al. (1990) found that the highest subscale scores were related to the spiritual growth and the physical activity subscales, while the lowest score was related to the health responsibility subscale (31).

In the present study, there was no significant correlation between HPL and age. Rafiee et al. (2013) also found the same finding among married women who referred to healthcare centers located in Ahvaz, Iran (12), while Singh et al. (2006) and Al Kandari et al. (2008) found that HPL was significantly correlated with age (32, 33).

Findings also illustrated that middle-aged women's HPL was not significantly correlated with their marital status ($P = 0.95$), place of residence ($P = 0.53$), job ($P = 0.36$), educational status ($P = 0.53$), income level ($P = 0.72$), and their husbands' job ($P = 0.39$). On the contrary, Rafiee et al. (2013)

Table 2. The Correlation of Participants' QOL and HPL with Their Demographic Characteristics^a

Demographic Characteristics	N	QOL and HPL			
		QOL		HPL	
		Mean ± SD	One-Way ANOVA or t Test	Mean ± SD	One-Way ANOVA or t Test
Age (years)			F = 19/5, P = 0.006 ^b		F = 2.1, P = 0.12
30 - 39 A	146	59.08 ± 14.20		125.68 ± 17.31	
40 - 49 B	101	54.19 ± 14.01		121.35 ± 19.80	
50 - 59 C	43	52.94 ± 13.79		127.37 ± 22.98	
Marital status			P = 0.33		P = 0.95
Married	281	56.61 ± 14.31		124.41 ± 18.19	
Single	9	51.91 ± 13.18		124.77 ± 27.96	
Place of residence			P = 0.14		P = 0.53
Private house	233	55.86 ± 14.30		124.07 ± 19.52	
Rented	57	58.94 ± 14.03		125.85 ± 17.58	
Women's job			P = 0.2		F = 0.03, P = 0.36
Housewife	218	56.35 ± 14.49		123.57 ± 18.42	
Employee	57	55.30 ± 13.49		126.35 ± 21.75	
Self-employed	15	62.67 ± 13.49		129.53 ± 19.76	
Husband's job			F = 72.4, P = 0.01 ^c		F = 6.29, P = 0.002 ^b
Employee A	124	57.61 ± 13.97		128.21 ± 19.85	
Self-employed B	147	56.73 ± 14.49		122.62 ± 17.13	
Unemployed C	19	49.99 ± 11.49		113.63 ± 24.26	
Women's educational status			F = 1.63, P = 0.18		F = 2.16, P = 0.053
Primary	62	54.58 ± 13.34		122.08 ± 18.12	
Secondary	30	57.96 ± 15.18		118.46 ± 16.40	
Diploma	71	60.14 ± 16.18		126.29 ± 18.64	
University	42	58.40 ± 13.12		129.66 ± 22.00	
Husband's educational status			F = 0.73, P = 0.53		
Primary	46	55.35 ± 13.22		122.50 ± 18.94	F = 0.99, P = 0.39
Secondary	43	57.36 ± 15.49		122.60 ± 17.96	
Diploma	68	58.76 ± 15.04		127.55 ± 18.32	
University	51	59.41 ± 14.98		125.58 ± 17.91	
Family income			F = 0.16, P = 0.83		F = 0.33, P = 0.72
High	67	55.35 ± 15.38		126.91 ± 20.49	
Moderate	65	57.11 ± 14.35		124.69 ± 17.54	
Low	15	56.37 ± 13.33		123.60 ± 15.15	

^aThe differences between A and B as well as A and C were statistically significant (P = 0.04 and 0.005, respectively).

^bThe differences between A and B as well as A and C were statistically significant (P = 0.02 and 0.03, respectively).

^cThe differences between A and C as well as B and C were statistically significant (P = 0.07 and 0.014, respectively).

found that the lifestyle of women who referred to health-care centers had a significant correlation with their financial, marital, educational, and employment status (12).

Another finding of the present study was the significant correlation of women's HPL with their husbands' job. (P = 0.002). Mirghafourvand et al. (2014), Yarahmadi and

Rusta (2013), and Sehati and Shibaie (2015) also reported the same finding (34-36). Husband's job is among the main factors behind families' financial status and women's HPL. Women whose husbands are employed have better access to healthcare services, have better housing and nutritional status, live in safer places and thus, have greater opportunities for engaging in health-promoting behaviors.

One of the strengths of the present study was that it was done on middle-aged women, while there are limited studies in this area. Besides, this study simultaneously assessed QOL and HPL. On the other hand, one of the limitations of the study was that data gathering from illiterate women was performed through the interview method and thus, some expressions might not have been perfectly understood by this group of participants. The other limitation was the probable effects of the participants' personal, mental, spiritual, and sociocultural characteristics on their responses to the study questionnaires.

5.1. Conclusion

Middle-aged women's QOL is significantly correlated with their HPL, denoting that facilitating middle-aged women's engagement in health-promoting behaviors can improve their QOL. In other words, QOL is the outcome of HPL. The findings of this study provide an insight into middle-aged women's QOL and HPL. Health authorities and policy makers can use these findings to develop and implement programs to promote middle-aged women's engagement in health-promoting behaviors and thereby, improve their QOL.

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