

The effect of educational intervention on health promoting lifestyle: Focusing on middle-aged women

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ABSTRACT

Background: Lifestyle affects people's health and life length, however, no sufficient studies have been done on the effect of lifestyle on middle-ageing, as the transitional period from adulthood to old-ageing, this study has been conducted to study the effect of educational intervention on health promoting lifestyle of middle-aged women in Lenjan city of Isfahan Province, Iran. **Methods:** This quasi-experimental study was conducted on 88 middle-aged women were selected through randomized sampling from two health centers in Lenjan, and then were categorized into experimental and control groups. To collect data, a researcher-made demographic and life style questionnaire was used. The educational intervention was performed in five sessions. Data were collected from both groups in two stages: Before the intervention and 3 months after the education. Data were analyzed with using SPSS-20 and $P < 0.05$ were considered statistically significant. **Results:** The results showed that educational program had a positive significant effect on increasing the mean scores in the intervention group, considering the physical activity, mental health, and interpersonal relationship, $P < 0.001$. However, regarding the nutrition, the mean increase was not significant ($P = 0.113$). **Conclusion:** According to the findings, it is evident that educational intervention is beneficial for various aspects of middle-aged women's lifestyle. Therefore, applying a healthy lifestyle seems essential for having a healthy aging period, and educational intervention can be effective.

Key words: Education, lifestyle, mental health, middle-aged women, nutrition

INTRODUCTION

Needless to say, for being healthy, lifestyle plays an important role.^[1] It is proven that people's choices as well as their lifestyle have a great influence on their health and life length. Healthy

lifestyle is defined as a specific living style in which having, maintaining, and promoting the health level and welfare of people are preserved. Also, all controlled behaviors or those putting the health of a person into danger are categorized under the topic of lifestyle.^[2,3]

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Different dimensions are considered for lifestyle, such as nutrition, physical activity, self-control, cigarette and alcoholic drugs, social relationships, and controlling the stress.^[4] According to World Health Organization (WHO), changing lifestyle, people can protect themselves from diseases.^[5]

One of the important factors for being healthy, controlling and preventing the diseases which are not contagious, is recognized as physical activity.^[6] As a significant behavior in improving the health level, physical activity can prevent or delay chronic illnesses and reduce death rate. There are, also, some evidences verifying that regular physical activity improves mental health,

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reduces the level of depression or anxiety, and increases the level of satisfaction and quality of life.^[7,8]

Considering the health of the society, appropriate diet is another factor which satisfies mental and physical needs.^[9] Some studies have shown that about 35% of many cancers are due to unhealthy diet.^[10]

Mental health is another factor affecting the wellbeing of society. As defined by WHO, mental health is the ability to have a proper relationship with people, change or improve personal or social environment, and solve the paradoxes of personal tendencies, logically and properly.^[11]

Nowadays, due to profound changes in people's lifestyle and culture, many individuals find themselves unable to face difficulties and crises, making them much vulnerable to incoming probable troubles. Some contributing factors, hence seem essential in helping individuals to confront such issues in life. These factors are fundamental and are formed during the process of life.^[12]

One of the essential needs of people for being successful in personal and social life is interacting appropriately with people. No matter in what stage of life a person is, proper social skills make life easier, more enjoyable and prosperous.^[13]

Middle-aged women confront physical and behavioral changes such as wrinkles on the face, body weakness, obesity, and bad conduct. They, therefore, are exposed to lack of self-confidence, depression, and mental problems. That is due to health problems during this stage of life many problems arise causing death and chronic illnesses.^[14]

Analyzing the lifestyle of Iranian people and its effect on wellbeing of their body, it was found that 29% of adults in cities and 17% in countries suffer overweight and obesity.^[15] Considering adolescences, a national study (2005) showed that >80% of Iranians are inactive.^[16] Another study (2009) indicated that 34% of people above 15 in Tehran were probable of being mentally disordered (37/9% of women and 28/6% of men). Women are at risk of mental disorders 1.3 times more than men and it increases with aging.^[17] The present study has been conducted to analyze the effect of educational intervention on the health promoting lifestyle of middle-aged women in Lenjan city of Isfahan. According to research studies, lifestyle affects people's health and life length;^[2,3] however, no sufficient studies have been done on the effect of lifestyle on middle-ageing, as the transitional period from adulthood to old-ageing.

This study was aimed to determine the effect of educational intervention on health promoting lifestyle of middle-aged women in Lenjan city of Isfahan Province, Iran.

METHODS

This study a quasi-experimental research was conducted on female patients, aged between 40 and 50 years old who referred

to health centers in Zarinshahr city, 2012 February-June. The statistical sample, with 95% correlation, consisted of 44 patients for both the intervention and the control groups. Inclusion criteria were signing the consent forms and having the ability of answering the questions whereas menopausal women, patients having special diet, disable patients, and mentally disordered women were excluded from the study.

Randomized control trial was used to select the intervention and control groups from the health centers located in Zarinshahr.

Since no standard questionnaire was at hand for lifestyle analysis, a researcher-made questionnaire was used. It consisted of two parts: Demographic (age, education, occupation, income, and marital status) and life style (nutrition, physical activity, mental health, interpersonal relationship). Forty questions were designed to assess life style, 10 questions allocated to each section based on the multiple-choice Likert-scale. The scores ranged from 0 to 3; however, for the ease of analysis, they were calculated out of 100.

In order to confirm the validity of the questionnaire, the questionnaire was given to 15 nutrition and health experts and their corrective ideas were applied.

The questionnaire was also given to 20 middle-aged women, with the same characteristics as the study group to evaluate reliability. The internal consistency of the scale measured by Cronbach's alpha showed the following results: Nutrition 74%, physical activity 82%, mental health 85%, and interpersonal relationship 82%. Five group discussions and question-answer sessions were held during the educational intervention, focusing on different dimensions of appropriate lifestyle.

For every dimension of the lifestyle, the experts of the field were present. During the first session, the focus was on the importance of a proper diet, the food pyramid, having breakfast and fish, and limited amount of oil and sugar intake.

The topics of the discussion, during the second session, were the review of the first session topics and discussing the importance of the kind, level, and extent of physical activity during the middle-age period. In this session, the following tasks were carried on: Introducing some stretching exercises suitable for everyday activities, giving some sporting brochures to be attached on walls in their homes, training them to prevent early exhaustion, doing exciting activities, attending walking activity in friendship groups, and introducing some suitable gyms.

After a brief overview, the third session focused on changing, retaining, and improving mental health status while paying attention a good diet and exercise, performing relaxation, stress management courses, introducing problem solving strategies, being responsible about one's health, being optimistic, expressing love to people, and trying to achieve personal goals.

How verbally interact with others, conveying message skills (verbally, nonverbally), receiving message skills (listening, observing, responding), as well as a very short review of the previous sessions constitute the topics discussed session four.

Comprehensively reviewing the previous subjects, the last session gave the participants the chance of talking about their personal experiences as well as their behavioral changes.

To have more effective education sessions, some other questions were also asked. At the end of the fourth session, the participants were given a booklet which all the discussed subjects had been written in. The control group received no intervention and only was given the booklet. After 3 months of educational intervention, the questionnaires were re-given to the control and experimental groups SPSS (IBM Corp. Armonk, NY) software was used to analyze the data: Chi-square test for comparing the marital status in the control and experimental groups, Mann-Whitney test for comparing the educational and financial status in both control and experimental groups. The paired *t*-test, comparing the mean scores of various dimensions of healthy lifestyle in both control and experimental groups before and the after the educational intervention, $P < 0.05$ were considered statistically significant.

RESULTS

The median age in the intervention group was about 44.2 ± 3.80 and in the control group, it was about 44.40 ± 3.31 . The participants were mostly married and

at least, had the primary and secondary level of education. Financially, they were reported to be in a moderate status. Therefore, demographically, these two groups showed no meaningful difference [Table 1].

According to the paired *t*-test, it was statistically indicated that in the experimental group, before and after the research no significant difference was observed, regarding nutrition, ($P = 0.13$). However, taking the physical activity, mental health, interpersonal relationship, and overall lifestyle into consideration, it was found that the mean scores significantly differed, ($P \leq 0.001$). Considering the control group, the paired *t*-test analysis showed no statistical difference with respect to nutrition, physical activity, mental health, interpersonal relationships, and overall lifestyle [Table 2].

DISCUSSION

The present study was carried out with the aim of studying the effectiveness of health promoting lifestyle on middle-aged women. The findings showed that the mean scores of overall lifestyle in the experimental group significantly improved 3 months after the program, indicating the positive effect of education on having a healthy lifestyle.

Heidari *et al.*^[18] and Bazzano *et al.*, showed that educational intervention promotes healthy lifestyle^[19] in line with the result of this study.

The techniques used in this study were: Performing a regular educational program, using group discussions, giving

Table 1: Demographic characteristics of intervention and control groups

Groups	Case		Control		P
	Cumulative frequency	Relative frequency (%)	Cumulative frequency	Relative frequency (%)	
Marital statuses					
Married	43	97	43	97.7	0.753
Widower	1	2.3	1	2.3	
Total	44	100	44	100	
Occupation statuses					
Employed	4	9.1	3	6.8	0.50*
House wife	40	90.9	41	93.8	
Education level					
Illiterate	2	4.5	0	0	0.52**
Educated	12	27.3	6	13.6	
Elementary and secondary	14	31.8	17	38.6	
High school	6	13.6	3	6.8	
Diploma	7	15.9	14	31.8	
Associate of art and B.A.	3	6.8	4	9.1	
Total	44	100	44	100	
Financial statuses					
Excellent	0	0	1	2.3	0.353**
Good	10	22.7	16	36.4	
Median	31	70.5	21	47.7	
Bad	3	6.8	6	13.6	
Total	44	100	44	100	

*Fisher's test, **Mann-Whitney test

Table 2: The mean scores of different dimensions of lifestyle, before and after the intervention in the experimental and control groups

Dimensions	Case		P*	Control		P*
	Before intervention	After intervention		Before intervention	After intervention	
Nutrition	67.5±11.92	70.04±13.27	0.113	66.5±12.26	66.14±11.09	0.809
Physical activity	40.8±21.8	64.52±19.07	≤0.001	45.23±17.35	45.38±17.7	0.809
Mental health	69.78±20.8	64.52±19.7	0.039	70.44±22.58	72.29±17.3	0.353
Interpersonal relationship	67.43±22.05	78.26±17.3	≤0.001	68.78±19.5	69.44±15.6	0.621
Overall lifestyle	61.4±15.6	74±7.2	≤0.001	62.3±14.2	63.3±11.7	0.450

*Paired t-test

the participants the chance of asking and answering the questions to express their personal experiences, giving the educational booklet and focusing on the dimensions of a healthy lifestyle (nutrition, physical activity, mental health, and interpersonal relationship). The effectiveness of such techniques had been proven in previous studies.^[15,20,21]

Considering the mean scores of nutrition in the experimental group, there was a sort of increase after the intervention; however, it was not statistically meaningful. Similar results are reported in Ostadrahimi *et al.*^[22]

In interpreting the results, two points should be taken into account: The duration of the educational intervention and the performing method. It is proven that educations being performed in longer periods of time and by means of various methods would be much more effective.

That is to say, nutritional behaviors of people are not necessarily affected by their nutritional knowledge; however, various factors can be influential. The type of the group under study, can also change the results, that is, their ideas and their beliefs have a great impact on their nutritional behavior. Therefore, to assess the true impact of education on behavioral changes and actions, it is necessary to take the side factors into consideration as well (for instance, personal interests, social beliefs, financial issues, and food accessibility).^[22]

An important increase after the intervention was observed in the mean scores of the experimental group which is consistent with those of Hashemi *et al.*,^[20] Estebarsari,^[23] and Ribeiro *et al.*^[24]

Probably, the effective educational factors influencing the results are the following: Talking about the short-term and long-term consequences of being inactive, introducing proper stretching exercises while doing every day activities in kitchen or after getting up, giving sporting brochures to be attached on an appropriate place at home, training the preventive ways of early exhaustion, doing exciting physical activities, running and exercising with weight, setting up friendship groups to do running based on their interests, introducing some gyms appropriate for old- and middle-aged people. It can also be claimed that the time of conducting the

research (spring and summer) increasingly helped the women in having more physical activities.

After performing the educational intervention, the mean scores of mental health showed remarkable increases; Heidari *et al.*,^[21] Zendehtalab,^[25] and Kohoret Pisinger *et al.*, had also come to similar conclusions.^[26]

In fact, the improvement of mental health was due to healthy behaviors (such as nutrition, physical activity, performing relaxation programs, managing the stress, introducing problem solving strategies, being responsible toward one's health, being optimistic, expressing love to others, determining and going for personal goals).

Another increase in the mean score was observed in interpersonal relationship which confirms the results by Amini *et al.*,^[27] Kazemi *et al.*,^[28] Zlotnick *et al.*,^[29] and Thijs.^[30]

Therefore, educational programs focusing on verbal styles, conveying message skills (verbally and nonverbally), and receiving messages skills (listening, observing, and responding) are very helpful in having better relationships with others.

What differentiates this research from the previous ones is that, four other possible dimensions of healthy lifestyle were taken into account, and based on them, the educational sessions were held whereas the previous studies had only focused on one or two dimensions. Since these four dimensions are interrelated, teaching them simultaneously has a great impact on improving lifestyle.

Limitations of the study

The assessment by itself was one of the limitations in front of the research. In all four dimensions, the assessment was a sort of self-assertion. Moreover, the answers may have been affected by socio-cultural factors; however, these limitations were inevitable. Many efforts were made to control for other intervening factors by giving enough explanations about the purpose of the study to the participants and making the needed interaction with them. At the end, since social support has a chief role in improving lifestyle; therefore, it is suggested that the participants' husbands, also, take part in these sessions.

CONCLUSION

Educational intervention may promote lifestyle along with its dimensions. Caring about the middle-age women's lifestyle and their healthy behavioral habits can prevent many problems (physical, mental, and social). It also can pave the way for having a healthy old-ageing period in future.

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