



Exploring Preventive Behaviors of Middle-aged Women against Arthritis

ARTICLE INFO

Article Type
Original Research

Authors

Ensiyeh Norozi, *Phd*
Fatemeh Nazari^{2*}, *MSc*
Mitra Moodi³, *Phd*
Hakimeh Malakimoghadam⁴, *Phd*

How to cite this article

Norozi E., Nazari F., Moodi M., Malakimoghadam H., Exploring Preventive Behaviors of Middle-aged Women against Arthritis. International Journal of Musculoskeletal Pain Prevention. 2019; 4(1): 137-143.

¹ Social Determinants of Health Research Center, Department of Public Health, Faculty of Health, Birjand University of Medical Sciences, Birjand, Iran.

² Research Committee, Department of Public Health, Faculty of Health, Birjand University of Medical Sciences, Birjand, Iran.

³ Social Determinants of Health Research Center, Department of Public Health, Faculty of Health, Birjand University of Medical Sciences, Birjand, Iran.

⁴ Social Determinants of Health Research Center, Department of Public Health, Faculty of Health, Birjand University of Medical Science, Birjand, Iran.

* Correspondence

Address: No 10, Department of Public Health, Faculty of Health, Central Organization of Birjand Khorasan, Iran.
P.O. Box: 9717853577
Phone: (+98) 05631631651
Fax: 98-056-31631651

Article History

Received: May 28, 2019
Accepted: June 16, 2019
ePublished: July 30, 2019

ABSTRACT

Aims: Arthritis is the leading cause of disability in people over 50 years old. This study aims to investigate the status of preventive behaviors against arthritis in middle-aged women in order to take a small step in promoting the health of women in the community.

Instruments & Methods: This cross-sectional descriptive-analytic study was conducted on 325 women aged 29-59 years referring to health centers in Birjand in 2017. Data were collected using a researcher-made questionnaire that covered demographics and preventive behaviors items, entered into SPSS-19 and analyzed using mean and frequency distribution tests.

Findings: Totally 325 women with mean age of 39.1 ± 8.4 years were studied. The majority of all women, were married and housewives (87% and 69.5% respectively). A total of 57% of the women did preventive behavior against arthritis. Furthermore, 30% of the women had regular tensile and warm-up exercise, 42% had moderate consumption of vegetables, 71% kept proper sitting posture, 60% rested after heavy work, 61% used proper flooring at home, and finally 21% moved objects in a correct manner.

Conclusion: According to the findings of this study, a significant proportion of women did not have favorable performance in regarding preventive behaviors of arthritis. Therefore it is suggested that in educational centers, educational classes be held to improve the behaviors of women towards arthritis prevention.

Keywords: Health behaviors, Behavior, Middle-Aged Women.

Introduction

Bone and joint diseases are common in under development and developing countries [1]. Musculoskeletal Disorders (MSDs) are the most prevalent health problems and the main cause of disability all over the world [2]. One of the most common types of MSDs is arthritis [3], especially in people over 40 years old. It has been argued that this disease is more prevalent than heart disease, high blood pressure and diabetes [4]. It is worth noting that the majority of people until the age of 65 years will have arthritis imaging evidence so that at the age of 75, about 80% of the people are suffering from this disorder [4]. In Iran, even some people aged 20-35 years old complains of knee

pain, back pain and neck pain. Furthermore, the prevalence of arthritis in urban areas and in rural areas has been estimated as 16.6% and 15.5% [5]. Arthritis causes pain, swelling, joint instability and muscle weakness, which can reduce the quality of life of suffered individuals [3] who their life expectancy [5] has been increased. Factors such as age, sex, familial history, obesity, osteoporosis, unhealthy behaviors in some occupations increase the chance of developing arthritis. Moreover, incorrect habits, such as frequent heavy load, sitting quadriceps on two knees, and using Iranian toilet are other risk factors for arthritis [6]. Making changes in lifestyle, weight loss in obese people and correcting postural during

daily activities can be effective behaviors in preventing this disease [2]. As it has been observed, a relatively high proportion of people of Iranian society at the end of middle age and old age have symptoms of arthritis. It has been revealed that in Iran, the onset of this disease is from middle ages. Therefore, considering the importance of maintaining and promoting the health of middle-aged women which constitute the main dimension of the family and their important role in promoting reproductive health, this study aimed to investigate the preventive behaviors of middle-aged women towards preventing arthritis in a sample of Iranian women.

Instruments and Methods

This research is a descriptive study that was conducted on 325 women aged 29-29 years who referred to health care centers of Birjand, Iran in 2017. The sample size calculation was based on the results of previous study [7]. Thus, the maximum size of this sample was calculated as 330 women with a precision of 0.4 and a significant level of 0.05.

Participants were selected based on multistage random sampling method. In this way, the city of Birjand was divided into two regions of north and south and from the list of health centers in each region 2 centers were randomly selected. Then, from the women who referred to the centers and had the inclusion/exclusion criteria of entry into the study were explained about the goals and significance of the issue. After obtaining their consent and ensuring the confidentiality of information and completing the satisfaction process, the questionnaires were completed. The criteria for entering samples to the study included being aged between 29 and 59 years, having least literacy and not suffering from arthritis.

Data collection was carried out through researcher-made questionnaires by self-reporting method. The questionnaire

includes items on demographic information such as age, marital status, marriage age, level of education, etc. Evaluation of the status of middle-aged women in relation to arthritis and its preventive behaviors, such as tensile and regular exercise, consuming vegetables, sitting properly, resting after heavy work, using proper flooring at home and eventually correctly posture during doing daily activities. The performance questions consisted of 13 questions, which were answered in two options of yes and no, with the option yes, scored for 1 and the option no scored for zero. In this study, the validity of the questionnaire was given through confirming by seven health and epidemiology educators and then the CVI and CVR indices were calculated as >0.9 . In order to assess the reliability of the instrument, the questionnaire was completed by 30 women in the target community with respect to entry criteria. The data were entered to SPSS 18 software and analysed using descriptive methods such as frequency distribution and mean analysis.

Findings

The mean age of middle-aged women in this study was 39.14 ± 8.8 years, of which 87% (N=283) were married. The majority of subjects (69.5%) were housewives. The average number of their children was 2.43 ± 1.60 . In terms of education, the highest amount was related to the sub-group (37%) and the lowest was the illiterate group (1.3%). In terms of income status, most of the subjects (56.3%) reported their average income status. However, 71.4% of the subjects reported that they did not have any information on arthritis and related prevention behaviours.

The highest number of participants 174 (53.5%) mentioned some source through which they educated and trained on arthritis prevention behaviours and the lowest number of subjects, 116 (35.7%) were their

Table1. Demographic information

variable		Number	Percent
Level of Education	illiterate	10	3.1
	Elementary	72	22.2
	Guide	33	10.2
	Secondary school	15	4.6
	Diploma	90	27.7
	Associate Degree	25	7.7
	Bachelor	64	19.7
	Master Science	2	5.4
Spouse Education Level	illiterate	13	4
	Elementary	50	15.4
	Guide	43	13.2
	Secondary school	15	4.6
	Diploma	92	28.3
	Associate Degree	30	9.2
	Bachelor	39	12
	MA	11	3.4
Income	Less than 300 pcs	47	14.5
	300-700 pcs	100	30.8
	700 thousand to one million USD	70	21.5
	More than one million	87	26.8
Spouse job	Unemployed	15	4.6
	manual worker	50	15.6
	Free	130	40
	Employee	74	22.8
	Retired	23	7.1
Job	housewife	236	72.6
	Jobs at home	1	0.3
	Out of home	88	27.1

own stimulus for prevention behaviors. The results of this study showed that about 30% of the women were doing regular tensile /strength exercise, 42% consumed vegetables, 71% had proper sitting, 60% of women were resting after heavy work, 61% were using proper flooring at home and finally 21 % of the women were doing daily activity in proper postures. The distribution

of middle-aged women's behaviours for prevention of arthritis is presented in Table2.

Discussion

Arthritis is one of the most commonly occurring diseases among elderly people. This disease begins in the middle ages and can cause many disabilities in the elderly. So far, there have been many risk

Table2. Frequency distribution of studied middle-aged women behaviours towards prevention of arthritis

Items	Yes	No
	No (%)	No (%)
Do you continuously do 30 minutes of effective stretching and strengthening (swimming and walking) exercises	99(30.5)	226(69.5)
Do you consume three glasses of milk / yogurt, or 45 to 60 grams of cheese daily	158(48.6)	167(51.4)
Do you consume one glass of green vegetables or half a glass of dark-leaved green vegetables (lettuce, cabbage, spinach, onion, parsley)	138(42.5)	187(57.5)
Do you control your weight regularly	195(60)	130(40)
Do you bend your waist while lifting objects	92(28.3)	233(71.7)
Do you use a rigid bed to sleep	179(55.1)	146(44.9)
Do you usually use standard shoes	204(62.8)	121(37.2)
Is your foot on the floor when you sit on the chair?	231(71.7)	94(28.9)
Does the back of your chair have a curve at your lumbar?	147(45.2)	178(54.8)
Do you rest for 15 to 20 minutes while doing heavy work	194(59.7)	131(40.3)
Do you stand on one leg alternately at a level higher than the other leg while standing up	166(51.1)	159(48.9)
Do you use an appropriate floor covering to stop falling?	197(60.6)	128(39.4)
Do you choose to push, between pushing and pulling when moving heavy objects?	258(79.4)	67(20.6)

factors for this disease that recognizing them and taking some preventive care and behaviors can be effective in reducing the incidence of the disease. The aim of this study was to investigate the middle-aged women's preventive behaviors on arthritis disease in order to be able to step up the proper interventions to promote arthritis preventive behaviors and promote women's health in the community.

In the present study, the vast majority of subjects did not perform joint-related tensile and strength exercises. Effective anti-arthritis activities include 30 minutes of swimming or walking, and proper postural when using joints. The results of this study coincide with the results of the study of Pirzadeh and Sharifirad in relation to the teachers' lifestyle in which only 24% of the subjects performed physical activity at the optimal level^[8]. In the study of Sheahan and Dearden, physical activity in women was undesirable and personal, familial and social factors such as lack of facilities lack of safe harbour for walking and time constraints led to decreased physical activity^[9]. There is a difference in physical and lifestyle abilities among youth and aging so that decreased mobility at older ages can cause atrophy of the muscles and weakness^[10]. The researchers argued that the risk of knee osteoarthritis increased with age. Moreover, they believe that aging, biologic activity decreases, weaker muscles, lower motor movement causes more pain and less mobility^[11].

In the present study, only 42% of the studied women consumed suitable vegetables and dairy products. According to the researcher , , daily consumption of 3 glasses of milk or yogurt, or 45 to 60 grams of cheese, and also consumption of vegetables at an acceptable level, daily consumption a glass of raw vegetable or half of a glass of cooked leafy vegetables (lettuce, cabbage, spinach, onion,

and parsley) are recommended for artheritis prevention. Osteoporosis is one of the factors that increase the chance of developing arthritis^[6]. Decreased calcium intake is one of the main risk factors for this disease^[7]. The presence of antioxidant substances in the diet can prevent or delay arthritis. The progression of arthritis in people who have a diet low in vitamin C is three times as high as people with high levels of vitamin C intake. In the present study, about 71% of the subjects were sitting in proper posture. The investigator's purpose was to sit properly, sitting on the chair, to keep the back flat, to avoid bending and hugging, and keeping the head in the direction of the spinal column. Arthritis is caused by repeated pressure or abnormal pressure on the muscle^[6]. One of the known risk factors for osteoarthritis is to sit on Iranian toilets (6). However designing workplace and life environments in a healthy manner is essential for the prevention of arthritis^[6,13]. Unfortunately, the study did not find a coherent study that looked at the right situation in people.

Other findings from this study suggest that majority of the subjects rested for a while after doing heavy work. Relaxing joints during work, especially after working with computer / driving or doing housework and etc.) is a kind of health care of musculoskeletal system which reduces the pressure on the joints and exhausts them. According to another finding from the present study, the majority of the subjects had proper floor coverings at home. Among the predisposing factors that increase the chance of developing arthritis, it is a joint injury such as fracture and torsion. Measures such as fitting of home flooring and the workplace, and the use of standard shoes, etc., will be achieved by informing the public, especially those involved in the architecture and construction of the buildings.

In present study, the minority of the women moved objects in a correct posture. The other predisposing factors for arthritis, especially for large joints of the body, such as the waist and knee, are the lack of movement of the body in the right way. Bending your waist instead of bending your knees (or bending your waist instead of sitting when lifting up your body) will put a lot of pressure on the joints that cause arthritis. This finding is consistent with the results of Zakarian et al.,^[14] who looked at the status of patients' displacement and carrying heavy objects in the nursing staff. However this mentioned study did not find a study in which the situation of moving and carrying heavy objects would be desirable. Unfortunately, this study did not find two behaviours such as resting after heavy work and proper flooring in working or home environments.

In this research, the performance status of women with respect to the prevention of arthritis was not optimal. Since arthritis is a common disease in middle age and elderly people, especially women, so the problems facing women in relation to the prevention of arthritis should be considered. With proper planning, an effective step towards increasing women's awareness and, consequently, promoting arthritis preventive behaviours are guaranteed.

Conclusion

The findings of this study showed that the preventive behaviours of middle-aged women in Birjand city is not favourable for arthritis disease. Therefore, it is necessary to develop a comprehensive educational program through mass media as well as holding retraining classes for health care providers and also providing organizations where women work with educational material to promote preventive behaviours.

Acknowledgements

The authors would like to thank deputy of research and technology of Birjand University of Medical Sciences (BUMS) for the financial support of the project as well as the health and medical personnel and all respected women who participated in the study.

Conflicts of Interests

The authors declare that there is no conflict of interests for this study.

Authors' contributions

EN, FN and MM designed the study. HM analyzed and interpreted the data. FN participated in data collection and data management. EN and FN were major contributors in writing the manuscript. All authors read and approved the final manuscript.

Ethical permission: All the procedures were approved by the Ethics Committee of Birjand University of Medical Sciences (Ir.bums. REC. 2017.31). The study was described to participants and they were assured that their participation was voluntary. Written informed consent was provided by all the participants. This study approved in ethics committee of BUMS with Code: Ir.bums. REC.1396.31.

Funding

Not applicable

References

1. Keshtkaran Z, Ghodsbin F, Solouki S, Razeghi M, Zare N. The Impact of Self Care Education on Quality of Life of Those Clients Suffering from Osteoarthritis in Rehabilitation Centers of Shiraz University of Medical Science (Iran). *Journal Babol University Medical Science*. 2010;12(1).
2. Delshad MH, Tavafian SS, Kazemnejad A. Educational intervention for promoting stretching exercise behavior among a sample of Iranian office employees: applying the Health Promotion Model. *J Pain Res*. 2019;12:733-742. Published 2019 Feb 22. doi:10.2147/JPR.S183410.
3. Lam p, Horstman J. Overcoming arthritis. illustrated ed: Dorling kindersley; 2002; 1:144.
4. Haidarnia A, Tavafian S, Seyam S. Seif-caring

- behaviors among cardiac patients after coronary artery bypass graft surgery. *Journal of Medical faculty Guilan University of Medical Science* 2016. 2011;20(79):31-9.
5. Dahaghin S, Tehrani -Banihashemi SA, Frouzanfar MH, Barghamdi M, Norollahzadeh E, Gholami J, et al. Risk factors of knee osteoarthritis, WHO-ILAR-COPCORD study. *Tehran University Medical Journal* .2008;66(10):721-8.
 6. Mazloomi Mahmoodabad SS, Bajalan M, Dormohammadi Toosi T, Tarahi MJ, Bonyadi F. The Effect of Training on Adopting Behaviors Preventing from Knee Osteoarthritis Based on Planned Behavior Theory. *tooloo e behdasht*. 2015;14(1):12-23.
 7. Shojaezadeh D, Sadeghi R, Tarrahi M, Asadi M, Lashgarara B. Application of health belief model in prevention of osteoporosis in volunteers of Khorramabad City health centers, Iran. *J Health System Research* .2012;8(2):183-92.
 8. Pirzadeh A, Sharifirad GH. A Survey Healthy lifestyle in teachers in District 4 of Isfahan. *J Educ Health Promot*. 2012;7(6):1076.
 9. Dearden JS, Sheahan SL. Counseling Middle-Aged Women About Physical Activity Using the Stages of Change. *J Am Assoc Nurse Pract*. 2002;14(11):492-7.
 10. Kelishadi R, Rabiee K, Khosravi A, Famoori F, Sadeghi M, Rohafza H, et al. Assessment of physical activity of adolescents in Isfahan. *J Shahrekord Univ Med Sci* .2001;3(2):55-66.
 11. Parvaneh Shamsipour-Dehkordi, Marzieh Entezari, Sahaf R. Evaluation of the Risk of Knee Osteoarthritis and its Predictive Factors with Emphasis on Physical Activity. *J Res Rehabil Sci*. 2016 ;12(5):299-305.
 12. Moghimi j. A survey on the performance of middle-aged women regarding preventive behaviors against arthritis. *J Semnan University of Medical Sciences* .2009;11(2):34.
 13. Aghamiri M, Mohamadzadeh S, Seifi B, Alavimajd H. Survey of relationship method of life and affection to osteoarthritis in old-age women and men. *Journal of Shahid ehtif Sadoughi University of Medical Scientific-research of women and culture* .2007;1(4):55-64.
 14. Zakeriyan S, Soltani gerdfaramarzi R, Asghari M, monazam M, Habibi mohrez M, Ghaemiyani N. Relationship between knowledge of ergonomics and work-place conditions with musculoskeletal disorders among nurses of two Iranian hospitals. *Occupational Medicine* .2011;3(4):19-25.