

Quality of Life among Iranian Infertile Women in Postmenopausal Period: A Cross-sectional Study

Ashraf Direkvand-Moghadam¹, Ali Delpisheh², Ali Montazeri³, Kourosh Sayehmiri⁴

¹Department of Nursing and Midwifery, ²Department of Clinical Epidemiology, Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, ³Mental Health Research Group, Health Metrics Research Center, Iranian Institute for Health Sciences Research, Tehran, ⁴Departments of Community Medicine, Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran

Objective: Infertility has a significant impact on a women's quality of life (QOL). Infertile women face with physical and mental challenges during their postmenopausal period. Therefore, the present study aimed to evaluate the QOL among Iranian infertile women in the postmenopausal period using a valid and reliable instrument.

Methods: In this cross-sectional study both snowball and social networking methods were used for sampling. Two demographic and QOL questionnaire were used for data collection. The QOL questionnaire includes 41 items which measure the QOL in five dimensions: socioeconomic, mental health, religiousness, physical health and future imagining. Data analyzed was carried out in IBM SPSS ver. 20.0 using descriptive statistic, χ^2 test, and Fisher test. A *P* value of 0.01 or less was considered significant.

Results: Overall 211 eligible participants were studied. Some participants obtained full score on socioeconomic, religiousness, physical health and future imagining dimensions of QOL but none on the mental health dimension of the QOL. Only, 6.6% of study participants have a good QOL. There was a significant relationship between age and financial provider whit status of QOL.

Conclusion: Most Iranian infertile women in the postmenopausal period have poor or moderate QOL. Therefore, improving the QOL among these women should be considered. (**J Menopausal Med 2016;22:108-113**)

Key Words: Dimensions of quality of life · Infertility · Iranian women · Menopause

Introduction

With increasing life expectancy, women spend a third of their lives after menopause. It is estimated that 5 million postmenopausal women will live in Iran in 2021.¹

Most women experience physical and mental complications including; hot flashes and night sweats, dizziness, tachycardia, irregular heart, atrophy of the vaginal mucosa and irritability bladder, mood changes, sleep disturbances, headaches, muscle pain, joint pain, difficulty concentrating, irritability, anger and depression during

their postmenopausal.^{2,3} It is estimated that 26% to 33% of women experience their first episode of depression in their menopausal period.⁴ Actually, these physical and mental complications decrease the quality of life (QOL) during menopausal period.⁵

Menopausal complications are various between different individuals and populations.³ In fact, several factors including; age, occupation, marital status and educational level have been proposed as affecting factors on menopausal QOL.⁶ Researchers believed that reproductive history can affect the menopausal symptoms.⁷⁻⁹ There is a significant

Received: April 17, 2016 Revised: July 11, 2016 Accepted: July 19, 2016

Address for Correspondence: Ali Delpisheh, Department of Clinical Epidemiology, Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Pazhuhesh Blvd., Ilam, Iran.

Tel: +98-84-3224-0404, Fax: +98-84-3224-0404, E-mail: alidelpisheh@yahoo.com

This study is associated with Ilam University of Medical Sciences, Ilam, Iran.

Copyright © 2016 by The Korean Society of Menopause

©This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>).

relationship between parity and menopausal symptoms.⁹ In fact, the risk of hot flash is lower among women who have higher number of live births.⁷ Also, infertile women experience severe vaginal dryness and lower libido during their menopausal transition.⁸ In contrast, another study demonstrated lower hot flash episodes among infertile women.¹⁰

Pregnancy and childbirth are valuable women's role in Islamic countries such as Iran.¹¹ So, deprived of valuable maternal role can be experience prolonged stress and subsequent complications that have impact on QOL in infertile women.¹² On the other hand, aging and menopause is associated with loss of fertility and some physical and psychological changes in women. Furthermore, the QOL in women with unnatural fertility period is unclear. Therefore, the current study was designed to evaluate the QOL among Iranian infertile women in postmenopausal period.

Materials and Methods

1. Study subjects

This PhD thesis (Grant Number: 891381) approved by the Ilam University of Medical Sciences and conducted from January– November 2015. In this cross–sectional study Iranian infertile women in the postmenopausal period were evaluated. Since there is no registration system for access to the study population, sampling was carried out using both snowball and social networking methods. Iranian disadvantage, disabled or elder are supported by Welfare Organization and Imam Khomeini Relief Committee. Therefore, we searched all eligible persons who were receiving services from these organizations. Finally, duplicate persons in both snowball and advocacy organizations searches were excluded from sampling.

The inclusion criteria were – postmenopausal women with no history of pregnancy, at least one year since the start of menopause. All women with abnormal menopause such as menopausal induced by surgery, drugs or chemotherapy were excluded from study. After careful consideration addresses obtained from professional and social networking, 224 infertile women in the postmenopausal period were identified. Considering the exclusion criteria and elimination

of 13 women, finally 211 women were eligible for the study.

2. Study methods

We used both demographic and QOL questionnaire for data collection. Both questionnaires were created by using scientific books, similar researches and converge with the social and cultural environment.¹³ In demographic questionnaire, all variables including age, education level, occupation, marriage duration, number of marriage, duration of infertility, duration of infertility treatment and financial provider were recorded.

The QOL questionnaire included 41 items which measures the QOL in five dimensions¹³ including: socioeconomic (13 items), mental health (18 items), religiousness (5 items), physical health (3 items), and future imagining (2 items). Two 5 points Likert scoring included 'always' to 'never' and 'totally agree' to 'totally disagree' were used to determine the participant's responses. The scores were, 1 = never, 2 = occasionally, 3 = frequently, 4 = often and 5 = always. Also, totally agree = 5, agree = 4, no comment =3, disagree = 2 and strongly disagree= 1. Although some questions were assigned scores in reverse. The final score was obtained by summing the scores for all questions. The questionnaire score range was 41 to 205 and higher score represents a greater level of QOL. Based on the total score achieved for each individual, participants were divided into 3 groups. The total score less than 52 represents a poor QOL, 52 to 154 moderate qualities of life and more than 154 represents good QOL.¹³

The questioner validity and reliability were obtained by content validity and internal consistency with Cronbach's alpha 0.942. After explaining the purpose of the study and informed consent to participate in the study, the questionnaires were completed by the participants. In individuals who were illiterate, the questionnaires were completed by a trained researcher.

3. Statistics

After data collection, analysis was carried out in IBM SPSS for Windows version 20.0 (IBM Co., Armonk, NY, USA) using descriptive statistic. The χ^2 test was used to test the categorical variable. However, if the expected values for each cell of table were less than 5, then a Fisher's test was used. A *P* value of 0.01 or less was considered significant.

Results

1. General characteristics of the study subjects

Overall 211 infertile women in the postmenopausal period were studied. The most frequent age group was reported in 45 to 50 years women (47.4%). About, 84.8% of studied

women were housekeeper. Overall, 59.2% of research sample were illiterate. Based the results of present study, there was significant relationship between age and financial provider whit status of QOL. Demographic characteristics and other factors related to the QOL in infertile women during the postmenopausal period are presented in Table 1.

Table 1. Demographic characteristics and other factors related to the quality of life among infertile women in the postmenopausal period

Variable	Status of quality of life, N (%)			Total, N (%)	P-value	
	Poor	Moderate	Good			
Age (years)*	Less than 45	0 (0)	18 (10.5)	2 (14.3)	20 (9.5)	0.016
	45-50	13 (50)	81 (47.4)	6 (42.9)	100 (47.4)	
	51-55	0 (0)	30 (17.5)	2 (14.3)	32 (15.2)	
	56-60	8 (30.8)	22 (12.9)	2 (14.3)	32 (15.2)	
	More than 60	5 (19.2)	20 (11.7)	2 (14.3)	27 (12.8)	
	Total	26 (100)	171 (100)	14 (100)	211 (100)	
Duration of infertility (years)*				26.2 ± 3.1	0.253	
Duration of infertility treatment (years)*				17 ± 3.1	0.317	
Occupation	Housekeeper	26 (100)	140 (81.9)	13 (92.9)	179 (84.8)	0.082
	Tailor	0 (0)	5 (2.9)	0 (0)	5 (2.4)	
	Seller	0 (0)	16 (9.4)	0 (0)	16 (7.6)	
	Retired employee	0 (0)	5 (2.9)	1 (7.1)	6 (2.8)	
	Hairstylist	0 (0)	5 (2.9)	0 (0)	5 (2.4)	
	Total	26 (100)	171 (100)	14 (100)	211 (100)	
Education level	Illiterate	14 (53.8)	101 (59.1)	10 (71.4)	125 (59.2)	0.418
	Elementary	6 (23.1)	37 (21.6)	3 (21.4)	46 (21.8)	
	Secondary	6 (23.1)	24 (14)	1 (7.1)	31 (14.7)	
	Academic	0 (0)	9 (5.3)	0 (0)	9 (4.3)	
	Total	26 (100)	171 (100)	14 (100)	211 (100)	
Number of marriage	Once	22 (84.6)	151 (88.3)	11 (78.6)	184 (87.2)	0.153
	Twice	4 (15.4)	10 (5.8)	1 (7.1)	15 (7.1)	
	Thrice	0 (0)	10 (5.8)	2 (14.3)	12 (5.7)	
	Total	26 (100)	171 (100)	14 (100)	211 (100)	
Financial provider	Husband	23 (88.5)	110 (64.3)	7 (50)	140 (66.4)	0.017
	Government organization	0 (0)	17 (9.9)	4 (28.6)	21 (10)	
	Herself	3 (11.5)	44 (25.7)	3 (21.4)	50 (24)	
	Total	26 (100)	171 (100)	14 (100)	211 (100)	

*Mean ± standard deviation

Table 2. Dimensions scores of quality of life among infertile women in the postmenopausal period

Dimensions of quality of life	Questioner score		Participants score		Mean \pm SD
	Minimum	Maximum	Minimum	Maximum	
Socioeconomic	13	65	13	65	32.02 \pm 17.472
Mental health	18	90	21	83	50.89 \pm 20.875
Religiousness	5	25	5	25	14.33 \pm 5.189
Physical health	3	15	3	15	5.36 \pm 3.553
Future imagining	2	10	2	10	6.05 \pm 2.964

SD: standard deviation

Table 3. The distribution of frequency of quality of life among infertile women in the postmenopausal period

Status of quality of life	N (%)
Poor	18 (8.5)
Moderate	179 (84.8)
Good	14 (6.6)
Total	211 (100)

Dimensions scores of QOL of participants are presented in Table 2. Based our results, 84.8% of study participants have moderate QOL. Overall distribution of QOL among study participants are presented in Table 3.

Discussion

Marriage and establishment of a family is highly regarded among Muslims and families will be more stable with women childbearing.¹⁴ So infertility is considered a defect among Muslim women which threatens them with physical and psychological problems.¹⁵ Therefore, in the current study, the QOL was evaluated among Iranian infertile women in postmenopausal period.

Although studies have reviewed QOL of menopausal women,^{3,16} results showed that menopausal period is associated with negative effects on women QOL.¹⁶ Williams et al.³ showed that the demographic characteristics as well as menopausal symptoms experienced by menopausal women affected their QOL during menopause.

Most previous studies have investigated the physical

and mental dimensions of QOL during menopause.^{5,16,17} However, the relationship between reproductive history and menopausal QOL has been confirmed, these studies neglected the impact of reproductive history on menopausal QOL. A study reported that employment and number of children decrease the risk of menopausal complications.¹⁸ Therefore in the present study we evaluated the QOL among Iranian postmenopausal infertile women using a valid and reliable instrument.¹³

We have not found studies that reviewed the QOL during menopause in Iranian infertile women. One Iranian qualitative study, however, reviewed the life experiences of infertile women during their postmenopausal period. The results showed that some factors such as psychological insecurity, problems in social interaction and cultural issues affect the QOL in infertile women in postmenopausal period.¹¹ Another study in line with this results showed that infertile Muslim women experience some complications in their social and personal life.¹⁹

Few studies, outside Iran have proposed some correlation between reproductive history and symptoms after menopause.^{8,10}

Based on our results, the socioeconomic status, mental health, religiousness, physical health, and future imagining are important dimensions of QOL among infertile women in postmenopausal period. In traditional societies, infertile women experience various challenges including individual, familial, social, economical, depression and anxiety. These challenges have effects on their QOL.²⁰⁻²²

A study evaluated the relationship between reproductive history and menopausal symptoms among 291 pre-

menopausal women urban women in Philadelphia. The results of this study demonstrated that libido sexual dysfunction and vaginal dryness were higher among women who experience infertility (OR: 1.86, 95% CI: 1.05–3.31) and (OR: 2.79, 95% CI: 1.19–6.94) respectively.⁸

Based on the results of our study, only 6.7% of our study population had a good QOL during their postmenopausal period. Also, the QOL is moderate in most participants (84.8%) similar to another Iranian study.²³

Other studies in line with our study found that socio – economic status has an important impact on QOL during postmenopausal period.^{17,24}

In a study conducted on rural women in Turkey, the results showed that physical complications such as hot flashes and sweats are the most common symptoms of postmenopausal period that affect the quality of women's lives.¹² In another study, Guangzhon postmenopausal women experience lower sexual desire and feeling faint memory.⁵

The present study had some limitations. Inaccessibility of comprehensive database of infertile postmenopausal women in Iran increased the risk of forgetfulness the subjects that may be impact on our results. Also we used of specific postmenopausal QOL questioner.¹³ Therefore; compression of QOL in fertile and infertile women is not possible.

Most Iranian infertile women in the postmenopausal period have poor or moderate QOL. Considering the socioeconomic, mental health, religiousness, physical health, and future imagining are main dimensions of QOL in infertile menopausal women, identification and training of these factors will improve the QOL of infertile menopausal women.

Acknowledgement

This study was approved by the Ilam University of Medical Science. We thank the coordinators and data collectors who assisted in this study.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

References

1. Health Medical and Education Medicine Ministry. Management and programming organization for eight population of Iran during the next 20 years. Tehran, IR: Health Medical and Education Medicine Ministry; 2005.
2. Rapkin AJ. Vasomotor symptoms in menopause: physiologic condition and central nervous system approaches to treatment. *Am J Obstet Gynecol* 2007; 196: 97–106.
3. Williams RE, Levine KB, Kalilani L, Lewis J, Clark RV. Menopause-specific questionnaire assessment in US population-based study shows negative impact on health-related quality of life. *Maturitas* 2009; 62: 153–9.
4. Reed SD, Ludman EJ, Newton KM, Grothaus LC, LaCroix AZ, Nekhlyudov L, et al. Depressive symptoms and menopausal burden in the midlife. *Maturitas* 2009; 62: 306–10.
5. Chen Y, Lin SQ, Wei Y, Gao HL, Wu ZL. Menopause-specific quality of life satisfaction in community-dwelling menopausal women in China. *Gynecol Endocrinol* 2007; 23: 166–72.
6. Kakkar V, Kaur D, Chopra K, Kaur A, Kaur IP. Assessment of the variation in menopausal symptoms with age, education and working/non-working status in north-Indian sub population using menopause rating scale (MRS). *Maturitas* 2007; 57: 306–14.
7. Nagata C, Takatsuka N, Kawakami N, Shimizu H. Soy product intake and hot flashes in Japanese women: results from a community-based prospective study. *Am J Epidemiol* 2001; 153: 790–3.
8. Nelson DB, Sammel MD, Patterson F, Lin H, Gracia CR, Freeman EW. Effects of reproductive history on symptoms of menopause: a brief report. *Menopause* 2011; 18: 1143–8.
9. Sabia S, Fournier A, Mesrine S, Boutron-Ruault MC, Clavel-Chapelon F. Risk factors for onset of menopausal symptoms: results from a large cohort study. *Maturitas* 2008; 60: 108–21.
10. Hess R, Olshansky E, Ness R, Bryce CL, Dillon SB, Kapoor W, et al. Pregnancy and birth history influence women's experience of menopause. *Menopause* 2008; 15: 435–41.
11. Direkvand-Moghadam A, Delpisheh A, Mozafari M. Infertility experience in postmenopausal women: A phenomenological study. *Koomesh* 2015; 16: 555–62.
12. Ashraf DM, Ali D, Azadeh DM. Effect of infertility on the quality of life, a cross-sectional study. *J Clin Diagn Res* 2014; 8: OC13–5.
13. Direkvand-Moghadam A, Delpisheh A, Montazeri A, Sayehmiri K. Quality of life in infertile menopausal women; Development and psychometric of an instrument. *J Clin*

- Diagn Res 2016; 10: 1c01–ic5.
14. Serour GI. Islamic perspectives in human reproduction. *Reprod Biomed Online* 2008; 17 Suppl 3: 34–8.
 15. Jennings PK. "God Had Something Else in Mind": Family, religion, and infertility. *J Contemp Ethnogr* 2010; 39: 215–37.
 16. Chen Y, Lin SQ, Wei Y, Gao HL, Wang SH, Wu ZL. Impact of menopause on quality of life in community-based women in China. *Menopause* 2008; 15: 144–9.
 17. Karacam Z, Seker SE. Factors associated with menopausal symptoms and their relationship with the quality of life among Turkish women. *Maturitas* 2007; 58: 75–82.
 18. Fallahzadeh H. Quality of life after the menopause in Iran: a population study. *Qual Life Res* 2010; 19: 813–9.
 19. Obeidat HM, Hamlan AM, Callister LC. Missing motherhood: Jordanian women's experiences with infertility. *Adv Psychiatry* 2014; 2014: 241075.
 20. van den Akker OB. Coping, quality of life and psychological symptoms in three groups of sub-fertile women. *Patient Educ Couns* 2005; 57: 183–9.
 21. Valsangkar S, Bodhare T, Bele S, Sai S. An evaluation of the effect of infertility on marital, sexual satisfaction indices and health-related quality of life in women. *J Hum Reprod Sci* 2011; 4: 80–5.
 22. Wiersema NJ, Drukker AJ, Mai BT, Giang HN, Nguyen TN, Lambalk CB. Consequences of infertility in developing countries: results of a questionnaire and interview survey in the South of Vietnam. *J Transl Med* 2006; 4: 54.
 23. Abedzadeh Kalarhoudi M, Taebi M, Sadat Z, Saberi F. Assessment of quality of life in menopausal periods: a population study in kashan, iran. *Iran Red Crescent Med J* 2011; 13: 811–7.
 24. Palacios S, Henderson VW, Siseles N, Tan D, Villaseca P. Age of menopause and impact of climacteric symptoms by geographical region. *Climacteric* 2010; 13: 419–28.