

## The Comparison of Quality Of Life and Social Support among Fertile and Infertile Women

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ARTICLE INFO	ABSTRACT
<p><b>Article type:</b> Original Article</p> <hr/> <p><b>Article history:</b> Received: 24-Nov-2015 Accepted: 14-Feb-2017</p> <hr/> <p><b>Keywords:</b> Fertility Infertility Quality of life (QOL) Social support</p>	<p><b>Introduction:</b> Along with some authors through literature indicating the influence of infertility on the quality of life, this study aimed at comparing the impact of infertility on the quality of life and social support among fertile and infertile women.</p> <p><b>Materials and Methods:</b> In this case-control study, 50 hospitalized and outpatient infertile women and 50 fertile women aged 20-40 referred to gynecology, obstetrics and infertility centers of Arak University of Medical Sciences from March 2013 to August 2013. The patients were requested to complete the Persian version of the WHOQOL-BREF (world health organization quality of life) and social support questionnaires. The demographic data and data extracted from questionnaires were collected and analyzed.</p> <p><b>Results:</b> 100 women (50 infertile and 50 fertile) with the average age of <math>33.70 \pm 6.53</math> were recruited. All patients were literate and had a high school diploma. To compare two groups regarding physical health, mental health, social relationship, quality of life, family support, friends' support, support of other people and social support, we made use of one-way ANOVA. The score obtained from variables regarding infertile women was higher than that of fertile ones, and the difference between the two groups was significant. To compare environmental health, we used Kruskal-Wallis test. The mean score of environmental health among infertile women was higher than that of fertile women, however, the difference was not significant (<math>P=0.15</math>).</p> <p><b>Conclusion:</b> As indicated by the results, infertility reduces mental and physical health, social relationship and quality of life in women. Additionally, it was found that infertile women were less supported than fertile ones by society, family, friends and other people.</p>

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### Introduction

Health-related quality of life (HRQOL) is now an important measure in many clinical settings, and it is defined as the individual's overall well-being in the face of disease, disability or disorder (1). When associated with infertility, health-related quality of life is especially pertinent (2, 3).

Approximately, 8 million people in the world suffer from a kind of infertility in their life, and it is estimated that 10% of couples experience a primary or secondary infertility (45). Involuntary childlessness can be devastating and is related to a plethora of psychological distresses (5).

Impairments may arise in many areas, such as sociability, marital life, family life and economic stability (5, 6). Health-related quality of life examinations in association with infertility usually focuses on feelings of the individual in a relationship, usually the wife (6). However, based on theories about family interaction, both members of the couple should be examined. For the most part, women facing infertility demonstrate a higher likelihood of experiencing a decreased quality of life than men, but the strain on the relationship alone is enough to affect the man's life negatively (6,7).

Prior studies indicated that women conceive infertility as a life crisis and a toll on their QoL (8).

Moreover, infertility is related to distress, depression, anxiety, sexual problems, marital and social maladjustment, loss of control and lowered self-esteem (9).

Additionally, these experiences have emphasized that anxiety and depression scores in infertile women are similar to those of cancer and cardiac diseases (10). As infertility is stressful for women, social support can help how a woman adjusts to the unpredicted stress of infertility (11).

Social support is defined as having some friends, partners and family to whom one can refer in times of need or crisis that allows the individual to have a broader focus and positive self-image (11).

Some authors revealed that social support enhances the quality of life, provides a buffer against adverse life events and decreases the impact of cancer and heart diseases (12).

In this comparative study, we evaluated the impact of quality of life and social support on fertile and infertile women.

## Materials and Methods

In this case-control study, 50 inpatients and outpatient infertile women aged 20-40 referred to gynecology, obstetrics and infertility centers of Arak University of Medical Sciences from March 2013 to August 2013. Moreover, 50 fertile women matched for age and level of literacy were selected.

The demographic data of the patients were asked and recorded. Then, the patients were requested to complete the Persian version of WHOQOL-BREF and social support questionnaires.

The patients were informed, and written consent was taken. The ethic committee approval was not required for this study.

### 2.1 Definition of key Terms

Infertility: infertile couples are those who have been unable to conceive after a year of sexual intercourse without using contraceptives (4, 5).

The quality of life (QOL): the general well-being of individuals and societies (8).

Social support: having some friends, partners and family to whom one refers in times of need or crisis that allows an individual to have a broader focus and positive self-image (11).

### 2.2 WHOQOL-BREF questionnaire

The WHOQOL-BREF instrument comprises 26 items, which measures the following broad domains: physical health, psychological health, social relationships and the environment.

The WHOQOL-BREF, an abbreviated 26-item version of the WHOQOL-100, was developed using data from the field-trial version of the WHOQOL-100.

The validity and reliability of Persian version of

WHOQOL-BREF questionnaire were confirmed by Noorani (13) (table1).

**Table 1: The self-administered WHOQOL questionnaire subscales**

Physical health	2,3,4,10,15,16,17,18
Psychological health	1,5,6,7,11,19,26
Social relationships	20,21,22
Environment	8,9,12,13,14,23,24,25

### 2.3 Self-administer social support questionnaire

Patient's social support was assessed by the Social Support Appraisals Scale (SS-A). The SS-A is a 23-item questionnaire. Subjects were asked to indicate on a scale from 4 (strongly agree) to 1 (strongly disagree) how much they believe that they were loved by, esteemed by and involved with family, friends, and others (e.g., "My friends respect me." "My family holds me in high esteem." "I feel valued by other people."). Three subscales were typically considered: support by others (sum of 7 items), support by family members (sum of 8 items), and support by friends (sum of 7 items). Higher scores indicated more favorable social support perceived by the patients (14) (table 2). The demographic data and data extracted from the questionnaire were collected and analysed by SPSS version 20.

**Table 2: The self-administered social support questionnaire subscales**

Family's support	2,4,7,9,11,13,18,22
Friend's support	1,6,10,15,16,19,23
Support by others	3,5,12,14,17,20,21

### 2.4 Statistical analysis

Data were analyzed using SPSS version 20. Categorical data were presented as numbers (%), and continuous data as mean±SD. We used Kolmogorov-Smirnov Leven and ANOVA and chi-2 test to compare the two groups. An  $\alpha < 0.05$  level was used to determine a statistically significant difference.

Ethical considerations: The patients were informed and oral consents were taken, however, the ethic committee approval was not required for this study.

### 2.5 Self-administered social support questionnaire

Patient's social support was assessed with the Social Support Appraisals Scale (SS-A). The SS-A is a 23-item questionnaire. Subjects were asked to indicate on a scale from 4 (strongly agree) to 1 (strongly disagree) how much they believe that they were loved by, esteemed by and involved with family, friends, and others (e.g., "My friends respect me." "My family holds me in high esteem." "I feel valued by other people."). Three subscale were typically evaluated: support by other (sum of 7 items), support by family members (sum of 8 items), and support by friends (sum of 7 items). Higher scores indicated more favorable social support perceived by the patients (14) (table 2). Finally, the demographic data and data extracted from

questionnaire were collected and analyzed by SPSS version 20.

### 2.6 Statistical analysis

Data were analyzed using SPSS version 20. Categorical data were presented as numbers (%), and continuous data as mean  $\pm$  SD. We used Kolmogorov-Smirnov Leven and ANOVA and chi-2 test to compare two groups.  $\alpha < 0.05$  was considered significant.

Ethical considerations: The patients were informed and oral consent was taken. Nonetheless, the ethic committee approval was not necessary for this study.

## Results

Totally 100 women (50 infertile and 50 fertile) with the mean age  $33.70 \pm 6.53$  were evaluated in this study. The mean age in the infertile group was more than fertile. Moreover, all patients were literate and most of them had a high school diploma. One-way ANOVA was used to compare two groups regarding physical health, mental health, social relationship, QOL, families' support, friends' support, support of other people and social support. The score of all these variables in infertile women was higher than that of fertile and the difference between the two groups was significant (Table 3). Kruskal-Wallis test was employed to compare the environmental health. The mean score of environmental health in infertile women was more than fertile women, but the difference was not significant ( $P = 0.15$ ) (table 3).

**Table 3: the Mean  $\pm$  SD and p-value of scores of questionnaires in two groups**

	Fertile	Infertile	P
Age	31.94 $\pm$ 7.08	35.45 $\pm$ 6.54	
physical health	25.00 $\pm$ 5.51	28.16 $\pm$ 5.83	0.006
Psychological health	20.18 $\pm$ 4.72	24.38 $\pm$ 4.16	0.001
Environmental health	24.51 $\pm$ 4.27	26.56 $\pm$ 6.51	0.15
Social relationship	8.08 $\pm$ 2.81	10.14 $\pm$ 3.10	0.001
QOL	77.96 $\pm$ 15.36	89.56 $\pm$ 16.60	0.001
Family support	19.38 $\pm$ 2.77	23.70 $\pm$ 2.96	0.001
Friends' support	18.46 $\pm$ 3.90	21.42 $\pm$ 3.16	0.001
Others' support	18.66 $\pm$ 3.60	23.88 $\pm$ 3.36	0.001
Social support	56.46 $\pm$ 8.64	68.76 $\pm$ 7.93	0.001

## Discussion

Infertility is a major stressor and influences several aspects of life in women (15). It is an unorganized event, and couples are not trained to handle it, so they usually examine diverse strategies to manage it (15).

Although the impact of infertility on QOL has been widely studied, there are relatively few studies examining the impact of social support on infertile women. Some studies have indicated that social support is related to lower depression and anxiety level (16, 17). Consistently, other practices revealed that social support reduces the infertility stress in general (18, 19).

In this comparative survey, 100 infertile and fertile women with the mean age  $33.70 \pm 6.53$  were compared. The mean score of physical, psychological, relationship and QOL in infertile women was significantly more than fertile women. Moreover, the mean score of environmental health in infertile women was more than fertile ones, but the difference was not significant ( $P = 0.15$ ). In line with our findings, Monga revealed that women in infertile couples experienced lower marital adjustment and quality of life than controls (20). Other studies have also evaluated additional aspects of infertility impact on couples. Drosdzol demonstrated that female sex, age over 30, lower education level, diagnosis of male infertility and infertility duration more than 3 years were the most important risk factors of marital dissatisfaction in infertility (21). A meta-analysis by Chachamovich reviewed fourteen studies as well. The scores on mental health, social functioning, and emotional behavior were significantly lower in women. This review concluded that QOL or HRQOL is more deteriorated in infertile women (22). Furthermore, Shindel evaluated the sexual function and QOL in male partners of infertile couples and showed that the depression, erectile dysfunction, and sexual relationship problems in male partners of infertile couples are frequent (22). As we stated previously practices evaluating the impact of social support on infertile and fertile women are scarce. In the current survey, we documented that the mean scores of family support, friends' support, support by other people, and social support in infertile women were significantly more than those of fertile women. Our findings were supported by Martin that highlighted the importance of social support in helping infertile women. The authors concluded that family and partner support, coping skills, training interventions and active-confronting strategies can improve the symptoms related to infertility (24).

Harmoniously Martins showed that partner support decreases the burden of infertility stress in infertile women (25). In keeping with these findings Peterson et al. indicated that partner support is an important factor that helps the couples to manage the impact of life stressors successfully (26). In addition to social support, some studies have emphasized the coping strategies as an effective technique to deal with infertility stressor (27, 28). However, because infertility is a low-control stressor, women cannot actively change the nature of the infertility burden (27, 28).

In summary, the review of related articles revealed that infertility is the most important stressor women experience in their life and it remarkably reduces the quality of life. Several suggestions have been given to manage the infertility burden, however, most of these trials have emphasized that social support in general and partner support, in particular, are the leading factors to handle this stressor.

We evaluated the burden of infertility as a stressor just in women that might be seen as the main limitation of the current investigation. Further investigations are

recommended on the men facing infertility since the experiences of infertile men are often underestimated in the studies. Therefore, future controlled studies with larger series in this area will answer our questions regarding the importance of infertility in men as compared with women.

## Conclusion

This study revealed that infertility reduces the mental and physical health, social relationship and quality of

## References

- 1- Morris MD. The Physical Quality of Life Index (PQLI). *Development digest*. 1980 Jan; 18(1):95.
- 2- El-Messidi A, Al-Fozan H, Tan SL, Farag R, Tulandi R. Effects of repeated treatment failure on the quality of life of couples with infertility. *Journal of Obstetrics and Gynaecology Canada*. 2004 Apr 1; 26(4):333-7.
- 3- Fekkes M, Buitendijk SE, Verrips GH, Braat DD, Brewaeys AM, Dolfing JG, Kortman M, Leerentveld RA, Macklon NS. Healthrelated quality of life in relation to gender and age in couples planning IVF treatment. *Human Reproduction*. 2003 Jul 1; 18(7):1536-43.
- 4- Vayena E, Rowe PJ, Griffin PD. Current practices and controversies in assisted reproduction: report of a meeting on medical, ethical and social aspects of assisted reproduction, held at WHO Headquarters in Geneva, Switzerland.
- 5- World Health Organization. *The world health report 2003: shaping the future*. World Health Organization; 2003.
- 6- Drosdzol A, Skrzypulec V. Quality of life and sexual functioning of Polish infertile couples. *The European Journal of Contraception & Reproductive Health Care*. 2008 Jan 1; 13(3):271-81.
- 7- Ragni G, Mosconi P, Baldini MP, Somigliana E, Vegetti W, Caliarì I, Nicolosi AE. Health-related quality of life and need for IVF in 1000 Italian infertile couples. *Human Reproduction*. 2005 May 1; 20(5):1286-91.
- 8- Van Balen F, Trimbos-Kemper TC. Long-term infertile couples: a study of their well-being. *Journal of psychosomatic obstetrics and gynaecology*. 1993; 14:53-60.
- 9- Hirsch AM, Hirsch SM. The longterm psychosocial effects of infertility. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*. 1995 Jul 1; 24(6):517-22.
- 10- Sanders KA, Bruce NW. A prospective study of psychosocial stress and fertility in women. *Human Reproduction (Oxford, England)*. 1997 Oct 1; 12(10):2324-9.
- 11- Walen HR, Lachman ME. Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*. 2000 Feb; 17(1):5-30.
- 12- Schwarzer R, Knoll N. Functional roles of social support within the stress and coping process: A

life in women. Moreover, it documented that infertile women were less supported by society, family, friends and other people compared with fertile women.

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- theoretical and empirical overview. *International journal of psychology*. 2007 Aug 1; 42(4):243-52.
- 13- Noorani s, Goneidi E, Shaker M, Mokhber N. comparison of quality of life in fertile and infertile women. *Journal of Obstetrics Gynecology and Infertility*. 2012; 7:24-31. (In Persian).
  - 14- Vaux A, Phillips J, Holly L, Thomson B, Williams D, Stewart D. The social support appraisals (SSA) scale: Studies of reliability and validity. *American Journal of Community Psychology*. 1986 Apr 1; 14(2):195-218.
  - 15- Peterson U, Bergström G, Samuelsson M, Åsberg M, Nygren Å. Reflecting peer support groups in the prevention of stress and burnout: Randomized controlled trial. *Journal of advanced nursing*. 2008 Sep 1; 63(5):506-16.
  - 16- Verhaak CM, Smeenk JM, Van Minnen A, Kremer JA, Kraaimaat FW. A longitudinal, prospective study on emotional adjustment before, during and after consecutive fertility treatment cycles. *Human reproduction*. 2005 Apr 7; 20(8):2253-60.
  - 17- Lechner L, Bolman C, Van Dalen A. Definite involuntary childlessness: associations between coping, social support and psychological distress. *Human Reproduction*. 2006 Aug 18; 22(1):288-94.
  - 18- Schmidt L, Holstein BE, Christensen U, Boivin J. Communication and coping as predictors of fertility problem stress: cohort study of 816 participants who did not achieve a delivery after 12 months of fertility treatment. *Human reproduction*. 2005 Jul 8; 20(11):3248-56.
  - 19- Gibson DM, Myers JE. The effect of social coping resources and growth-fostering relationships on infertility stress in women. *Journal of Mental Health Counseling*. 2002 Jan 1; 24(1):68.
  - 20- Monga M, Alexandrescu B, Katz SE, Stein M, Ganiats T. Impact of infertility on quality of life, marital adjustment, and sexual function. *Urology*. 2004 Jan 31; 63(1):126-30.
  - 21- Drosdzol A, Skrzypulec V. Evaluation of marital and sexual interactions of Polish infertile couples. *The journal of sexual medicine*. 2009 Dec 1; 6(12):3335-46.
  - 22- Chachamovich JR, Chachamovich E, Ezer H, Fleck MP, Knauth D, Passos EP. Investigating quality of life and health-related quality of life in infertility: a systematic review. *Journal of Psychosomatic Obstetrics & Gynecology*. 2010 Jun 1; 31(2):101-10.

- 23- Shindel AW, Nelson CJ, Naughton CK, Ohebshalom M, Mulhall JP. Sexual function and quality of life in the male partner of infertile couples: prevalence and correlates of dysfunction. *The Journal of urology*. 2008 Mar 31; 179(3):1056-9.
- 24- Martins MV, Peterson BD, Almeida VM, Costa ME. Direct and indirect effects of perceived social support on women's infertility-related stress. *Human Reproduction*. 2011 May 18; 26(8):2113-21.
- 25- Martins MV, Peterson BD, Almeida V, Mesquita-Guimarães J, Costa ME. Dyadic dynamics of perceived social support in couples facing infertility. *Human Reproduction*. 2013 Nov 11; 29(1):83-9.
- 26- Peterson BD, Newton CR, Rosen KH. Examining congruence between partners' perceived infertility related stress and its relationship to marital adjustment and depression in infertile couples. *Family process*. 2003 Mar 1; 42(1):59-70.
- 27- Benyamini Y, Gozlan M, Kokia E. On the self-regulation of a health threat: Cognitions, coping, and emotions among women undergoing treatment for infertility. *Cognitive Therapy and Research*. 2004 Oct 1; 28(5):577-92.
- 28- Verhaak CM, Smeenk JM, Evers AW, van Minnen A, Kremer JA, Kraaijmaat FW. Predicting emotional response to unsuccessful fertility treatment: a prospective study. *Journal of behavioral medicine*. 2005 Apr 1; 28(2):181-90.