

A Hospital-Based Study to Assess the Association between Quality of Life in Fertile and Infertile Women and the Factors Affecting it

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Abstract

Aim: The aim of the present study was to assess the quality of life in fertile and infertile women and the factors affecting it.

Methods: The present study was conducted in the urban field practice area of Darbhanga Medical College and hospital Darbhanga, Bihar, India. in which 1000 participants (300 infertile and 700 fertile women) using purposive sampling were selected. To identify eligible women from the rural population, family planning documents in rural health's houses were assessed, and a list of women with infertility problems were extracted.

Results: Overall, the infertile women had a significantly higher physical functioning and physical role limitation than the fertile women. In the present study, women in the infertile group had a higher summary score than fertile women in the physical component summary. However, emotional role limitation, fatigue or vitality, social functioning, mean bodily pain, mental health, and the quality-of-life were not significantly different between the infertile and fertile women ($P > 0.05$).

Conclusion: In conclusion, the results of the present study revealed a clear significant difference between the 2 groups in mental health and general health.

Keywords: Fertility, General Health, Infertility, Physical Functioning, Quality of Life

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Introduction

Many societies, both developed and developing, place a high priority on the responsibilities that women play during pregnancy and delivery. [1] One definition

of infertility is a woman's inability to conceive after a year of consistent sexual activity. [2] Depression, anxiety, social isolation, and sexual dysfunction are only

some of the psychological and social issues that often accompany it, and they may cause significant social discomfort. Those who are unable to conceive may feel emotional anguish and have a worse quality of life due to their health, according to a study of infertile couples (QOL). According to a recent study [4], between 10 and 15 percent of couples between the ages of 18 and 45 in developed nations experience infertility. There is a new definition of fertility quality of life (FertiQOL) in the literature [5,6] which focuses on measuring the effects of infertility on particular aspects of one's existence. Compared to non-infertile women, infertile women report worse marital satisfaction and quality of life. [8] It's also possible that the emotional strain of trying to conceive, as well as the need to time sexual activity with a woman's ovulation cycle, contribute to men's lower levels of sexual pleasure. [9]

In the end, everyone just wants to make a better life for their loved ones. Therefore, the mother is seen as a warm hug and a secure heaven for the young ones. That's why whole family unit is jolted by her potential exposure to mental, nervous, and physical diseases. [10] A woman who is infertile is one who has difficulty conceiving children despite the presence of frequent sexual intercourse between partners. [11] For the first four years of marriage, without the use of artificial means, a woman is considered fertile. [12]

The emotional and social ramifications of infertility on women vary. [13] There have been several research on infertile couples that have shown women to have worse quality of life than males when it comes to assessment of quality of life. Additional research showed that infertile couples had a worse quality of life than fertile spouses. [14,15] Women who have trouble in conceiving tend to be more anxious and depressed about their lives and have a lower level of life satisfaction than fertile women. [16] The effects of infertility and

other health issues on women may be better understood with the use of quality-of-life assessments. In complex health situations, quality of life (QoL) has come to be seen as an important consequence. [15]

The aim of the present study was to assess the quality of life in fertile and infertile women and the factors affecting it.

Methods

The present study was conducted in the urban field practice area of Darbhanga Medical College and hospital Darbhanga, Bihar, India. In which 1000 participants (300 infertile and 700 fertile women) were selected using purposive sampling method.

To identify eligible women from the rural population, family planning documents in rural health's houses were assessed, and a list of women with infertility problems were extracted. Obtaining informed consent from the participants for their voluntary participation in the study was among the important ethical considerations of the study.

Methodology

The data collection tool was the Persian version of SF36 quality of life questionnaire which had been used previously by Montazeri et al. [17] and whose validity and reliability had been confirmed in Iran. There are two general scales in this questionnaire: (a) physical health, (b) mental health.

Overall, the two scales include 8 domains of physical functioning, physical role limitation, bodily pain, general health, vitality, social functioning, emotional role limitation, and mental health. In the present study, the demographic characteristics of women including age, education level, job, family income, residency location, and education level and occupation of the husbands were assessed.

After explaining the purpose of the study, the participants were asked to fill out the

self-administered questionnaires. Trained interviewers completed the questionnaires for those uneducated participants or those with low literacy.

Data Analysis

Chi-square test and analysis of variance were used to examine the relationship between demographic variables and quality of life. The response variable was SF36 QoL score as a continuous variable.

We assessed the role of sociodemographic variables (residence, education, job, family income, and husband's job and education) on QoL between 2 groups using a multiple linear regression. The best-fitted and final model was selected according to likelihood ratio test. In the present study, confidence level was 95% and significance level was set at 0.05.

Results

Table 1: The Comparison of the Quality-of-Life Subscales between the Fertile and Infertile Women

Variables	Infertile (n = 300)	Fertile (n = 700)	T Statistics	P Value
Physical functioning	69.41±27.63	64.56±25.95	3.320	0.001
Role-physical	59.99±35.95	51.84±37.23	4.078	0.001
Bodily pain	64.72±25.05	63.63±24.34	0.818	0.410
General health	58.85±17.67	62.19±17.83	-3.450	0.001
Vitality	57.82±18.29	57.64±17.52	0.195	0.820
Social functioning	69.05±21.68	69.27±21.97	-0.183	0.855
Role-emotional	56.96±38.98	59.45±39.41	-1.178	0.239
Mental health	61.60±17.71	64.04±18.10	-2.506	0.012
Physical component summary	63.25±19.70	60.56±19.13	2.567	0.010
Mental component summary	61.36±18.41	62.60±18.83	-1.228	0.210
Total score of SF36	61.42±16.09	60.63±15.93	0.918	0.330
Quality of Life, %				
Low 102 (10.0)	30 (10)	100 (14.28)	0.45	0.80
Moderate 396 (39.0)	120 (40)	250 (35.71)		
High 519 (51.0)	150 (50)	350 (50)		

The research found that the average score of the physical functioning subscale was significantly greater in infertile women than in fertile women ($P = 0.001$). On average, infertile women scored far worse on measures of physical functioning and physical role restriction than their fertile counterparts.

In contrast to the fertile women, they scored worse on measures of both physical and emotional well-being. The mental and bodily summaries were computed for use as an overall measure.

Female infertility in the current research was associated with a greater physical component summary value compared to female reproductive fertility. When

comparing infertile and fertile women, no statistically significant differences were found in terms of emotional role restriction, weariness or vitality, social functioning, mean physical discomfort, mental health, or quality-of-life mean.

Discussion

It was shown in this research that the quality of life of fertile women was not noticeably higher than that of infertile women. Contrary to our findings, research by El Kissi et al. titled "Quality of life of infertile tunisian spouses and variations according to gender" found that infertile women had a poorer quality of life than fertile women. [18] Contradicting the most recent findings is a study by Onat et al.

titled "Effects of infertility on gender differences in marital relationship and quality of life: a case-control study of Turkish couples," which found that infertile women had a higher quality of life in all dimensions compared to fertile women. [19] Quality of life was shown to be poorer for infertile women compared to fertile women by Amanelahifard et al. [20]

We found that the mean score on the physical role restriction subscale and the mean value on the physical functioning subscale were both considerably higher in infertile women than in fertile women, which is in line with Onat's conclusion. [19] This study's findings contrast with those of El Kissi et al. [18], who found no correlation between physical functioning and physical role restriction among fertile and infertile women. One possible explanation for infertile women's inability to have children is that they've suffered some kind of bodily impairment as a result of the inability to conceive, which prevents them from fulfilling their social responsibilities. Infertile women had worse mental health, on average, than their fertile counterparts. Consistent with the findings of the most recent study, previous research has shown that infertile women tend to have worse mental health. [21,22]

Whereas housing, education, and husband's work were all significantly related to the quality-of-life score among fertile women, only family income was so among infertile women. Recent findings agree with those of El Kissi et al., who found no statistically significant difference between fertile and infertile women with respect to age, education, or location, but their finding of a significant correlation between the two groups with respect to occupation does not hold water. [18] To some extent, the findings of the new research are congruent with those of Karabulut et al., who found that age and education level were significantly associated with infertility but that employment status was not. [23]

Women may benefit from more access to resources and publications thanks to higher levels of education. [24] This may help in keeping the situation under control and making reasonable decisions about how to proceed. Educational attainment was shown to be a major demographic difference between the two groups, with a higher prevalence of illiteracy among infertile women and their partners. Unequal access to infertility treatment and follow-up care may result from a widening gap in educational attainment.

Contrary to the findings of El Kissi et al. [18], we observed no association between emotional role restriction, social functioning, and mental health in both fertile and infertile women.

Conclusion

There was a statistically significant difference in both mental and physical health between the two groups, as shown by the findings of the current research. The findings showed that as compared to fertile women, infertile women scored significantly worse on measures of mental and overall health. Quality of life in its broadest sense, including one's thoughts and emotions, was also shown to be negatively impacted by reproductive issues, perhaps as a result of the psychological effects of infertility. Instead, infertile women had much greater physical functioning and role-physical mean value than pregnant women. Case-control studies with greater sample numbers across many locations are recommended for further understanding of these effects.

References

1. Direkvand-Moghadam A, Delpisheh A, Montazeri A, Sayehmiri K. Quality of life among Iranian infertile women in postmenopausal period: a cross-sectional study. *Journal of menopausal medicine*. 2016 Aug 1;22(2):108-13.
2. Sezgin H, Hocaoglu C, Guvendag-Guven ES. Disability, psychiatric symptoms, and quality of life in

- infertile women: a cross-sectional study in Turkey. *Shanghai arc psychiatry*. 2016;28(2):86–94.
3. Baghiani Moghadam MH, Aminian AH, Abdoli AM, Seighal N, Falahzadeh H, Ghasemi N. Evaluation of the general health of the infertile couples. *Iran J Reprod Med*. 2011;9(4):309–14.
 4. Rashidi B, Montazeri A, Ramezanzadeh F, Shariat M, Abedinia N, Ashrafi M. Health-related quality of life in infertile couples receiving IVF or ICSI treatment. *BMC Health Serv Res*. 2008;8(1):1.
 5. Lo SS, Kok WM. Sexual functioning and quality of life of Hong Kong Chinese women with infertility problem. *Hum Fertil (Camb)*. 2016;19(4):268–74.
 6. Mosher WD, Pratt WF. Fecundity and infertility in the United States: incidence and trends. *Fertil Steril*. 1991;56(2):192–3.
 7. Dural O, Yasa C, Keyif B, Celiksoy H, Demiral I, Yuksel Ozgor B, Gungor Ugurlucan F, Bastu E. Effect of infertility on quality of life of women: a validation study of the Turkish FertiQoL. *Hum Fertil*. 2016;19(3):186–91.
 8. Monga M, Alexandrescu B, Katz SE, Stein M, Ganiats T. Impact of infertility on quality of life, marital adjustment, and sexual function. *Urology*. 2004; 63(1):126–30.
 9. Kedem P, Mikulincer M, Nathanson YE, Bartoov B. Psychological aspects of male infertility. *Br J Med Psychol*. 1990;63(1):73–80.
 10. Ataf, Mahmoud Abu Ghali; and Nazmi, Odeh Abu Mustafa. (2011). Physical and psychological changes associated with menopause and their relationship to quality of life among a sample of Palestinian women. *Journal of Human and Social Sciences*, 27(3) 29-68.
 11. Olooto WE, Amballi AA, Banjo TA. A review of Female Infertility; important etiological factors and management. *J Microbiol Biotech Res*. 2012;2(3):379-85.
 12. Gaware V., Parjane N, Mercker N., Pattan S., Dighe N., Kuchekar B.S., Godge R. Female infertility and its treatment by alternate medicine: A review. *Journal of Chemical and Pharmaceutical Sciences*, 2009;1(1), 148-162.
 13. Karabulut A, Özkan S, Oğuz N. Predictors of fertility quality of life (FertiQoL) in infertile women: analysis of confounding factors. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2013 Sep 1;170(1):193-7.
 14. Peterson BD, Newton CR, Rosen KH, Schulman RS. Coping processes of couples experiencing infertility. *Family Relations*. 2006 Apr;55(2):227-39.
 15. 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.
 16. Onat G, Beji NK. Marital relationship and quality of life among couples with infertility. *Sexuality and Disability*. 2012 Mar;30(1):39-52.
 17. Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B. The Short Form Health Survey (SF-36): translation and validation study of the Iranian version. *Qual Life Res*. 2005; 14(3):875–82
 18. El Kissi Y, Amamou B, Hidar S, Ayoubi Idrissi K, Khairi H, Ali BB. Quality of life of infertile Tunisian couples and differences according to gender. *Int J Gynaecol Obstet*. 2014 ;125(2):134–7.
 19. Onat G, Kizilkaya Beji N. Effects of infertility on gender differences in marital relationship and quality of life: a case-control study of Turkish

- couples. *Eur J Obstet Gynecol Reprod Biol.* 2012;165(2):243–8.
20. Amanuelahifard A, Nikbakht R, Hoseini MA, Ahmadi Fakhr S, Hoseini Z. The comparison of marital satisfaction and quality of life between fertile and infertile women. *Biannual J Appl Counsel.* 2012;2(1):75–88.
21. Monga M, Alexandrescu B, Katz SE, Stein M, Ganiats T. Impact of infertility on quality of life, marital adjustment, and sexual function. *Urology.* 2004;63(1):126–30.
22. Schmidt L. Psychosocial burden of infertility and assisted reproduction. *Lancet.* 2006;367(9508):379–80.
23. Karabulut A, Ozkan S, Oguz N. Predictors of fertility quality of life (FertiQoL) in infertile women: analysis of confounding factors. *Eur J Obstet Gynecol Reprod Biol.* 2013; 170(1) :1 93–7.
24. Zaichick V. Diagnosis of Thyroid Malignancy using Chemical Elements of Nodular Tissue determined by Nuclear Analytical Methods. *Journal of Medical Research and Health Sciences.* 2022; 5(3): 1808–1824.