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Review Article

Quality of Life of Infertile Women in Iran: A Systematic Review

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Abstract

Introduction: Several studies have been conducted in Iran regarding the quality of life of infertile patients. The quality of life of infertile patients has been examined from different angles. Accordingly, we decided to evaluate the quality of life of infertile women by conducting a structured review of all available studies, considering the heterogeneity of studies.

Methods: This study is a systematic review. This study used the articles published in Noormags, Magiran, Sivilica, SID, Irandok, Proquest, Pubmed, Science Direct, and Web of Science databases between 2000 and August 2023. The search was done using the keywords "quality of life" and "infertile," "infertility," "sterility," "reproductive sterility," "subfertility," and Iran. The heterogeneity of the studies was examined using Cochrane's Q test and I2 statistics. The random effects model was used to synthesize studies that had heterogeneity (Cochrane's Q P<0.10 and I2>50%), and Egger's test was used for publication bias.

Results: The results revealed that the quality of life of infertile women, fertile women, and infertile couples is different. Age, economic status, level of education, physical health, mental health, irrational thoughts, and the pressure of others to have children and the masculine factor affect the quality of life score of infertile people. The meta-analysis results indicate that the mean quality of life score in infertile women is 71.2 (with a confidence interval of 95%).

Conclusion: The results indicate a lower quality of life score for infertile women compared to fertile women and infertile men. Thus, it seems necessary to use appropriate counseling and training to improve these women's quality of life. the treatment staff should pay attention to psychological issues and the physiological aspects of treatment.

Keywords: Women, Infertility, Quality of life

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Introduction

Based on the World Health Organization's report, infertility is a stressful experience (1). Infertility is medically defined as the absence of pregnancy after one year of unprotected intercourse (without using contraceptive methods) (2). About 8 to 12 percent of couples worldwide experience infertility (3). There are about 60 to 80 million infertile couples in the world. Its prevalence varies in different parts of the world. A recent study in Iran revealed that the prevalence of infertility in Iran (20.2%) is higher than the world mean, and one-fifth of Iranian couples are infertile (4). Among these, 40% of infertility cases are directly related to women, 40% to men, and 20% to both of them. Also, about 10-12 percent of women experience secondary infertility. Secondary infertility means infertility after childbirth due to women's diseases (5).

Loss of pregnancy in couples can lead to mental health disorders, reduced intimacy and disruption in marital relationships, divorce, fear of termination of marital relationships, blame from other people, spending a lot of time and medical expenses, reduced self-esteem, and general well-being, and disruption in the quality of life (6). Infertility can be considered a life crisis. Infertile couples are less satisfied with life compared to their counterparts. Infertility significantly affects the quality of life of couples, especially in societies that encourage having children immediately after marriage (7).

Infertility can reduce the sexual attractiveness and sexual desire of women. Change in sexual desires is a vital issue that can affect the quality of life of a woman (8). Quality of life is an active, dynamic, and multi-dimensional flow of

perceptions, attitudes, and behavioral changes. It is achieved through various experiences that happen in one's life (9). It is defined as the feeling of well-being caused by satisfaction or dissatisfaction with different aspects of life that are important to a person. This concept is subjective and personal perception based on the person's well-being or satisfaction with the factors affecting well-being, physical, emotional, and social performance to improve or maintain the person's ability for the best possible performance and status (10).

Compared to infertile men, infertile women have a lower quality of life (11). Some studies have indicated that woman experiences more stress in situations where their husbands suffer from a physiological problem (6). The physical and mental dimensions of the quality of life of infertile women are lower compared to fertile women. Thus, it is essential to use appropriate counseling and pay attention to the necessary training to improve the quality of life of these women (12). Thus, the medical staff, including physicians, nurses, and other health professionals, should also pay attention to psychological issues in addition to the physiological aspects of treatment (13).

The study conducted by Namaver et al. indicated that infertile couples experiencing a shorter duration of infertility and with a male infertility factor reported a higher quality of life (14). In contrast, Masoumi's research found that fertile couples exhibited significantly more excellent quality of life, along with higher levels of sexual and marital satisfaction compared to their infertile counterparts (15). Khayata's investigation in Amarat highlighted that the societal pressure regarding childbearing and the associated stress on infertile women in Eastern cultures leads to a diminished quality of life for these women compared to those who are fertile (16). Furthermore, a comparison revealed that infertile women had elevated scores in general and comprehensive quality of life, as well as anxiety levels when compared to a fertile control group (17).

Several studies have been conducted in Iran to evaluate the quality of life (QoL) among infertile patients, examining various aspects of their experiences. In light of this, we have decided to conduct a structured review of all available studies to synthesize the findings, considering the research's heterogeneity. This comprehensive analysis will inform appropriate interventions to improve the quality of life for infertile patients based on the results obtained. These findings underscore the importance of understanding the diverse factors affecting QoL in infertile patients in Iran, guiding the development of effective interventions to enhance their well-being. The objective of this research was to explore the quality of life among infertile women in Iran.

Methods

This systematic review answered the question of what is the quality of life of infertile people in Iran. This research was conducted following the guidelines set forth by the PRISMA framework.

Study Type and Search Strategy

Search terms and their synonyms were identified using the Medical Subject Headings (MeSH) system. This study used articles published in Noormags, Magiran, Sivilica, SID, Irandak and Proquest, Pubmed, Science Direct, and Web of Science databases between 2000 and August 2023. The selected strategy was searching for articles with Persian and English keywords and with the possible combination of critical and sensitive words. The search was done using the Persian and English keywords "quality of life" and "infertile," "infertility," "sterility," "reproductive sterility," "subfertility," and Iran by adding And and OR. Articles were collected and searched in August 2023 (Table 1).

Study Selection

Two authors of the study independently evaluated all articles. The full text or summary of all the articles obtained from the search was extracted. In the first stage, duplicate articles were removed. In the second stage, the researchers carefully reviewed the titles of the articles, and the articles that were not related to the research topic were removed. In the third stage, after reviewing the abstract, articles not related to the purpose of the study were removed. Finally, by reviewing the entire text of the articles, their quality was reviewed, and some articles were removed. Two researchers reviewed each of the articles separately to evaluate the quality of the articles. In this study, we utilized the STROBE checklist to evaluate the quality of articles. The STROBE (Strengthening the Reporting of Observational Studies in

Table 1: Research search strategy

#1	Infertility OR sterility OR reproductive sterility OR subfertility OR Infertile
#2	Quality of life OR health-related quality of life OR QOL OR HRQOL OR Life quality OR Quality of wellbeing OR QOLIE
#3	Iran
#1 AND #2 AND #3	

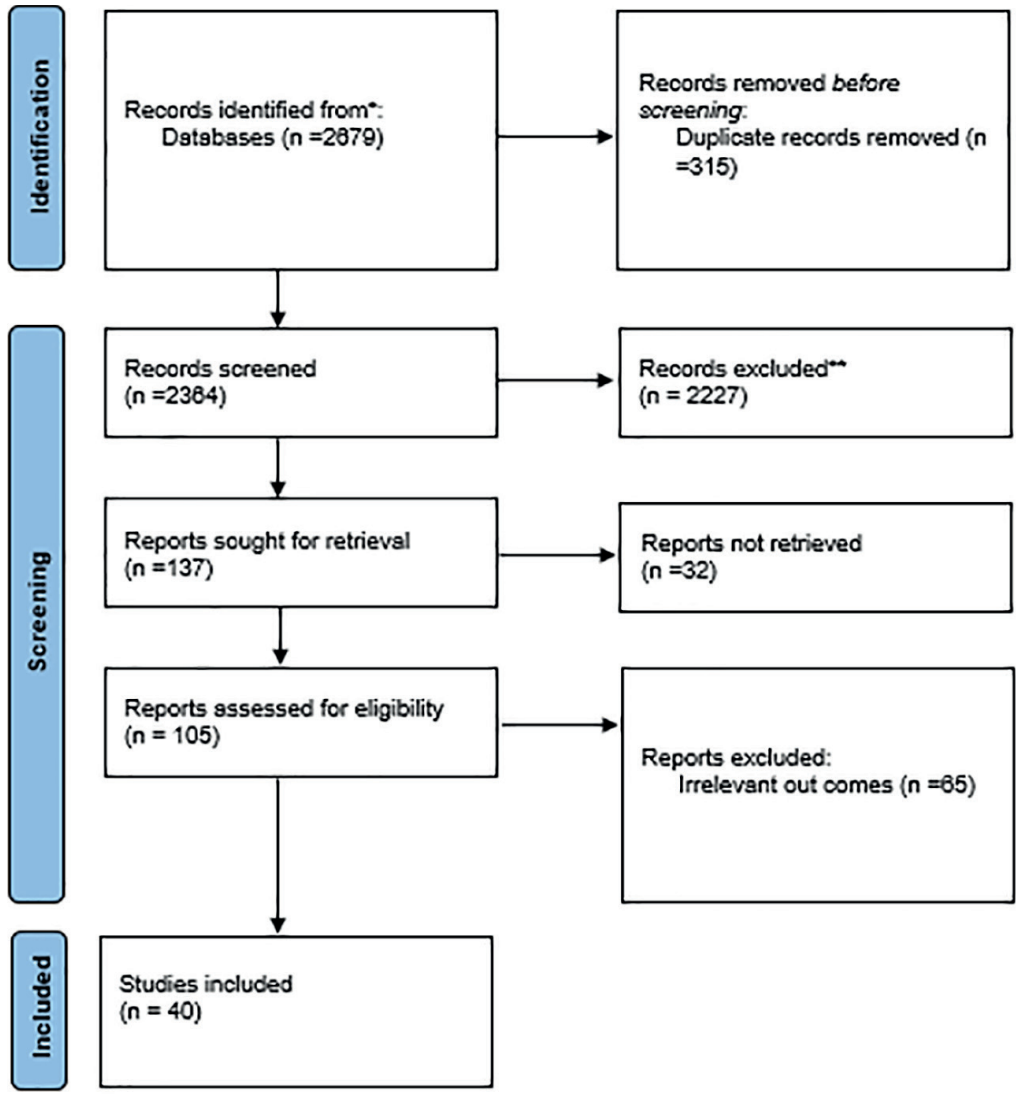

Figure 1: PRISMA flow diagram

Epidemiology) checklist comprises 22 essential items designed to enhance the reporting quality of studies, including cohort, case-control, and cross-sectional designs. A form was created as the first step to gather bibliographic information. The required information was then extracted based on the format specified in the form. The key points in the articles, such as the author's name, year of publication, sampling method and sample size, type of study, research tools, tests, results, and quality of life score, were extracted. The collection and extraction of articles were conducted using EndNote software. This process involved importing references from various sources, including PDFs and databases, into the EndNote library.

Inclusion Criteria

Only original articles conducted in Iran that assessed the quality of life of infertile women and were conducted between 2000 and August 2023 were included in the study.

Exclusion Criteria

Articles for which the full text was inaccessible were excluded from the study.

Statistical Analysis

The heterogeneity of the studies was examined using Cochrane's Q test and I2 statistics. The random effects model was used to synthesize studies that had heterogeneity (Cochrane's Q P<0.10 and I2>50%), and Egger's test was used for publication bias (18).

Results

The initial search led to finding 2679 articles. The duplicate articles (315 articles) were first removed. Then, the researchers carefully reviewed the titles of the articles, and articles unrelated to the study topic (2227 articles) were removed. In the third stage, by reviewing the abstracts of the articles, 32 articles unrelated to the purpose of the research were removed. Then, by examining the entire text, 59 articles were removed, and 46 were extracted. After examining the quality of the articles, six articles were removed due to poor quality and methodology, and the studies were reduced to 40 (Figure 1).

The total sample size of 40 studies was 10121 people. Among them, 1572 were males, and 8550 were females. Eight studies included males and females, and 32 focused only on females. Of these 40 studies, 28 used a convenience sampling method, 10 used a random sampling method, one used a continuous sampling method, and one used a stratified sampling method. Data were collected using different types of quality-of-life questionnaires. This article included 40 studies on quality of life (Table 2).

Table 2: Characteristics of articles included in the systematic review

Row	First Author	Publication year	Sample size	Study type	Sampling method	Research tools	Tests
1	Hamidreza Farrokh Eslamlou	2014	120 people (60 fertile women and 60 infertile women)	Cross-sectional	Convenience	1- A form for collecting demographic and social characteristics, body mass profile, and menstrual status -2- WHOQOLBREF quality of life standard questionnaire	t-test and chi-square test
2	Masoumeh Alizadeh	2018	275 people (130 infertile women and 145 fertile women)	Causal-comparative	Random	Demographic questions and WHOQOLBREF quality of life questionnaire	Descriptive statistics and inferential statistics of multivariate analysis of variance
3	Massoud Almasi	2015	200 women (100 fertile women and 100 infertile women)	Cross-sectional	Convenience	Quality of life and spiritual health questionnaire	t-test and Pearson correlation coefficient
4	Abbas Amanollahi Fard	1391	186 people (93 fertile women and 93 infertile women)	Cross-sectional	Convenience	Enrich Marital Satisfaction Questionnaire and Epstein Health, Improvement and Quality of Life Questionnaire (EHWQLQ)	Multivariate analysis of variance
5	Lewis Amanati	2009	147 Infertile woman	Cross-sectional	Continuous	Demographic characteristics questionnaire, quality of life questionnaire, and a questionnaire specific to infertility and irrational thoughts about having a child	Univariate analysis using t-tests, chi-square, one-way analysis of variance, and multivariate linear regression.

Row	First Author	Publication year	Sample size	Study type	Sampling method	Research tools	Tests
6	Ishagh Rahimian Boger	2015	221 Infertile woman	Cross-sectional	Convenience	Fertility quality of life (vertical), infertility self-efficacy scale (ISE), life orientation test (LOT-R), and a demographic questionnaire.	Multiple regression analysis
7	Razieh Sadat Hosseini	2015	190 infertile women	◦correlational and cross-sectional	Random	Spiritual health questionnaire and quality of life questionnaire	Kruskal-Wallis tests, analysis of variance, and chi-square
8	Azadeh Choob Froosh Zadeh	2011	214 Infertile woman	Quasi-experimental	Convenience	Questionnaire for general measurement of quality of life of World Health Organization and demographic characteristics questionnaire	Questionnaire for general measurement of quality of life of World Health Organization and demographic characteristics questionnaire
9	Nahid Abbasizadeh	2016	74 Infertile woman	Descriptive-correlational	Convenience	Questionnaire	Pearson correlation and multivariate regression
10	Seyed Narjes Zamani	2012	90 women (30 infertile, 30 women with repeated abortions, 30 fertile women)	Cross-sectional	Random	Depression and Quality of Life Questionnaire	Kolmogorov Smirnov and Shapiro-Wilk tests, one-way analysis of variance, and LSD post hoc test
11	Shahin Dokht Navabi Righi	2014	162 Infertile woman	Cross-sectional	Convenience	Quality of life questionnaire	Pearson correlation test
12	Halimeh Enayat	2021	400 infertile women	Cross-sectional	Random convenience	Standard questionnaire	Descriptive statistics and regression analysis
13	Ali Farnam	2019	120 women (60 infertile women, 60 fertile women)	Descriptive, causal-comparative type	Random convenience	Quality of life questionnaires, social welfare questionnaire	Variance analysis of multivariate advice
14	Azadeh Gaheri	2016	125 infertile women	Cross-sectional	Convenience	FertiQol quality of life questionnaire	Sub-regression test
15	Marjangoli	2012	137 Infertile women	Cross-sectional	Convenience	Questionnaire	Spearman and Pearson test
16	Shirin Moradi	2022	346 Infertile woman	Descriptive-correlational	Convenience	Connor and Davidson resilience questionnaire, psychological questionnaire, and infertility quality of life questionnaire	Descriptive statistics and multiple regression
17	Ashraf Dirkavand Moghadam	2014	225 fertile women and 225 infertile women	Case-control	Random	A researcher made a questionnaire and a quality of life questionnaire	Chi-square and t-test statistical tests
18	Tayebeh Mehrabi	2014	190 infertile women	Correlational and cross-sectional	Convenience	Spiritual Health Questionnaire (SWBS) and Quality of Life Questionnaire	Kruskal-Wallis tests, analysis of variance, and chi-square

Row	First Author	Publication year	Sample size	Study type	Sampling method	Research tools	Tests
19	Somayeh Momeni	2019	200 infertile couples	Cross-sectional	Convenience	Demographic questionnaire, quality of life questionnaire, and religious coping styles questionnaire	ANOVA, independent t-test, Pearson's correlation coefficient, and multivariate regression
20	Shahla Noorani	2011	200 people (100 fertile women and 100 infertile women)	Cross-sectional	Random	General health questionnaire (GHQ28) and quality of life	Chi-square, Mann-Whitney tests
21	Parisa Nilfrooshan	2007	79 people (44 infertile women and 35 fertile women)	Cross-sectional	Random	Quality of life, physical and mental health questionnaire	Descriptive statistics and MANOVA test
22	Mohammad Amiri	2017	511 infertile women and 1017 fertile women	Cross-sectional	Convenience	Quality of Life Questionnaire SF36	Analysis of variance and multiple regression
23	Bahia Namavar Jahromi,	2018	501 infertile couples	Cross-sectional	Random convenience	FertiQoL questionnaire	Independent t-test, Mann-Whitney, and one-sided ANOVA
24	Katayoun Bakhtiyar	2019	180 infertile women and 540 fertile women	Case-control	Stratified	Demographics and WHOQOL-BREF questionnaires	Multivariate marginal model
25	Zahra Beygi	2021	247 Infertile women	Cross-sectional	Convenience	DASS questionnaire, QOL questionnaire, and Religious well-being questionnaire	Pearson correlation test and correlation test
26	Tahmineh Dadkhahteh-rani	2018	200 infertile couples	Cross-sectional	Convenience	Brief RCOPE questionnaire, (SF-36 questionnaire, and a demographic questionnaire	ANOVA, independent t-test, and Pearson correlation coefficient.
27	Samereh Eghtedar	2021	131 infertile women and 79 infertile men	descriptive-correlational	Convenience	Spiner's Quality of Life and Marital Adjustment Questionnaire	regression
28	Zahra Fardiazar	2012	147 infertile women	Cross-sectional	Convenience	Quality of life questionnaire	Multivariate regression
29	Ghaheri, A	2015	155 infertile women	Cross-sectional	Convenience	FertiQoL questionnaire and quality of life questionnaire	Multiple linear regression analysis
30	Keramat, A.	2014	385 couples	Cross-sectional	Convenience	wHO-QoL-BREF and FertiQol questionnaires	multiple regression
31	Zahra Kiani	2022	320 infertile women	Cross-sectional	Convenience	Demographic, fertility, and QOL questionnaire	Descriptive statistics, correlation coefficient, independent sample t-test, and multiple linear regression
32	Saman Maroufizadeh	2021	180 infertile couples	Cross-sectional	Convenience	FertiQol questionnaire	Regression and t test
33	Saman Maroufizadeh	2018	180 infertile couples	Cross-sectional	Convenience	Quality of life questionnaire	Regression and t-test

Row	First Author	Publication year	Sample size	Study type	Sampling method	Research tools	Tests
34	Saeedian Marzieh	2017	324 infertile couples	Analytical	Convenience	Demographic questionnaire, WHOQOL-BREF questionnaire, and depression questionnaire	Descriptive statistics, t-test with independent samples, t-test, and multiple regression
35	Azam Namdar	2017	161 infertile women	Cross-sectional	Convenience	Demographic and General Health Questionnaire (GHQ28) and QOL Questionnaire	Independent t-test and ANOVA
36	Batool Rashidi	2008	1028 people (514 infertile women and 514 infertile men)	Cross-sectional	Convenience	SF-36 Short Form Health Questionnaire	Logistic regression - t-test and one-way analysis of variance (ANOVA)
37	Sani, Mahya Shamsi	2017	120, including 60 fertile women and 60 infertile women	Causal-comparative	Convenience	Quality of Life Questionnaire (WHOQOL-BREF), Scherer Self-Efficacy Questionnaire, and Connor and Davidson Resilience Questionnaire	Correlation test and regression analysis
38	Seyedeh Zahra Masoum	2016	250 infertile couples	Cross-sectional	Random	Quality of life questionnaire (WHOQOL-BREF)	Chi-square and Mann-Whitney tests
39	Mubina Suleiman	2023	340 infertile women	Cross-sectional	Convenience	FertiQoL questionnaire	Multivariate linear regression
40	Youseflu, Samaneh	2020	280 infertile women	Cross-sectional	Convenience	Socio-demographic checklist and SF-36 questionnaire	Regression – t-test

Table 3: Quality of life of infertile women compared to fertile women

Quality of life of fertile women		Quality of life of infertile women		The significant level of difference between the two groups in the quality of life	Study year	Sample size	Reference number
Mean score	SD	Mean score	SD				
60.5	6.04	50.5	6.54	0.05	2014	120 people (60 fertile women and 60 infertile women)	(9)
60.69	3.31	51.76	3.37	0.05	2018	275 people (130 infertile women and 145 fertile women)	(2)
87.32	24.43	74.5	11.47	0.002	2015	200 women (100 fertile women and 100 infertile women)	(19)
80.69	11.12	77.66	8.97	0.043	2012	186 people (93 fertile women and 93 infertile women)	(20)
54.67	7.02	41.23	7.05	0.001	2013	90 women (30 infertile, 30 women with repeated abortions, 30 fertile women)	(21)
84.25	11.30	69.73	9.18	0.001	2019	120 women (60 infertile women, 60 fertile women)	(22)
51.62	22.25	48.37	17.25	0.05	2014	225 fertile women and 225 infertile women	(12)
69.13	17.7	69.50	15.74	0.94	2012	200 people (100 fertile women and 100 infertile women)	(23)
69.60	10.51	61.93	12.45	0.06	2007	79 people (44 infertile women and 35 fertile women)	(24)
60.63	15.93	61.42	16.09	0.8	2017	511 infertile women and 1017 fertile women	(25)
80.2	8	73	8.54	0.001	2019	180 infertile women and 540 fertile women	(26)
86.62	11.16	79.13	10.82	0.0001	2017	120 people, including 60 fertile women and 60 infertile women	(27)
63.66	7.09	59.46	13.13	0.001	2016	125 fertile people and 125 infertile people	(15)

Based on Table 3, 13 studies compared the quality of life scores of fertile and infertile women. The highest quality of life score for fertile women is 87.32 in Ilam city, and the highest quality of life score for infertile women is 79.13 in Tehran. The lowest quality of life scores for fertile and infertile women are 23.62 and 51.62, respectively, in Shiraz city. In 11 studies, the difference between the two groups in the quality of life is significant (P≤0.05), and in two studies by Noorani and Amiri, the P value is>0.05.

Nine studies compared the quality of life scores of infertile women and infertile men. The highest quality of life score in the infertile women was 68.13 in Tehran city, and the highest quality of life score in the infertile men was 89.72 in Tehran city. The lowest quality of life score for infertile women was 50 in Hamadan city, and the lowest quality of life score for infertile men was 60.7 in Shiraz. In nine studies, the difference between the two groups in quality of life is significant (P≤0.05) (Table 4).

Based on Table 5, 18 studies reported the quality of life scores of infertile women. The highest quality of life score is 87.9 for infertile women in Isfahan, and the lowest quality of life score is 53.23 for infertile women in Shiraz (Table 5).

Based on Table 6, age (4, 5, 8, 11, 14, 36, 45), economic status (4, 8, 13, 36, 44, 45), education level (5, 11, 33, 34, 36, 44-46), physical health (8, 9, 12, 20, 24-26, 33, 37, 38, 47), mental health (2, 9, 19, 20, 25, 26, 33, 37, 41, 44), irrational thoughts, and the pressure of others to have children (13, 35), and the masculine factor (7, 14) affect the quality of life score of infertile people.

Table 4: Quality of life of infertile couples

Quality of life of fertile women		Quality of life of infertile men		The significant level of difference between the two groups in the quality of life	Study year	Sample size	Reference number
Mean score	SD	Mean score	SD				
66.6	17.7	73.5	15.7	0.0001	2020	200 infertile couples	(28)
56.4	15.7	60.7	14	0.036	2018	501 infertile couples	(14)
66.61	17.74	73.50	15.72	0.001	2018	200 infertile couples	(29)
58	9.9	71.3	12.1	0.05	2021	131 infertile women and 79 infertile men	(7)
50	11.9	64.6	8.75	0.05	2014	385 infertile couples	(30)
67.36	16.11	89.72	15.94	0.001	2018	180 infertile couples	(31)
67.4	16.1	72.9	15.9	0.001	2021	180 infertile couples	(32)
70.6	5.3	79.4	3.4	0.05	2017	324 infertile couples	(33)
68.13	18	72.68	20	0.05	2008	1028 people (514 infertile women and 514 infertile men)	(34)

Table 5: Quality of life of infertile women

Quality of life of infertile women		Study year	Sample size	Reference number
Mean score	SD			
83	1.62	2009	147	(35)
66.68	13.51	2015	221	(36)
87.9	12.4	2014	190	(37)
62.50	7.80	2011	214	(5)
76.16	26.48	2016	74	(1)
53.23	21.7	2016	162	(38)
60	10	2021	400	(8)
60	7	2016	125	(39)
48	1.7	2012	137	(13)
64.86	20.17	2022	346	(6)
87.9	10.38	2014	190	(40)
65.3	10.2	2021	247	(41)
59.4	10	2012	147	(42)
62	6	2015	155	(43)
65.68	8.91	2022	320	(4)
61.8	2.9	2017	161	(44)
76.6	10	2023	340	(11)
68	4.41	2020	280	(45)

Table 6: Variables affecting the quality of life of infertile women based on studies

Research variable	Results	Reference number
Woman's age	Age has a negative and significant relationship with the quality of life of infertile women. With increasing age, the quality of life is worsened	(4, 5, 8, 11, 14, 36, 45)
Economic status	The economic status of the family has a positive and significant relationship with the quality of life of infertile women. A better economic status leads to a better quality of life.	(4, 8, 13, 36, 44, 45)
Education	The level of education has a positive and significant relationship with the quality of life. With increasing the level of education, the quality of life of infertile people increases.	(5, 11, 33, 34, 36, 44-46)
Physical health	Physical health has a positive relationship with the quality of life. Infertility reduces the quality of life of infertile women	(8, 9, 12, 20, 24-26, 33, 37, 38, 47)
Mental health	Mental health has a positive relationship with the quality of life. Infertility reduces the mental health of infertile women	(2, 9, 19, 20, 25, 26, 33, 37, 41, 44)
Infertility with masculine factors	In infertility with masculine factor, the quality of life is higher than in infertility with feminine factor	(7, 14)

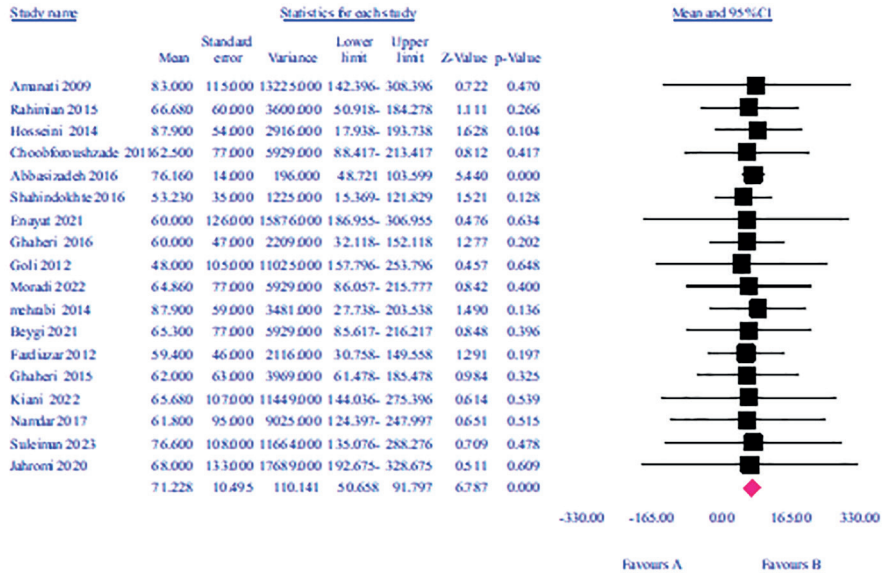

Figure 2: Meta-analysis of quality of life in infertile women using fixed effect model

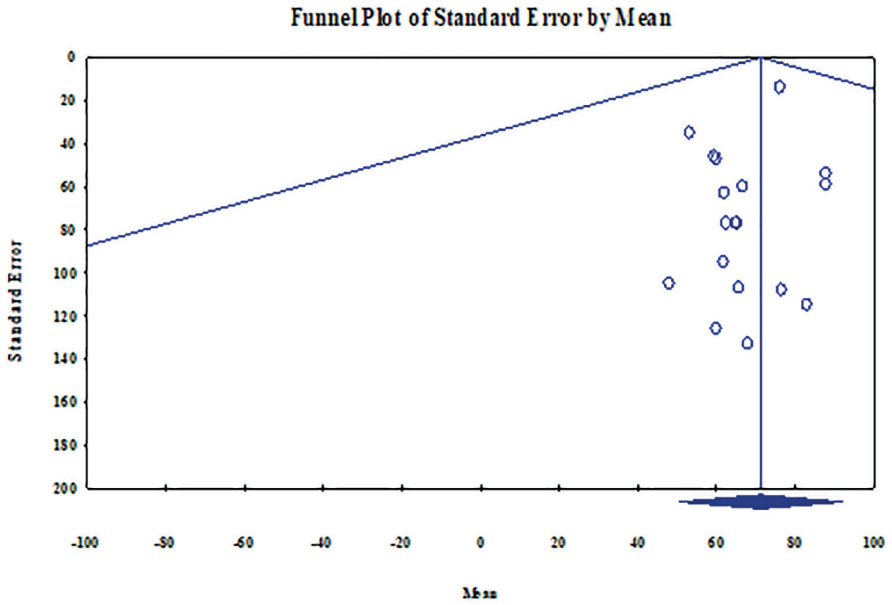

Figure 3: Egger's publication bias

Figure 2 shows the results of the meta-analysis using the fixed effect model. Based on this chart, the mean quality of life score in infertile women is 71.2 (with a 95% confidence interval, 50.6-91.7). The results of Figure 3 also show no publication bias in this study.

Discussion

Given the new population and family policies in Iran, it is crucial to pay attention to the infertility issue. Based on the systematic review, original studies have been conducted on the quality of life of infertile women in different regions of the country. Hence, it seemed necessary to integrate the information of these studies. The studies included in this systematic review are placed in three general categories. The first category is studies that assess the quality of life of two groups of fertile and infertile women. The second category is studies that assess the quality of life of infertile couples. The third category is studies that only assess the quality of life of infertile women.

The first category of studies indicated that the difference in the quality of life scores of fertile and infertile women is significant, and the quality of life of fertile women is higher than that of infertile women. The highest score for the quality of life of fertile women in this group of studies is 87.23, but the highest score for the quality of life in infertile women is 79.13. The difference in the quality of life of fertile and infertile women is also significant in different cultures. The results of their quality-of-life scores are consistent with the results of this study. Infertile women in Oman, China, and Canada have a lower quality of life compared to fertile women (48-50). The quality of life of infertile women in European countries is higher than that of infertile women in Asian countries, including Iran (51). The inability to have children imposes much stress on infertile women. It significantly affects the family and the patient's psyche and disrupts the mental health of the patient and his family members, leading to a reduced quality of life score (48).

The second category of studies indicated that infertility negatively affects the quality of life of couples. Couples have different quality of life scores. In other words, the quality of life of infertile men and infertile women is significantly different. The quality of life score of infertile women is lower than that of infertile men. A study by Liu in Iran, Pakistan, South Korea, China, and Germany showed that infertile men have a higher quality of life compared to infertile women. This issue is related to the higher social and medical pressures imposed on female patients. Infertile patients in Asia have a lower quality of life compared to infertile patients in Europe (52). A study by Almutawa reported that infertility significantly and negatively affects the quality of life of infertile women than infertile men since women experience anxiety and depression at higher rates than men do. Infertile women are also more influenced by their spouses, family, and society. Their infertility has a more negative psychological impact on their behavior than infertile men. Men have a much better quality of life score than women. Men and women deal with infertility in different ways. There is a direct association between having children and a woman's identity. Femininity and motherhood disrupt the quality of life in infertile women. Infertility treatment can often be a long process that negatively affects women's quality of life (49).

The third category of studies revealed that infertility reduces the quality of life score of infertile women. The meta-analysis of the quality of life score of infertile women indicated that the mean score of infertile women in Iran is 71.2. The study by Taebi et al. reported similar results to our study, as it showed that infertility affects various aspects of the quality of life and reduces the quality of life in infertile women because it requires long-term treatment. The quality of life is a feeling of well-being that results from satisfaction or dissatisfaction with life. Life crises such as infertility can affect people's well-being and enjoyment of life (53). Palomba et al. assessed the quality of life of infertile women and showed that infertility significantly reduces women's quality of life scores. Most women plan their fertility as carefully as they do in selecting a job, education, and lifestyle. They wait for an appropriate time to become a mother. Being a mother in the absence of these problems allows women to reach the position of adulthood, social identity, fulfilling gender roles, and complete marriage. However, the inability to fulfill these social expectations can be a source of stress and pressure, leading to reduced quality of life (54).

Generally, these studies revealed that the quality of life of infertile women is lower than that of fertile women (2, 9) and infertile men have a higher quality of life score than infertile women (7, 28). Infertility also negatively affects the quality of life of infertile women(35, 45). Infertile women are in a difficult situation psychologically, have less satisfaction with their, and are more prone to mental illnesses such as depression and anxiety (21, 24). Stress and depression reduce their quality of life (44). These results regarding the reduced

quality of life of infertile women are in line with the results of other studies in other countries. Social and cultural pressure and the pressure of others to have children affect the quality of life of infertile women. Couples who have a strong need to become parents, reject life without children, and believe that having children is essential for happiness experience a low quality of life (13, 35).

Highly educated infertile couples feel that they can solve this problem together. Additionally, they use better problem-solving skills, learn how to cope with daily stressors and have a better quality of life score(36, 50). The age and infertility duration also affect the quality of life of infertile women. The quality of life of infertile women decreases as age and infertility duration increase. Infertility treatment requires frequent visits to the physician and using various medicines, which impose great economic burdens and affect the health of people and their quality of life. The high income of infertile women positively impacts their quality of life (11, 40).

The main strengths of this study lie in its extensive range of included research and its large participant population. Furthermore, the studies analyzed are of high quality. However, there are some limitations to consider. Firstly, the results may be biased due to the use of various research instruments for assessing quality of life. Secondly, this article only examined literature published in Persian and English, excluding non-Persian and non-English sources.

Suggestions Related to the Results of this Study

Future research should focus on examining the quality of life of infertile women globally, taking into account various cultural contexts. The World Health Organization (WHO) has reported that approximately **1 in 6 people** worldwide experience infertility, highlighting its prevalence across different regions and income levels. This underscores the need for comprehensive studies that explore how cultural factors influence the experiences and quality of life of infertile women. Such research could provide valuable insights into these women's psychological, social, and economic challenges in diverse settings. It is essential to understand that infertility is not just a medical issue but also a significant public health concern that can lead to mental health issues, stigma, and social isolation. By investigating these aspects on a global scale, future studies can contribute to developing targeted interventions and support systems that address the unique needs of infertile women across different cultures.

Conclusion

This research focused on assessing the quality of life among individuals facing infertility in Iran. The results indicate that infertility significantly detrimentally impacts quality of life, particularly for women who encounter numerous psychological and social challenges. Generally, infertile women report a lower quality of life compared to their fertile counterparts, with factors such as educational attainment, social support, and attitudes toward infertility playing a crucial role. The findings of this study can assist psychological specialists in enhancing the quality of life for infertile patients by developing educational programs tailored to their specific needs. By focusing on the unique challenges faced by these individuals, such as psychological stress and social pressures, healthcare providers can create targeted interventions that address their emotional and informational requirements. This approach is crucial for fostering a supportive environment that empowers patients and helps them navigate their infertility journey more effectively.

Authors' Contribution

All authors have contributed equally to writing and revising the draft.

Ethical Approval

This project has meticulously observed all ethical considerations, ensuring that the research adheres to established ethical standards. Additionally, all data sourced from other articles has been properly referenced. This commitment to ethical practices and proper citation underscores the research's credibility and respects previous scholars' contributions in the field.

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Conflict of Interest

There are no conflicts of interest.

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