RESEARCH ARTICLE

Assess the Quality of Life and Emotional Distress among Infertile Women in a Tertiary Care Center

Deeksha Yadav[1], Sudha Mishra[2], Anjoo Agrawal[3]

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Abstract

Background: Infertility is a major life crisis that causes serious mental health problems and stressful experiences for infertile couples.

Aim: This study aimed to assess the quality of life (QOL) and emotional distress of infertile women and determine the correlation between them and their association with variables.

Materials and methods: A cross-sectional study was conducted on 115 subjects diagnosed with infertility who were attending the infertility clinic of the Department of Obstetrics and Gynecology of a tertiary care teaching center in North India. QOL and emotional distress were assessed with the fertility of QOL (FertiQOL) and depression, anxiety, and stress (DASS) scale 42 questionnaires. Sociodemographic and clinical details were also obtained from the infertile women by using a semistructured sociodemographic pro forma.

Result: Most of the infertile women reported poor QOL and severe emotional distress, with a mean FertiQOL score of 45.42 (15.59) and a mean DASS score of 78 (13). QOL was negatively correlated with emotional distress. Sociodemographic and clinical variables were significantly associated with QOL and emotional distress.

Conclusion: The finding of this study revealed that infertile women had significantly poor QOL as well as severe emotional distress. There is a need to incorporate psychological interventions into routine practice at infertility clinics, which is beneficial. However, it is clear that psychological interventions and counseling by liaison nurses for women with infertility have the potential to decrease anxiety and depression and may well lead to significantly higher pregnancy rates.

Keywords: Emotional distress, Infertility, Quality of life, Women.

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Introduction

Pregnancy and childbearing are precious roles for women in several developed and developing countries. The World Health Organization defines infertility as a disease defined by the failure to conceive a pregnancy after 12 months or more of regular use of unprotected sexual intercourse. Primary infertility is defined as infertility in women who have never conceived. Secondary infertility is infertility in women who have conceived at least once before. According to the World Health Organization (2020), 15% of reproductive-aged couples are having infertility worldwide. In developing countries, 186 million constantly married women of reproductive age were pursuing a "child wish." The gross frequency of primary infertility in India is between 3.9 and 16.8% approximately.[1] In India, the prevalence of infertility varies from state to state, such as 3.7% in Uttar Pradesh. Around 60% of infertile individuals reported psychiatric symptoms with significantly higher levels of anxiety and depression than fertile women.[2] As the Center for Disease Control 2013 and the Office on Women's Health 2019 report 9% of men aged 15–44 and 10% of women in the same age-group, infertility is nearly as common in men. As per Fertility Answer 2020, 30% of infertility cases can be attributed solely to the female, 30% can be attributed solely to the male, and 10% of cases have an unknown cause. The American College of Obstetricians and Gynecologists recommends an infertility estimation after 6 months of trying to conceive.[3]

Infertility can cause stress, anxiety, depression, low self-esteem, decreased sexual satisfaction, and decreased quality of life (QOL). There are a few studies on the QOL among infertile women in Korea using descriptive and cross-sectional methods, in which there is a lack of comparison groups to analyze the effect of infertility on different aspects of life.[4] The result of psychosocial issues affects the female gender more severely than the male, especially in societies where there are prejudices against women.[5] A somewhat related study shows that less frequency of anxiety was observed, and the QOL measurement questionnaire reveals infertility treatment in itself as a stressful situation that hampers the QOL.[6] It is concluded by many researchers that infertility is the most disorganized experience in a woman's life.[7] After assessing the QOL and emotional distress of infertile women, this study

[1,2]KGMU College of Nursing, King George's Medical University, Lucknow, Uttar Pradesh, India

[3]Department of Obstetrics and Gynaecology, King George's Medical University, Lucknow, Uttar Pradesh, India

Corresponding Author: Sudha Mishra, KGMU College of Nursing, King George's Medical University, Lucknow, Uttar Pradesh, India, Phone: +91 9129828666, e-mail: sudha13pandey@gmail.com

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will help to identify the needs, screen the problems and issues faced by infertile women, and then provide supportive therapy and seek treatment in an infertility clinic. This study aims to evaluate the anxiety and depression that women might experience due to infertility and the extent to which it affects their QOL.

Materials and Methods

A cross-sectional study was conducted on 115 subjects diagnosed with infertility who were attending the infertility clinic's Department of Obstetrics and Gynecology of a tertiary care center in North India on weekdays, presenting with a diagnosis of infertility and were identified for inclusion criteria—infertile women between the ages of 20 and 50, women willing to participate in the study, and women with both primary and secondary infertility. The study excluded women with a history of psychiatric illness or those suffering from severe physical or chronic disease using a purposive sampling technique. Written informed consent was obtained from the study sample.

Assessment Instruments

Semistructured Pro Forma

It was developed by the researcher, including the sociodemographic and clinical variables of the participants. Age-group, domicile, education, occupation, the income of husband or wife, age of menarche, duration of the marriage, appetite history, relationship with her spouse, any recreational activity, infertility type, causes of infertility, number of attempts for conception, symptoms of infertility, and type of investigation.

Fertility of Quality of Life

It is the first internationally validated self-report questionnaire that can be considered a tool to assess the QOL of an individual with infertility. It takes approximately 10–15 minutes to complete. In 2002, the European Society of Human Reproduction and Embryology, the American Society for Reproductive Medicine, and Merck Serono, an affiliate of Merck KGaA, (Darmstadt, Germany) questionnaire includes 36 items, and is divided into four domains and nine dimensions. An optional treatment module of 10 questions is also available.[8]

The Depression Anxiety and Stress Scale 42 Questionnaire

This tool is administered to assess the emotional distress of the participants. The depression, anxiety, and stress (DASS) is a 42-item self-reported instrument designed to measure the three related negative emotional states of depression, anxiety, and stress, which was invented by Lovibond and Lovibond.[9,10]

Data Analysis

A total of 150 infertile women were screened at an infertility clinic from April to May 2022; some were excluded due to specific reasons, and the final 115 infertile women were included in the analysis. Statistical analysis was done using a Statistical Package for the Social Sciences (version 16.0). In this study, descriptive and inferential statistics will be used. These include mean, standard deviation, Chi-square, and correlation coefficient. Descriptive statistics were used to calculate the mean, standard deviation, range, and frequency of sociodemographic and clinical variables. Inferential statistics were used to calculate Karl Pearson's correlation coefficient, which was used to identify the association between QOL and emotional distress in infertile women, and the Chi-squared test was used to identify associations between research variables and selected demographical variables and clinical variables (Flowchart 1).

Result

Demographic Characteristics and Clinical Variables

A total of 150 infertile women were screened, of which 115 were included in the study (Flowchart 1). The maximum number of subjects were aged 20–29 years old (68.7%). Most subjects, 61 (53.0%), belonged to urban areas. Most of the 48 (41.7%) were married for >36 months. The majority of subjects (73.0%) had a good appetite. Most subjects, 59 (51.3%) had cooperative spouses. The maximum number of subjects, 82 (71.3%), were engaged in recreational activities. Most of the women, 78 (67.8%) had primary infertility. The main cause of infertility was female factors 67 (58.3%). The majority of women were attempting conception for 15 months (47.0%), 34.6% had heavy or painful periods, while the rest, 30 (26.1%) had mood swings, 26 (22.6%) had irregular periods, 25 (21.7%) had sleep disturbance, and in women aged 69 (60.0%) had ultrasonography (Tables 1 and 2).

FertiQOL and DASS 42 Questionnaire Characteristics

Overall, 76 (66.1%) had a poor FertiQOL score. The DASS score reveals that a maximum of 79 women (68.70%) had severe emotional distress. The total mean of the FertiQOL score was (45.42), and the mean of the DASS 42 score was (78.13) (Tables 3 to 6).

Correlation between FertiQOL and the DASS 42 Questionnaire

There is a significant but negative correlation found between the relational domains of QOL and depression, anxiety, and stress, with $p > 0.05$ level of significance (Table 7).

Association between FertiQOL and DASS 42 Questionnaire with Sociodemographic and Clinical Variables

There is a significant association found between QOL and age, occupation, and relation with the spouse at $p < 0.05$. A significant association was found between depression and occupation, income, duration of the marriage, infertility type, and length of attempted conception as $p < 0.05$. A significant association was found between anxiety and education, occupation, duration of marriage, appetite, and length of attempted conception as $p < 0.05$. Significant associations were found between stress and education, occupation, age of menarche, and length of attempted conception as $p < 0.05$ (Tables 8 to 11).

Flowchart 1: Flowchart for enrollment of subjects, infertile women

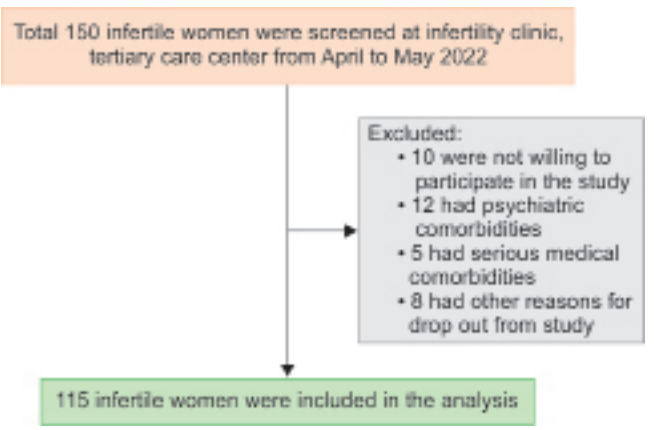

Table 1: Frequency and percentage distribution of infertility women based on their sociodemographic and clinical variables; *n* = 115

Sociodemographic variables	*Categories*	*Frequency*	*Percentage*
Age in years	20–29 years	79	68.7%
	30–39 years	36	31.3%
Domicile	Rural	54	47.0%
	Urban	61	53.0%
Education	Primary	9	7.8%
	Middle	60	52.2%
	Senior	34	29.6%
	College/university	12	10.4%
Occupation	Government job	4	3.5%
	Housewife	84	73.0%
	Daily wages	27	23.5%
Income	11,000–20,000	29	25.2%
	21,000–30,000	62	53.9%
	31,000 and above	24	20.9%
Age of menarche	10–12	89	77.4%
	13–15	25	21.7%
	16–18	1	0.9%
Duration of marriage	12–18 months	20	17.4%
	24 months	47	40.9%
	>36 months	48	41.7%
Appetite	Poor	27	23.5%
	Good	84	73.0%
	Excellent	4	3.5%
Relationship with her spouse	Cooperative	59	51.3%
	Uncooperative	56	48.7%
Any recreational/diversional activity	Yes	82	71.3%
	No	33	28.7%

Table 2: Frequency and percentage distribution of infertility women based on their clinical variables

Clinical variables	*Categories*	*Frequency*	*Percentage*
Infertility type	Primary	78	67.8%
	Secondary	37	32.2%
Causes of infertility	Male factor	18	15.7%
	Female factor	67	58.3%
	Both male and female factors	30	26.1%
For how long you are attempting to conception	12 months	30	26.1%
	15 months	54	47.0%
	24 months	23	20.0%
	36 months	8	7.0%
Presence of symptoms in infertility	Heavy or painful periods	34	29.6%
	Irregular periods	26	22.6%
	Mood swings	30	26.1%
	Sleep disturbance	25	21.7%
Type of investigation	Ultrasonography	69	60.0%
	Semen analysis	46	40.0%

Discussion

This study aimed to assess the QOL, emotional distress, and correlation among infertile women. We can say that infertility may have profound psychological effects. In many cultures, the inability to conceive bears a stigma. But today, science has made it possible to treat almost all causes of infertility. As per hospital data, approximately 200 infertile women come per month to the tertiary center, so as nurses, we can play an active role in it by counseling the couple.

About the sociodemographic profile of infertile women, the present study shows that most of the women were in the age-group

Table 3: Frequency and percentage distribution based on quality of life among infertile women; *n* = 115

Domains of FertiQOL scoring		*Frequency*	*Percentage*
Emotional category	Average	28	24.3%
	Good	4	3.5%
	Poor	71	61.7%
	Very poor	12	10.4%
Mind/body category	Average	10	8.7%
	Good	21	18.3%
	Poor	5	4.3%
	Very poor	79	68.7%
Relational category	Average	47	40.9%
	Poor	68	59.1%
Social category	Average	18	15.7%
	Good	13	11.3%
	Poor	70	60.9%
	Very poor	14	12.2%
Environment category	Average	55	47.8%
	Poor	60	52.2%
Tolerability category	Average	15	13.0%
	Good	16	13.9%
	Poor	46	40.0%
	Very poor	38	33.0%
Total score category	Average	26	22.6%
	Good	5	4.3%
	Poor	76	66.1%
	Very poor	8	7.0%
Total treatment score category	Average	20	17.4%
	Good	13	11.3%
	Poor	72	62.6%
	Very poor	10	8.7%
Total FertiQOL score category	Average	23	20.0%
	Good	9	7.8%
	Poor	76	66.1%
	Very poor	7	6.1%

*FertiQOL, fertility quality of life

of 20–29 years 79 (68.7%), and a higher percentage of 84 (73.0%) were housewives, and 54 (47.0%) belong to rural, a different study was done shows that (69.1%) were housewife and 23 (15.8%) were from rural areas.[11] Most of the women 78 (67.8%) from primary infertility and 67 (58.3%) female factor was the main common cause of infertility. A similar study done by Lasuh et al. found a higher percentage of 47.1% of women with primary infertility.[12] A cross-sectional study was done by Ogawa et al. where the female factor was the common cause of infertility (44.3%).[13]

Quality of Life and Emotional Distress among Infertile Women

The finding of this study shows that the majority of infertile women were poor QOL, with a mean score (45.42). This finding is different from other studies that had the FertiQOL mean score (53.3).[14] The DASS score reveals that most women had severe emotional distress. The mean score for depression and stress had higher scores than anxiety. The total mean score of DASS was 78. Another study done by Pinar and Zeyneloglu reveals that most women had mild anxiety (62.5%) which is different from this study.[15] Another study done by Huppelschoten et al. reveals that anxiety and depression can negatively influence the QOL of infertile women.[16] This means that most of the women had suffered from severe depression and stress but mild anxiety, above findings, show that the level of emotional distress is high which directly affects the QOL of infertile women.

Correlation between Quality of Life and Emotional Distress among Infertile Women

The most important finding of this study is that a negative correlation was found between the relational domain of QOL with emotional distress. A similar study shows that a negative relationship between psychological distress and FertiQOL was found.[17] A different study shows that there was a different correlation between FertiQOL and Screening on distress in fertility treatment (SREENIVF) scores for women.[16]

Association between Research Variables with Selected Demographic and Clinical Variables

The present study found no significant difference between the duration of infertility and QOL scores. A similar study shows that

Table 4: Frequency and percentage distribution based on emotional distress among infertile women

DASS 42 domains scoring		*Frequency*	*Percentage*
Depression	Normal	1	0.90%
	Mild	1	0.90%
	Moderate	6	5.20%
	Severe	35	30.40%
	Very severe	72	62.60%
Anxiety	Normal	2	1.70%
	Mild	0	0.0%
	Moderate	2	1.70%
	Severe	16	13.90%
	Very severe	95	82.60%
Stress	Normal	1	0.90%
	Mild	2	1.70%
	Moderate	38	33.00%
	Severe	68	59.10%
	Very severe	6	5.20%
DASS total category	Normal	1	0.90%
	Mild	2	1.70%
	Moderate	33	28.70%
	Severe	79	68.70%

DASS, depression, anxiety, and stress scale

Table 5: Score profile of FertiQOL in infertile women with domain score

FertiQOL domains	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
Emotional	45.87	17.23	12.50	79.20
Mind/body	35.33	28.89	4.20	95.80
Relational	51.27	7.59	33.30	70.80
Social	44.86	18.98	12.50	83.30
Environment	51.75	10.07	29.20	70.80
Tolerability	42.47	27.35	0.00	100.00
Total FertiQOL score	45.42	15.59	23.50	78.70

FertiQOL, fertility quality of life

Table 6: Score profile of the emotional distress in infertile women with domain score

DASS 42 domains	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
Depression	28	5	5	36
Anxiety	23	5	7	33
Stress	27	4	9	36
DASS total	78	13	21	100

DASS, depression, anxiety, and stress scale

there is no association between QOL and the duration of infertility.[18] In the present study, there was no association between depression and education, domicile, and other variables. The same findings were consistent with Sultan's other study, which found no significant association between domicile and depression levels ($p = 0.35$).[19]

The present study reveals a significant association between income and depression. No research has found a significant association between income and depression. In the present study, a significant association was found between anxiety and education, occupation, duration of the marriage, appetite, and length of attempt for conception. A present study found that new findings were present, there is no research related to any association between anxiety and education, occupation, duration of the marriage, appetite, and length of attempt for conception.

Limitations

This study has several limitations. The study was only for a short period and had a limited number of participants. Only infertile women were included in this study to assess their QOL and emotional distress.[20] The study was conducted in a single setting.

Implications

Infertility is an important health problem that is prevalent all over the world and can harm various aspects of life. Developing a

Table 7: Correlation (Pearson's correlation, *r*) between the QOL within their domains and emotional distress among infertile women

Variables		*Emotional*	*Mind/body*	*Relational*	*Social*	*Environment*	*Tolerability*	*Total FertiQOL score*
Depression	*R*	0.096	0.063	−0.252	0.071	0.085	0.065	0.056
	p-value	0.308	0.502	0.007*	0.451	0.369	0.490	0.552
Anxiety	*R*	−0.080	−0.129	−0.192	-0.127	-0.077	−0.113	−0.134
	p-value	0.393	0.171	0.040*	0.176	0.413	0.228	0.154
Stress	*R*	−0.059	-0.053	−0.195	-0.071	-0.056	−0.058	-0.079
	p-value	0.530	0.574	0.037*	0.451	0.550	0.536	0.399
DASS total	*R*	−0.013	−0.042	−0.233	−0.044	−0.015	−0.037	−0.055
	p-value	0.892	0.658	0.012*	0.641	0.874	0.695	0.559

DASS, depression, anxiety, and stress scale; FertiQOL, fertility quality of life; *$p < 0.05$ level of significance;

Table 8: Association of quality of life with selected sociodemographic and clinical variables among infertile women; $n = 115$

Sociodemographic variables	*Categories*	*Good f/%*	*Average f/%*	*Poor f/%*	*Very poor f/%*	*Chi-square*	*Degree of freedom (df)*	*p-value*
Age	20–29 years	9 (100.0)	16 (69.6)	50 (65.8)	4 (57.1)	16.922	6	0.010*
	30–39 years	0 (0.0)	7 (30.4)	26 (34.2)	3 (42.9)			
Domicile	Rural	3 (33.3)	14 (60.9)	34 (44.7)	3 (42.9)	5.641	2	0.060
	Urban	6 (66.7)	9 (39.1)	42 (55.3)	4 (57.1)			
Education	Primary	1 (11.1)	2 (8.7)	6 (7.9)	0 (0.0)	1.314	3	0.726
	Middle	3 (33.3)	11 (47.8)	40 (52.6)	6 (85.7)			
	Senior	4 (44.4)	5 (21.7)	24 (31.6)	1 (14.3)			
	College/university	1 (11.1)	5 (21.7)	6 (7.9)	0 (0.0)			
Occupation	Government job	0 (0.0)	1 (4.3)	3 (3.9)	0 (0.0)	16.087	4	0.003*
	Housewife	8 (88.9)	18 (78.3)	52 (68.4)	6 (85.7)			
Income	Daily wages	1 (11.1)	4 (17.4)	21 (27.6)	1 (14.3)			
	11,000–20,000	2 (22.2)	8 (34.8)	17 (22.4)	2 (28.6)	1.058	6	0.983
	21,000–30,000	4 (44.4)	11 (47.8)	43 (56.6)	4 (57.1)			
	31,000 and above	3 (33.3)	4 (17.4)	16 (21.1)	1 (14.3)			
Age of menarche	10–12 years	8 (88.9)	16 (69.6)	59 (77.6)	6 (85.7)	8.109	9	0.523
	13–15 years	1 (11.1)	7 (30.4)	16 (21.1)	1 (14.3)			
	16–18 years	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)			
Duration of marriage	12–18 months	2 (22.2)	7 (30.4)	9 (11.8)	2 (28.6)	9.470	9	0.395
	24 months	4 (44.4)	9 (39.1)	31 (40.8)	3 (42.9)			
	>36 months	3 (33.3)	7 (30.4)	36 (47.4)	2 (28.6)			
Appetite	Poor	1 (11.1)	5 (21.7)	21 (27.6)	0 (0.0)	2.737	3	0.434
	Good	8 (88.9)	16 (69.6)	53 (69.7)	7 (100.0)			
	Excellent	0 (0.0)	2 (8.7)	2 (2.6)	0 (0.0)			
Relationship with her spouse	Cooperative	3 (33.3)	10 (43.5)	42 (55.3)	4 (57.1)	18.128	8	0.020*
	Uncooperative	6 (66.7)	13 (56.5)	34 (44.7)	3 (42.9)			
Any recreational/ diversional activity	Yes	7 (77.8)	15 (65.2)	54 (71.1)	6 (85.7)	1.314	3	0.725
	No	2 (22.2)	8 (34.8)	22 (28.9)	1 (14.3)			
				Clinical variables				
Variables	*Categories*	*Good f/%*	*Average f/%*	*Poor f/%*	*Very poor f/%*	*Chi-square*	*df*	*p-value*
Infertility type	Primary	8 (88.9)	15 (65.2)	50 (65.8)	5 (71.4)	5.754	6	0.451
	Secondary	1 (11.1)	8 (34.8)	26 (34.2)	2 (28.6)			
Causes of infertility	Male factor	1 (11.1)	3 (13.0)	11 (14.5)	3 (42.9)	7.363	6	0.288
	Female factor	5 (55.6)	15 (65.2)	43 (56.6)	4 (57.1)			
	Both male and female factors	3 (33.3)	5 (21.7)	22 (28.9)	0 (0.0)			

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Sociodemographic variables	*Categories*	*Good f/%*	*Average f/%*	*Poor f/%*	*Very poor f/%*	*Chi-square*	*Degree of freedom (df)*	*p-value*
For how long you are attempting for conception	12 months	2 (22.2)	8 (34.8)	18 (23.7)	2 (28.6)	9.470	9	0.395
	15 months	5 (55.6)	8 (34.8)	39 (51.3)	2 (28.6)			
	24months	2 (22.2)	7 (30.4)	12 (15.8)	2 (28.6)			
	36 months	0 (0.0)	0 (0.0)	7 (9.2)	1 (14.3)			
Presence of symptoms in infertility	Heavy or painful periods	2 (22.2)	4 (17.4)	25 (32.9)	3 (42.9)	3.832	6	0.699
	Irregular periods	3 (33.3)	9 (39.1)	14 (18.4)	0 (0.0)			
	Mood swings	1 (11.1)	5 (21.7)	22 (28.9)	2 (28.6)			
	Sleep disturbance	3 (33.3)	5 (21.7)	15 (19.7)	2 (28.6)			
Type of investigation	Ultrasonography	7 (77.8)	12 (52.2)	47 (61.8)	3 (42.9)	2.573	4	0.632
	Semen analysis	2 (22.2)	11 (47.8)	29 (38.2)	4 (57.1)			

*$p < 0.05$ level of significance; FertiQOL, fertility quality of life

Table 9: Association of emotional distress with selected demographic and clinical variables among infertile women; $n = 115$

		Depression							
Demographic variables	*Category*	*Normal f/%*	*Mild f/%*	*Moderate f/%*	*Severe f/%*	*Very severe f/%*	*Chi-square*	*df*	*p-value*
Age	0 (0)	1 (100)	3 (50)	22 (63)	53 (74)	4.989	4	0.288	0 (0)
	1 (100)	0 (0)	3 (50)	13 (37)					1 (100)
Domicile	0 (0)	0 (0)	3 (50)	16 (46)	35 (49)	1.894	4	0.755	0 (0)
	1 (100)	1 (100)	3 (50)	19 (54)	37 (51)				1 (100)
Education	0 (0)	0 (0)	0 (0)	2 (6)	7 (10)	19.481	12	0.078	0 (0)
	0 (0)	0 (0)	2 (33)	14 (40)	44 (60)				0 (0)
	0 (0)	1 (100)	3 (50)	14 (40)	16 (22)				0 (0)
	1 (100)	0 (0)	1 (17)	5 (14)	5 (7)				1 (100)
Occupation	1 (100)	0 (0)	0 (0)	1 (3)	2 (3)	31.429	8	0.000*	1 (100)
	0 (0)	1 (100)	6 (100)	27 (77)	50(69)				0 (0)
	0 (0)	0 (0)	0 (0)	7 (20)	20 (28)				0 (0)
Income	0 (0)	0 (0)	2 (33)	15 (43)	12 (17)	21.339	8	0.006*	0 (0)
	0 (0)	1 (100)	4 (67)	19 (54)	38 (53)				0 (0)
	1 (100)	0 (0)	0 (0)	1 (3)	22 (31)				1 (100)
Age of menarche	1 (100)	1 (100)	5 (83)	31 (89)	51 (71)	5.147	8	0.742	1 (100)
	0 (0)	0 (0)	1 (17)	4 (11)	20 (28)				0 (0)
	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)				0 (0)
Duration of marriage	0 (0)	0 (0)	0 (0)	15 (43)	5 (7)	28.85	8	0.000*	0 (0)
	0 (0)	0 (0)	1 (17)	11 (31)	35 (49)				0 (0)
	1 (100)	1 (100)	5 (83)	9 (326)	32 (44)				1 (100)
	0 (0)	0 (0)	1 (17)	8 (23)	18 (25)	1.853	8	0.985	0 (0)
	1 (100)	1 (100)	5 (83)	25 (71)	52 (72)				1 (100)
	0 (0)	0 (0)	0 (0)	2 (6)	2 (3)				0 (0)
Relationship with her spouse	1 (100)	1 (100)	4 (67)	20 (57)	33 (46)	3.805	4	0.433	1 (100)
	0 (0)	0 (0)	2 (33)	15 (43)	39 (54)				0 (0)
Any recreational/ diversional activity	1 (100)	1 (100)	3 (50)	30 (86)	47 (65)	6.966	4	0.138	1 (100)
	0 (0)	0 (0)	3 (50)	5 (14)	25 (35)				0 (0)
		Clinical variables							
Variables	*Categories*	*Normal f/%*	*Mild f/%*	*Moderate f/%*	*Severe f/%*	*Very severe f/%*	*Chi-square*	*df*	*p-value*
Infertility type	Primary	1 (100)	0 (0)	2 (33)	20 (57)	55 (76)	10.103	4	0.039*
	Secondary	0 (0)	1 (100)	4 (67)	15 (43)	17 (24)			

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Causes of infertility	Male factor	0 (0)	0 (0)	0 (0)	8 (23)	10 (14)	10.415	8	0.520
	Female factor	0 (0)	0 (0)	3 (50)	21 (60)	43 (60)			
	Both male and female	1 (100)	1 (100)	3 (50)	6 (17)	19 (26)			
For how long you attempting for conception	12 months	0 (0)	0 (0)	0 (0)	5 (14)	25 (35)	41.803	12	0.000*
	15 months	0 (0)	0 (0)	4 (67)	15 (43)	35 (49)			
	24 months	0 (0)	0 (0)	1 (17)	13 (37)	9 (13)			
	36 months	1 (100)	1 (100)	1 (17)	2 (6)	3 (4)			
Presence of symptoms in infertility	Heavy periods	0 (0)	1 (100)	2 (33)	8 (23)	23 (32)	11.11	12	0.543
	Irregular periods	0 (0)	0 (0)	0 (0)	11 (31)	15 (21)			
	Mood swings	1 (100)	0 (0)	2 (33)	11 (31)	16 (22)			
	Sleep disturbance	0 (0)	0 (0)	2 (33)	5 (14)	18 (25)			
Type of investigation	Ultrasonography	0 (0)	0 (0)	1 (17)	22 (63)	46 (64)	8.267	4	0.082
	Semen analysis	1 (100)	1 (100)	5 (83)	13 (37)	26 (36)			

*$p < 0.05$ level of significance

Table 10: Association of anxiety with selected sociodemographic and clinical variables among infertile women; $n = 115$

		Anxiety							
Sociodemographic variables	*Categories*	*Normal f/%*	*Mild f/%*	*Moderate f/%*	*Severe f/%*	Very severe f/%	*Chi-square*	*df*	*p-value*
Age	20–29 years	1 (50)	0 (0)	2 (100)	7 (44)	69 (73)	6.551	3	0.888
	30–39 years	1 (50)	0 (0)	0 (0)	9 (56)	26 (27)			
Domicile	Rural	0 (0)	0 (0)	0 (0)	7 (44)	47 (49)	3.849	3	0.278
	Urban	2 (100)	0 (0)	2 (100)	9 (56)	48 (51)			
Education	Primary	0 (0)	0 (0)	0 (0)	1 (6)	8 (80)	27.253	9	0.001*
	Middle	0 (0)	0 (0)	0 (0)	5 (31)	55 (58)			
	Senior	0 (0)	0 (0)	2 (100)	8 (50)	24 (25)			
	College/university	2 (100)	0 (0)	0 (0)	29 (13)	8 (8)			
Occupation	Government job	1 (50)	0 (0)	0 (0)	0 (0)	3 (3)	16.138	4	0.003*
	Housewife	1 (50)	0 (0)	2 (100)	13 (81)	68 (72)			
	Daily wages	0 (0)	0 (0)	0 (0)	3 (19)	24 (25)			
Income	11,000–20,000	0 (0)	0 (0)	0 (0)	8 (50)	21 (22)	11.188	6	0.083
	21,000–30,000	1 (50)	0 (0)	2 (100)	8 (50)	51 (54)			
	31,000 and above	1 (50)	0 (0)	0 (0)	0 (0)	23 (24)			
Age of menarche	10–12 years	1 (50)	0 (0)	2 (100)	16 (100)	70 (74)	6.953	6	0.325
	13–15 years	1 (50)	0 (0)	0 (0)	0 (0)	24 (25)			
	16–18 years	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)			
Duration of marriage	12–18 months	0 (0)	0 (0)	1 (50)	7 (44)	12 (13)	15.179	6	0.019*
	24 months	0 (0)	0 (0)	0 (0)	3 (19)	44 (46)			
	>36 months	2 (100)	0 (0)	1 (50)	6 (38)	39 (41)			
Appetite	Poor	0 (0)	0 (0)	0 (0)	0 (0)	27 (28)	20.997	6	0.002*
	Good	2 (100)	0 (0)	1 (50)	16 (100)	65 (68)			
	Excellent	0 (0)	0 (0)	1 (50)	0 (0)	3 (3)			
Relationship with her spouse	Cooperative	2 (100)	0 (0)	1 (50)	9 (56)	47 (49)	2.184	3	0.535
	Uncooperative	0 (0)	0 (0)	1 (50)	7 (44)	48 (51)			
Any recreational/diversional activity	Yes	2 (100)	0 (0)	2 (100)	14 (88)	64 (67)	4.38	3	0.223
	No	0 (0)	0 (0)	0 (0)	2 (13)	31 (33)			
		Clinical variables							
Variables	*Categories*	*Normal f/%*	*Mild f/%*	*Moderate f/%*	*Severe f/%*	*Very severe f/%*	*Chi-square*	*df*	*p-value*
Infertility type	Primary	2 (100)	0 (0)	1 (50)	7 (44)	68 (72)	6.103	3	0.107
	Secondary	0 (0)	0 (0)	1 (50)	9 (56)	27 (28)			

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Causes of infertility	Male factor	0 (0)	0 (0)	1 (50)	3 (19)	14 (15)	10.371	6	0.11
	Female factor	0 (0)	0 (0)	0 (0)	11 (69)	56 (59)			
	Both male and female factors	2 (100)	0 (0)	1 (50)	2 (13)	25 (26)			
For how long you are attempting for conception	12 months	0 (0)	0 (0)	0 (0)	0 (0)	30 (32)	22.841	9	0.007*
	15 months	0 (0)	0 (0)	1 (50)	9 (56)	44 (46)			
	24 months	1 (50)	0 (0)	0 (0)	6 (38)	16 (17)			
	36 months	1 (50)	0 (0)	1 (50)	1 (6)	5 (5)			
Presence of symptoms in infertility	Heavy or painful periods	0 (0)	0 (0)	2 (100)	4 (25)	28 (29)	11.133	9	0.267
	Irregular periods	0 (0)	0 (0)	0 (0)	3 (19)	23 (24)			
	Mood swings	2 (100)	0 (0)	0 (0)	5 (31)	23 (24)			
	Sleep disturbance	0 (0)	0 (0)	0 (0)	4 (25)	21 (22)			
Type of investigation	Ultrasonography	0 (0)	0 (0)	1 (50)	10 (63)	58 (61)	3.169	3	0.366
	Semen analysis	2 (100)	0 (0)	1 (50)	6 (38)	37 (39)			

*$p < 0.05$ level of significance

Table 11: Association of stress with selected sociodemographic and clinical variables among infertile women; $n = 115$

		Stress							
Sociodemographic variables	*Categories*	*Normal* f/%	*Mild* f/%	*Moderate* f/%	*Severe* f/%	*Very severe* f/%	Chi-square	*df*	*p-value*
Age	20–29 years	0 (0)	2 (100)	24 (63)	50 (74)	3 (50)	5.362	4	0.252
	30–39 years	1 (100)	0 (0)	14 (37)	18 (26)	3 (50)			
Domicile	Rural	0 (0)	0 (0)	16 (42)	34 (50)	4 (67)	4.204	4	0.379
	Urban	1 (100)	2 (100)	22 (58)	34 (50)	2 (33)			
Education	Primary	0 (0)	0 (0)	0 (0)	9 (13)	0 (0)	42.394	12	0.000*
	Middle	0 (0)	0 (0)	11 (29)	45 (66)	4 (67)			
	Senior	0 (0)	1 (50)	21 (55)	10 (15)	2 (33)			
	College/university	1 (100)	1 (50)	6 (16)	4 (6)	0 (0)			
Occupation	Government job	1 (100)	0 (0)	0 (0)	3 (4)	0 (0)	32.035	8	0.000*
	Housewife	0 (0)	2 (100)	31 (82)	46 (68)	5 (83)			
	Daily wages	0 (0)	0 (0)	7 (18)	19 (28)	1 (17)			
Income	11,000–20,000	0 (0)	0 (0)	15 (39)	13 (19)	1 (17)	11.415)	8	0.179
	21,000–30,000	0 (0)	2 (100)	16 (42)	40 (59)	4 (67)			
	31,000 and above	1 (100)	0 (0)	7 (18)	15 (22)	1 (17)			
Age of menarche	10–12 years	1 (100)	1 (50)	38 (100)	45 (66)	4 (67)	17.763	8	0.023*
	13–15 years	0 (0)	1 (50)	0 (0)	22 (32)	2 (33)			
	16–18 years	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)			
Duration of marriage	12–18 months	0 (0)	0 (0)	8 (21)	36 (53)	3 (50)	20.163	8	1.100
	24 months	1 (100)	2 (100)	17 (45)	25 (37)	3 (50)			
	>36 months	0 (0)	0 (0)	5 (13)	22 (32)	0 (0)			
Appetite	Poor	1 (100)	2 (100)	29 (76)	46 (68)	6 (100)	15.445	8	0.051
	Good	0 (0)	0 (0)	4 (11)	0 (0)	0 (0)			
	Excellent	1 (100)	2 (100)	21 (55)	33 (49)	2 (33)			
Relationship with her spouse	Cooperative	0 (0)	0 (0)	17 (45)	35 (51)	4 (67)	4.071	4	0.396
	Uncooperative	1 (100)	2 (100)	32 (84)	44 (65)	3 (50)			
Any recreational/ diversional activity	Yes	0 (0)	0 (0)	6 (16)	24 (35)	3 (50)	7.079	4	0.132
	No	0 (0)	0 (0)	8 (21)	36 (53)	3 (50)			
		Clinical variables							
Variables	*Categories*	*Normal f/%*	*Mild f/%*	*Moderate f/%*	*Severe f/%*	*Very severe f/%*	*Chi-square*	*df*	*p-value*
Infertility type	Primary	1 (100)	1 (50)	22 (58)	50 (74)	4 (67)	3.5	4	0.478
	Secondary	0 (0)	1 (50)	16 (42)	18 (26)	2 (33)			

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Causes of infertility	Male factor	0 (0)	0 (0)	8 (21)	9 (13)	1 (17)	13.148	8	0.107
	Female factor	0 (0)	0 (0)	20 (53)	45 (66)	2 (33)			
	Both male and female factors	1 (100)	2 (100)	10 (26)	14 (21)	3 (50)			
For how long you are attempting for conception	12 months	0 (0)	0 (0)	4 (11)	23 (34)	3 (50)	32.081	12	0.001*
	15 months	0 (0)	0 (0)	20 (53)	31 (46)	3 (50)			
	24 months	0 (0)	1 (50)	11 (29)	11 (16)	0 (0)			
	36 months	1 (100)	1 (50)	3 (8)	3 (4)	0 (0)			
Presence of symptoms in infertility	Heavy or painful Periods	0 (0)	1 (50)	16 (42)	16 (24)	1 (17)	14.352	12	0.279
	Irregular periods	0 (0)	0 (0)	9 (24)	14 (21)	3 (50)			
	Mood swings	1 (100)	1 (50)	8 (21)	20 (29)	0 (0)			
	Sleep disturbance	0 (0)	0 (0)	5 (13)	18 (26)	2 (33)			
Type of investigation	Ultrasonography	0 (0)	0 (0)	21 (55)	43 (63)	5 (83)	6.513	4	0.164
	Semen analysis	1 (100)	2 (100)	17 (45)	25 (37)	1 (17)			

*$p < 0.05$ level of significance

standard protocol that can be administered to all patients at risk of emotional distress can negatively affect the QOL of infertile women. They can work diligently to help execute treatment plans by aiding patients in scheduling appointments and providing instruction regarding treatment schedules.

Conclusion

The present study found that infertility influences the QOL adversely. Most of the women had findings showing that most women are having poor QOL and severe emotional distress. Therefore, physicians and nurses involved in the care of infertile women must be sensitive to psychological issues. Couples must be offered psychological intervention and counseling to help them cope.

Contributors

D is the principal investigator of the study, who collected and analyzed the data, reviewed the literature, and wrote the manuscript. SM helped in writing the manuscript and conducting literature research. AA helped in editing the manuscript. All the coauthors checked the manuscript for language, analysis of data, and interpretation.

Data Availability Statement

Data supporting the findings of this study are available within the article and its supplementary material.

Ethics Statement

Patient consent for publication has been obtained.

Ethics Approval

This study involves human participants and was approved by the Institutional Ethics Committee with 58/Ethics/2022.

Provenance and Peer Review

Not commissioned; externally peer-reviewed.

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Orcid

Sudha Mishra https://orcid.org/0000-0002-9000-4616

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