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Mental Health Status And The Quality Of Life Of Infertile Women Receiving Fertility Treatment: A Cross-Sectional Study.

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Abstract

Introduction: *Infertility affects approximately 15% of couples globally, carrying significant emotional, social, and economic burdens. In India, particularly in Tamil Nadu, lifestyle changes and delayed childbearing contribute to rising infertility rates. Women undergoing fertility treatments often experience severe psychological distress due to societal stigma and personal struggles, leading to impaired quality of life (QoL). Addressing these mental health challenges is crucial for improving treatment outcomes and overall well-being.*

Objective: *This study aims to assess the prevalence of depression, anxiety, and stress among infertile women undergoing fertility treatments and to evaluate their overall quality of life. Additionally, it examines the relationship between infertility-related psychological distress and key demographic and clinical factors.*

Methodology: *A cross-sectional study was conducted among 250 infertile women undergoing fertility treatments in tertiary care hospitals in Chennai, Tamil Nadu. Participants were selected using simple random sampling and assessed through structured interviews. Mental health was evaluated using the Depression, Anxiety, and Stress Scale (DASS-21), while QoL was measured using the WHOQOL-BREF scale. Statistical analysis, including chi-square tests, ANOVA, and correlation analysis, was performed using SPSS.*

Results: *Findings indicate that 47.2% of participants exhibited symptoms of depression, 52.8% experienced anxiety, and 58% reported stress. Psychological distress was significantly associated with lower education, rural residency, lower socioeconomic status, early marriage, and primary infertility. Additionally, a strong negative correlation was observed between psychological distress and QoL.*

Keywords: *Infertility, Mental Health, Quality of Life, Psychological Distress, Fertility Treatment*

INTRODUCTION:

Infertility is a major global health issue that impacts around 15% of couples who are of reproductive age, carrying deep psychological, social, and economic consequences [1]. According to the World Health Organization (WHO), infertility is described as the challenge of conceiving after a year of consistent, unprotected intercourse [2]. In India, about 10-15% of married couples face infertility, and in Tamil Nadu, the rates are similar or even a bit higher. This trend can be attributed to factors like urbanization, changes in lifestyle, and the postponement of having children [3,4]. Although advancements in assisted reproductive technologies (ART) have brought hope to many, the emotional and psychological challenges that come with fertility treatments often go unnoticed [5].

Infertile women undergoing fertility treatments often face significant mental health challenges, experiencing increased stress, anxiety, and depression, which can lead to a lower quality of life compared to women who are able to conceive naturally [6]. In Indian society, the stigma surrounding infertility contributes to the emotional pain many experiences, as motherhood is frequently seen as a crucial part of a woman's identity and status [7]. In Tamil Nadu, where the expectations surrounded by motherhood are strongly rooted in society, the challenges of infertility can feel especially heavy. A recent study conducted in a hospital in Chennai revealed that nearly half of the women undergoing ART reported experiencing moderate to severe depression, while over one third faced significant anxiety levels [8].

Research indicates that experiencing psychological distress can be both a result of infertility and a factor that affects treatment outcomes, as stress-related hormonal changes might diminish the likelihood of conception [9]. Numerous studies have shown how infertility can adversely affect various aspects of life, such as mental well-being, self-esteem, relationships with others, and overall social engagement (10). Even with this concern, mental health support often isn't part of fertility care, which can leave many women at risk of experiencing psychological distress [11]. This highlights the pressing importance of addressing the mental health challenges faced by women dealing with infertility while undergoing fertility treatments.
This study aims, to evaluate the prevalence of depression, anxiety, and stress among women undergoing fertility treatments, to assess the quality of life in infertile women, to examine the relationship between infertility-related stress and overall well-being.

METHODOLOGY:
This cross-sectional study was conducted in chosen tertiary care hospitals in Chennai, Tamil Nadu to assess the mental health status and quality of life (QOL) of infertile women undergoing fertility treatments. We had 250 [12] women who were diagnosed with either primary or secondary infertility take part in the study, and they were chosen using a simple random sampling approach. Women between the ages of 18 and 45 who are currently undergoing IVF, IUI, or non-ART treatments and are willing to give informed consent were included in the study. Those with severe psychiatric disorders not related to infertility or those who have already conceived were not included.
We gathered data through in-person interviews, utilizing a structured questionnaire that covered sociodemographic information, infertility history, and standardized assessments. These included the Depression, Anxiety, and Stress Scale (DASS-21) to evaluate mental health, as well as the WHOQOL-BREF to assess quality of life across four key areas: physical, psychological, social, and environmental well-being.
We obtained ethical approval and made sure to keep participant confidentiality as our primary concern. We conducted a statistical analysis using SPSS software, applying chi-square tests, ANOVA, and t-tests to investigate associations. Additionally, we used correlation analysis to look into the relationships between mental health and quality of life, considering a p-value of less than 0.05 as considered statistically significant.

RESULT:
The study population is mostly 31 years and older (47.6%), followed by 26–30 (32.8%) and 25 or younger (19.6%). Graduates make up 49.2% of participants, while 30.8% have finished upper secondary education or less and 20% have postgraduate degrees. Most (64%) are homemakers, with 14.4% working privately and 14% in government. Participants are more likely to live in urban (53.2%) than rural (46.8%). SES-wise, most are Class III (52%), followed by Class V (18%) and Class IV (12.8%). Most participants' spouses are 31–35 years of age (43.6%). Most people (53.2%) married between 20–24 years old, whereas 28.4% married younger. Over half (52.4%) of individuals are married 5–8 years. For infertility diagnosis, 38.4% were attributable to the woman, 15.6% to the husband, and 26% were undiagnosed. Most (53.2%) had infertility for three years or less. Primary infertility (77.6%) outnumbered secondary (22.4%). IVF was performed on 36% of individuals, non-ART on 34.8%, and IUI on 29.2%. Nearly half (49.6%) had undergone infertility therapy within three years. About 23.2% of participants had abortions. The body mass index (BMI) distribution indicated that nearly half (49.6%) of participants were overweight or obese, whereas 46.4% had a healthy weight.

Table 1: Mental health status of the study participants (n = 250)

Levels	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	132 (52.8%)	118 (47.2%)	105 (42%)
Mild	29 (11.6%)	26 (10.4%)	41 (16.4%)
Moderate	37 (14.8%)	45 (18%)	35 (14%)
Severe	31 (12.4%)	38 (15.2%)	43 (17.2%)
Extremely severe	21 (8.4%)	23 (9.2%)	26 (10.4%)
Total (n)	250 (100%)	250 (100%)	250 (100%)

Mental health assessments showed that 47.2% of participants experienced symptoms of depression. Similarly, 52.8% of participants were found to be anxious. Stress levels were notably high, with 58% of participants experiencing stress. statistics revealed that the mean depression score was 12.06 (SD = 10.15), while the mean anxiety score was 10.35 (SD = 8.63). The mean stress score was 17.98 (SD = 11.43). [Table 1]

Table 2: Quality of Life among the study participants

Domain	Mean	SD	Min	Max	Good category	Poor category
Physical	19.08	8.50	7	35	109 (43.6%)	141 (56.4%)
Psychological	15.75	7.39	6	30	106 (42.4%)	144 (57.6%)
Social	8.03	3.57	3	15	100 (40%)	150 (60%)
Environmental	18.66	8.82	8	40	99 (39.6%)	151 (60.4%)
Total	60.76	17.07	30	106	118 (47.2%)	132 (52.8%)

Regarding overall quality of life, the total QOL score had a mean value of 60.76 (SD = 17.07). Health satisfaction, measured on a scale of 1 to 5, had a mean score of 3.06 and Patients rated their own QOL with a mean of 2.83 ranging from 1 to 5. [Table 2]

Table 3: Difference in Mental health scores across various independent variables

Independent Variables		Depression Mean (SD)	Anxiety Mean (SD)	Stress Mean (SD)
Age**	≤ 25 years	4.24 (2.89)	3.86 (2.29)	7.20 (4.27)
	26 to 30 years	13.39 (5.25)	11.60 (2.96)	21.98 (5.26)
	≥ 31 years	14.37 (12.78)	12.16 (11.28)	19.67 (13.68)
p-value		< 0.001*	< 0.001	< 0.001
Education**	HSC / below	24.71 (7.44)	20.23 (8.49)	32.01 (6.01)
	Graduate	7.25 (4.93)	6.87 (3.61)	13.80 (6.57)
	PG	4.42 (2.88)	3.68 (2.28)	6.66 (4.11)
p-value		<.001	<.001	<.001
Occupation**	Homemaker	16.41 (10.20)	13.98 (8.77)	24.13 (9.44)
	Govt Job	4.69 (2.73)	3.74 (2.09)	6.83 (4.27)
	Private Job	4.19 (3.11)	4.11 (2.38)	7.56 (4.18)
	Others	4.00 (2.98)	3.74 (2.51)	6.53 (4.26)
p-value		<.001	<.001	<.001
Residence#	Rural	20.70 (8.39)	17.00 (8.29)	27.97 (7.66)
	Urban	4.47 (2.90)	4.50 (2.55)	9.20 (5.36)
p-value		<.001	<.001	<.001
SES**	Class I	4.63 (3.34)	3.00 (2.20)	4.75 (3.62)
	Class II	3.86 (2.68)	3.77 (2.29)	6.69 (4.17)
	Class III	7.24 (4.82)	6.72 (3.61)	13.53 (6.54)
	Class IV	18.78 (3.38)	14.63 (2.73)	27.69 (4.03)
	Class V	28.93 (6.62)	24.22 (8.95)	35.09 (5.25)
p-value		<.001	<.001	<.001
Age of marriage**	≤ 19 years	25.39 (7.33)	20.86 (8.55)	32.87 (5.39)
	20 to 24 years	7.64 (5.17)	7.07 (3.74)	14.01 (6.66)

	≥ 25 years	4.28 (2.91)	3.61 (2.29)	6.50 (4.09)
p-value		<.001	<.001	<.001
Duration of marriage**	≤ 4 years	30.31 (6.66)	26.22 (8.93)	36.25 (5.16)
	5 to 8 years	11.95 (7.07)	10.05 (4.68)	19.94 (7.65)
	≥ 9 years	4.34 (2.91)	3.94 (2.29)	6.98 (4.20)
p-value		<.001	<.001	<.001
Infertility diagnosis**	Husband	29.74 (6.70)	25.51 (8.93)	35.85 (5.17)
	Wife	14.07 (6.24)	11.79 (3.46)	22.63 (5.63)
	Both	4.66 (2.77)	4.26 (2.28)	9.62 (5.09)
	Unknown	4.18 (2.88)	3.80 (2.26)	6.85 (4.29)
p-value		<.001	<.001	<.001
Duration of infertility**	≤ 3 years	18.77 (9.52)	15.93 (8.31)	26.58 (8.13)
	4 to 6 years	4.63 (2.81)	4.16 (2.17)	9.25 (4.96)
	≥ 7 years	4.05 (2.88)	3.66 (2.39)	6.05 (4.22)
p-value		<.001	<.001	<.001
Infertility treatment is given**	Non-ART	23.80 (7.47)	19.22 (8.48)	30.85 (6.55)
	IUI	7.59 (4.25)	7.74 (3.36)	16.12 (5.11)
	IVF	4.34 (2.92)	3.89 (2.28)	7.06 (4.21)
p-value		<.001	<.001	<.001
Type of infertility#	Primary	14.30 (10.41)	12.26 (8.85)	21.25 (10.75)
	Secondary	4.32 (2.84)	3.73 (2.24)	6.66 (4.24)
p-value		<.001	<.001	<.001
Abortion H/O#	No	14.40 (10.40)	12.35 (8.84)	21.38 (10.73)
	Yes	4.33 (2.91)	3.71 (2.27)	6.76 (4.28)
p-value		<.001	<.001	<.001

****ANOVA test applied, #Independent t-test applied**

The study assessed participant stress, anxiety, and depression factors. Older age (≥31 years), less education, homemaking, rural residing, and lower socioeconomic level were associated with higher psychological distress ($p < 0.001$). Increased stress was linked to early marriage (≤19 years) and shorter marriage duration (≤4 years). The most suffering was caused by husband-related infertility; those with unknown reasons caused the least ($p < 0.001$). Shorter infertile duration (≤3 years) participants reported more suffering. While IVF patients had the lowest ($p < 0.001$), non-ART patients complained of the highest degrees of suffering. Patients with a history of abortion and primary infertility suffered psychologically much more ($p < 0.001$). [Table 3]

Table 4: Difference in WHO QOL scores across various independent variables

Independent Variables		**P Mean (SD)**	**PS Mean (SD)**	**S Mean (SD)**	**E Mean (SD)**	**Total Mean (SD)**
Age**	≤ 25 years	22.76 (7.86)	17.10 (7.24)	9.33 (3.83)	25.67 (10.28)	74.02 (14.47)
	26 to 30 years	19.20 (8.34)	15.90 (7.94)	7.65 (3.54)	14.41 (3.93)	56.68 (12.02)
	≥ 31 years	17.50 (8.49)	15.09 (7.06)	7.76 (3.40)	18.70 (8.85)	58.12 (18.48)
p-value		<.001	0.256	0.030	<.001	<.001
Education**	HSC / below	13.52 (5.34)	10.77 (3.14)	5.92 (2.10)	14.92 (3.34)	43.97 (7.96)

	Graduate	20.88 (8.70)	18.46 (7.80)	8.73 (3.66)	17.72 (8.61)	65.76 (14.00)
	PG	23.24 (7.86)	16.78 (7.29)	9.54 (3.79)	26.74 (10.22)	74.32 (14.39)
p-value		<.001	<.001	<.001	<.001	<.001
Occupation**	Homemaker	17.21 (8.14)	14.56 (7.13)	7.31 (3.25)	15.21 (5.36)	53.57 (13.94)
	Govt Job	23.37 (6.92)	16.51 (6.81)	8.91 (3.95)	25.89 (10.85)	74.11 (13.61)
	Private Job	21.61 (8.59)	19.42 (7.55)	9.28 (3.68)	22.61 (10.46)	72.42 (15.46)
	Others	22.21 (9.73)	17.47 (8.17)	10.05 (3.78)	26.95 (8.99)	74.68 (15.26)
p-value		<.001	0.006	0.001	<.001	<.001
Residence#	Rural	15.46 (7.13)	13.63 (6.80)	6.73 (2.96)	14.57 (3.68)	49.49 (11.96)
	Urban	22.27 (8.39)	17.62 (7.43)	9.17 (3.69)	22.26 (10.38)	70.68 (14.64)
p-value		<.001	<.001	<.001	<.001	<.001
SES**	Class I	21.88 (10.52)	14.63 (8.07)	9.38 (4.17)	24.25 (10.63)	74.13 (12.30)
	Class II	23.31 (7.47)	17.37 (7.28)	9.94 (3.58)	27.89 (10.01)	74.09 (15.58)
	Class III	21.07 (8.64)	18.34 (7.75)	8.68 (3.69)	18.05 (8.83)	66.30 (14.03)
	Class IV	16.13 (6.77)	10.25 (3.26)	6.00 (2.08)	15.50 (3.27)	47.13 (9.09)
	Class V	11.67 (2.92)	11.13 (3.03)	5.87 (2.14)	14.51 (3.37)	41.73 (6.23)
p-value		<.001	<.001	<.001	<.001	<.001
Age of marriage**	≤ 19 years	13.04 (4.99)	10.56 (3.13)	6.00 (2.10)	14.82 (3.38)	43.25 (7.29)
	20 to 24 years	21.08 (8.62)	18.05 (7.70)	8.50 (3.70)	17.77 (8.50)	65.56 (14.15)
	≥ 25 years	22.65 (7.89)	17.13 (7.35)	9.78 (3.69)	27.17 (10.14)	73.91 (14.84)
p-value		<.001	<.001	<.001	<.001	<.001
Duration of marriage**	≤ 4 years	11.19 (2.85)	11.14 (3.19)	6.31 (2.04)	14.86 (3.14)	41.19 (6.29)
	5 to 8 years	19.16 (8.41)	15.82 (7.68)	7.64 (3.49)	15.49 (6.06)	58.08 (14.03)
	≥ 9 years	22.39 (8.14)	17.65 (7.45)	9.39 (3.80)	25.31 (10.37)	73.48 (14.69)
p-value		<.001	<.001	<.001	<.001	<.001
Infertility diagnosis**	Husband	11.28 (2.88)	11.05 (3.19)	6.21 (2.08)	14.74 (3.24)	41.21 (6.22)
	Wife	18.55 (8.16)	15.48 (7.77)	7.56 (3.62)	14.41 (3.89)	55.40 (12.48)
	Both	21.80 (8.77)	18.42 (7.53)	8.82 (3.50)	21.66 (10.67)	69.94 (14.94)
	Unknown	22.46 (8.04)	16.92 (7.33)	9.20 (3.77)	24.98 (10.20)	73.37 (14.48)

p-value		<.001	<.001	<.001	<.001	<.001
Duration of infertility**	≤ 3 years	16.40 (7.82)	14.11 (7.05)	7.08 (3.25)	14.48 (3.71)	51.21 (12.84)
	4 to 6 years	22.25 (8.54)	18.01 (7.27)	8.70 (3.61)	21.97 (10.26)	70.94 (15.06)
	≥ 7 years	21.89 (7.79)	16.82 (7.62)	9.95 (3.63)	26.39 (10.35)	73.05 (14.06)
p-value		<.001	<.001	<.001	<.001	<.001
Infertility treatment is given**	Non-ART	14.37 (6.25)	11.31 (4.55)	5.85 (2.05)	14.57 (3.57)	45.16 (8.72)
	IUI	20.59 (8.85)	18.42 (7.73)	9.05 (3.57)	15.96 (6.88)	63.59 (12.28)
	IVF	22.42 (8.19)	17.88 (7.44)	9.30 (3.79)	24.80 (10.38)	73.56 (14.59)
p-value		<.001	<.001	<.001	<.001	<.001
Type of infertility#	Primary	17.88 (8.31)	15.43 (7.39)	7.65 (3.42)	16.59 (7.17)	56.64 (15.56)
	Secondary	23.25 (7.95)	16.88 (7.40)	9.32 (3.85)	25.82 (10.30)	75.04 (14.39)
p-value		<.001	0.198	0.002	<.001	<.001
Abortion H/O#	No	17.96 (8.31)	15.38 (7.36)	7.61 (3.39)	16.55 (7.17)	56.59 (15.57)
	Yes	22.79 (8.20)	16.98 (7.48)	9.41 (3.86)	25.64 (10.23)	74.59 (14.58)
p-value		<.001	0.149	<.001	<.001	<.001

****ANOVA test applied, #Independent t test applied, P – Physical domain, PS – Psychological domain, S – Social domain & E – Environment domain**

The study looked for demographic and clinical factors influencing WHO QOL assessments. Older age, lower education, rural residing, homemaking, and lower socioeconomic level associated poore QOL ($p < 0.001$). Better QOL ($p < 0.001$) was associated with longer marriage duration (≥9 years) and later marriage age (≥25 years). Infertility diagnosis affected QOL; husband-related infertility scored lowest and unknown causes scored highest ($p < 0.001$). While IVF patients had the best scores ($p = 0.001$), shorter infertility time (≤3 years) and non-ART treatments were linked to lower QOL. While individuals with an abortion history scored higher ($p < 0.001$), primary infertility patients had poorer QOL than secondary cases. **[Table 4]**

Table 5: Linear regression – Depression (n = 250)

Independent Variables		**Estimate**	**SE**	**t**	**p**
Age	≤ 25 years	Ref	Ref	Ref	Ref
	26 to 30 years	-5.029	1.701	-2.957	0.003
	≥ 31 years	1.541	1.489	1.035	0.302
Education	HSC / below	Ref	Ref	Ref	Ref
	Graduate	-7.559	0.986	-7.667	<.001
	PG	-7.631	2.482	-3.074	0.002
Occupation	Homemaker	Ref	Ref	Ref	Ref
	Govt Job	-0.569	2.705	-0.210	0.834
	Private Job	-2.494	1.019	-2.449	0.015

	Others	-1.976	2.697	-0.733	0.464
Residence	Rural	Ref	Ref	Ref	Ref
	Urban	-12.685	1.093	-11.607	<.001

The regression analyze finds how depression ratings differ with age, education, occupation, and residence. Projected depression score is (25.562, $p < 0.001$) for the reference group (homemakers, rural residents, HSC and below, ≤25 years). Depression ratings for individuals aged 26 to 30 are considerably lower (-5.029, $p = 0.003$), whilst those aged ≥31 show no significant difference ($p = 0.302$). Depression levels were lower for graduates (-7.559, $p = 0.001$) and postgraduates (-7.631, $p = 0.002$) than for those with HSC or less. Mixed effects of profession. While government and other jobs do not, homemakers had higher depression than private sector workers (-2.494, $p = 0.015$). With urban people (-12.685, $p < 0.001$) far less depressed than rural ones, residence significantly affects depression. [Table 5]

Table 6: Linear regression – Anxiety (n = 250)

Independent Variables		**Estimate**	**SE**	**t**	**p**
Age	≤ 25 years	Ref	Ref	Ref	Ref
	26 to 30 years	-5.174	1.94	-2.667	0.008
	≥ 31 years	-0.505	1.70	-0.297	0.767
Education	HSC / below	Ref	Ref	Ref	Ref
	Graduate	-6.487	1.12	-5.769	<.001
	PG	-7.342	2.83	-2.593	0.010
Occupation	Homemaker	Ref	Ref	Ref	Ref
	Govt Job	-3.293	3.09	-1.067	0.287
	Private Job	-3.233	1.16	-2.782	0.006
	Others	-2.962	3.08	-0.963	0.337
Residence	Rural	Ref	Ref	Ref	Ref
	Urban	-8.157	1.25	-6.543	<.001

In the regression table, the reference group (≤25 years, HSC and below homemakers, rural residents) is represented by the intercept (22.437, $p < 0.001$). Anxiety varies with age; 26–30 years show significantly lower scores (-5.174, $p = 0.008$), whilst ≥31 years has no significant influence ($p = 0.767$). Anxiety levels are lower in higher education levels (-6.487, $p = 0.001$) and postgraduates (-7.342, $p = 0.010$) than in those with HSC or less. Only private job workers (-3.233, $p = 0.006$) showed significantly less anxiety than homemakers; government and other professions do not follow this association. Anxiety levels were much lower among urban residents (-8.157, $p < 0.001$) than among rural residents. **[Table 6]**

Table 7: Linear regression – Stress (n = 250)

Independent Variables		**Estimate**	**SE**	**t**	**p**
Age	≤ 25 years	Ref	Ref	Ref	Ref
	26 to 30 years	-5.67	1.85	-3.06	0.002
	≥ 31 years	-2.23	1.62	-1.38	0.170

Education	HSC / below	Ref	Ref	Ref	Ref
	Graduate	-9.62	1.07	-8.95	<.001
	PG	-10.38	2.71	-3.84	<.001
Occupation	Homemaker	Ref	Ref	Ref	Ref
	Govt Job	-9.53	2.95	-3.23	0.001
	Private Job	-7.49	1.11	-6.74	<.001
	Others	-8.69	2.94	-2.95	0.003
Residence	Rural	Ref	Ref	Ref	Ref
	Urban	-8.85	1.19	-7.42	<.001

Regression table shows variables affecting stress scores, with the reference group (≤25 years, HSC and below, homemakers, rural residents) as the intercept (35.50, $p < 0.001$). Stress ratings are much influenced by age; 26–30 years had lower scores (-5.67, $p = 0.002$), but ≥31 years showed no significant difference ($p = 0.170$). Stress is less experienced by graduates (-9.62, $p < 0.001$) and postgraduates (-10.38, $p < 0.001$) than by those with HSC or less. Work influences stress very significantly. Lower stress reports come from government (-9.53, $p = 0.001$), private (-7.49, $p = 0.001$), and other professions (-8.69, $p = 0.003$) than homemakers. Urban residents (-8.85, $p < 0.001$) say they have far less stress than rural residents. [Table 7]

Table 8: Correlation matrix

Variables	Depression	Anxiety	Stress	QOL
Depression	-	r = 0.884 p = < 0.001	r = 0.870 p = < 0.001	r = - 0.661 p = < 0.001
Anxiety	r = 0.884 p = < 0.001	-	r = 0.848 p = < 0.001	r = - 0.606 p = < 0.001
Stress	r = 0.870 p = < 0.001	r = 0.848 p = < 0.001	-	r = - 0.702 p = < 0.001
QOL	r = - 0.661 p = < 0.001	r = - 0.606 p = < 0.001	r = - 0.702 p = < 0.001	-

Quality of life, depression, anxiety, and stress are correlated in the matrix. Depression is positively linked with anxiety ($r = 0.884$, $p < 0.001$) and stress ($r = 0.870$, $p < 0.001$). Stress and anxiety had a significant positive correlation ($r = 0.848$, $p < 0.001$). Depression, anxiety, and stress ($r = -0.661$, $p = 0.001$) all had negative correlations with quality of living. This implies that QOL falls when one experiences psychological distress. [Table 8]

DISCUSSION:

The mental health situation and quality of life (QOL) of Tamil Nadu's infertile women undergoing fertility treatments have been explored in the present study. Affected by several sociodemographic and clinical elements, the results show notable levels of depression, anxiety, and stress.

According to studies by Yusuf et al., 79% of infertile women suffer some degree of depression; 10% suffer from serious depression, 49% from moderate to severe depression [13]. According to studies conducted in Iran by Khalesi et al., 15% of infertile women suffered with clinical depression while 31.7% reported depressed symptoms [14]. According to a meta-analysis, 48.7% of subfertile women overall suffer from depression [15]. About 70% of infertile women suffer with anxiety; 58% of them report moderate to severe degrees [13]. Anxiety prevalence in infertility ranges greatly from 14.8% to 62% [16]. 30% of Iranian women had extreme anxiety, while 53.3% felt somewhat severe anxiety [14]. According to studies, 69% of infertile women say they have great stress; 29% of them have extreme stress [17]. 37.5% of infertile women in Iran reported extreme stress, underscoring the significant psychological load connected with infertility [14].

Infertility is more common among older women. A declining ovarian reserve reduces fertility in older women. Women over 31 have increased difficulty conceiving due to age-related oocyte quality and quantity decline [18]. Age and lower education aggravate this issue more especially. Lower education levels might prolong infertility if women postpone seeking medical care and are less conscious of their reproductive health [19,20].

Geographic and educational disparities influence reproductive health outcomes because rural areas with poor access to healthcare encounter postpones [21,22]. Lower SES is still another crucial component in infertility. Research shows that lower socioeconomic groups have significant challenges getting access to healthcare and reproductive therapies.

Among these limitations include financial constraints, lack of health insurance, and poor reproductive health care [23,24]. Lower-SES women were less likely to utilize assisted reproductive technologies, which may influence treatment effectiveness, according to study [25,26].

Moreover, low socioeconomic level is linked to higher stress, which might have detrimental consequences on reproductive health because the acknowledged effects of persistent stress on hormonal balance and reproductive performance [27]. Often connected to limited knowledge. and financial opportunities, women's homemaking duties can help to cause infertility. Because of inadequate awareness about reproductive health, homemakers may not seek medical advice for infertility. Absence of proactive health-seeking might postpone diagnosis and treatment, therefore affecting fertility [28,29].

Studies of rural homemakers revealed increased rates of infertility resulting from inadequate access to reproductive health care and reproductive health education [30].

Women's quality of life (QoL) is much compromised by infertility. Studies reveal that infertile women may have psychological and emotional barriers compromising their well-being. Personal expectations regarding children and social demands might aggravate infertility stress and reduce self-esteem and body image [31,32].

Anxiety and sadness caused infertile women to have worse QoL ratings than fertile women, according to studies [32,33]. Many factors influence the quality of life for infertile women. Important include education background, causes of infertility, and duration of time. Since educated women have more resources and help, more education may help to increase quality of living [34].

In addition, primary or secondary infertility might impact emotional responses and coping approach, which decreases QoL [35]. Anxiety and stress brought on by infertility may worsen mental health and quality of living [36,37]. Interventions that improve the quality of life for infertile women have shown promise. By inspiring a more positive attitude of infertility and reducing feelings of loneliness, self-compassion therapies have been shown to increase quality of living [38].

Counseling and psychological support could also help to lower stress associated to infertility [37,39]. Studies reveal that supportive therapies improve women's emotional well-being and quality of life [40].

Important equally are cultural effects on infertile women. In many societies, infertility stigma may lead to social isolation and feelings of inadequacy, therefore influencing mental health and quality of living [36,37]. Supporting infertile women calls for specific strategies that recognize the distinct challenges they face in different cultural environments because of the convergence of personal experiences and cultural views [36,41].

CONCLUSION:

This study highlights the significant emotional impact of infertility, revealing substantial levels of depression, anxiety, and stress among women undergoing fertility treatment. Lower education, rural residency, and lower socioeconomic status added to psychological stress; primary infertility and an abortion history were connected to worse mental health.

Apart from its medical consequences, infertility holds great emotional and social weight, usually exacerbated by social disgrace. The great negative link between psychological suffering and quality of life emphasizes the necessity of comprehensive treatment. Including mental health assistance in fertility treatment, raising community awareness, and enhancing access to reproductive healthcare can help affected women to be significantly more resilient and well-off.

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