

Psychosocial Impact of Infertility in Women at a Teaching Hospital in Kolkata, India: A Cross-Sectional Study

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Abstract

Objective: To assess depression, anxiety, psychopathology, and quality of life in infertile women compared to fertile controls in a teaching hospital in Kolkata, India.

Design: Cross-sectional study.

Setting: Gynecology outpatient infertility clinic at R.G. Kar Medical College and Hospital, Kolkata, India (2016-2017).

Patients: 100 infertile women (cases) and 100 fertile women with at least one child (controls), matched for age and socio-economic status.

Main Outcome Measures: Psychological distress measured via BDI, BAI, SCL-90, SF-36, MINI, and SRQ.

Results: Infertile women had higher BDI (20.4 vs. 7.8; $p < .0001$), BAI (18.9 vs. 6.4; $p < .0001$), SCL-90 GSI (1.8 vs. 0.7; $p < .01$), and lower SF-36 scores (52.3 vs. 78.6; $p < .0001$). 50% had major depressive disorder, and 15% had suicidal ideation. Financial barriers to ART contributed to increased distress.

Conclusion: Infertility in Indian women is linked to significant psychological morbidity due to cultural stigma and limited access to ART. Integrating mental health care and improving ART affordability is essential.

Keywords: Infertility; Depression; Anxiety; Quality of Life; ART; India

Abbreviations

ART: Assisted Reproductive Technology; BDI: Beck Depression Inventory; BAI: Beck Anxiety Inventory; SCL-90-R: Symptom Checklist-90 Revised; GSI: Global Severity Index; SF-36: 36 Item Short Form Health Survey; MINI: Mini International Neuropsychiatric Interview; SRQ: Self-Reporting Questionnaire; MDD: Major Depressive Disorder; DSM: Diagnostic and Statistical Manual of Mental Disorders

Introduction

Infertility affects 10 - 15% of couples worldwide and carries pronounced psychosocial consequences in developing countries. In India, motherhood remains central to a woman's identity, and infertility often leads to stigma, isolation, and marital conflict [1,2]. While global

studies affirm the psychological toll of infertility, few Indian studies have assessed these impacts using validated scales or considered ART's economic burden [3,4].

This study evaluates psychological distress and quality of life in infertile women versus fertile controls, emphasizing how cultural and economic barriers amplify these effects.

Materials and Methods

Design and participants

This cross-sectional study was conducted at R.G. Kar Medical College's gynecology outpatient clinic between 2016-2017. Ethical Committee approval was obtained (Memo No.: OG/WBUHS/DEAN/2016-17/07).

Participants were recruited during routine gynecological visits. After obtaining informed consent, trained research assistants administered questionnaires in a private setting.

Inclusion criteria:

- Women aged 20-40
- Infertile group: Diagnosed primary/secondary infertility
- Controls: At least one child, no history of infertility
- Written informed consent.

Exclusion criteria:

- Pre-existing psychiatric illness
- Chronic medical conditions (e.g., diabetes)
- Inability to complete questionnaires.

Assessment tools

- BDI (Cronbach's $\alpha = 0.89$) - Depression
- BAI (Cronbach's $\alpha = 0.92$) - Anxiety
- SCL-90-R (Cronbach's $\alpha = 0.95$) - Psychopathology
- SF-36 (Cronbach's $\alpha=0.90$) - Quality of life
- MINI - DSM-IV psychiatric diagnoses
- SRQ (Cronbach's $\alpha=0.85$) - General mental distress.

Tools were administered in Bengali. Diagnoses were confirmed using participants' existing clinical reports. Demographic data (age, education, income, residence, husband's occupation, infertility duration) and ART access barriers were collected via structured interviews. The MINI was conducted by a psychiatrist.

Statistical analysis

SPSS v25 was used. Descriptive statistics (means \pm standard deviation, percentages) were used to summarize demographic and psychometric data. Independent t-tests were conducted to compare BDI, BAI, SCL-90 GSI, and SF-36 scores between groups. Chi-square

or Z-tests were used to assess differences in the prevalence of MINI-diagnosed psychiatric disorders, SRQ outcomes, and anxiety severity. A p-value of <0.05 was considered statistically significant.

Results

No significant demographic differences were noted. The mean infertility duration was 3.4 ± 1.8 years.

Causes	Number (%)
Unexplained infertility	42
Polycystic ovary syndrome (PCOS)	18
Amenorrhea	10
Fibroids	5
Others (e.g. tubal block, cervical factor)	25

Table 1: Causes of infertility among infertile women (n = 100).



Figure 1: Percentage distribution of infertility causes among infertile women (n=100). Data source Study at R.G. Kar Medical College, 2016-2017.

Psychological distress

Depression

BDI scores were higher in infertile women (20.4 ± 6.8 vs. 7.8 ± 3.2; t = 9.32; p < .0001) (Figure 2).

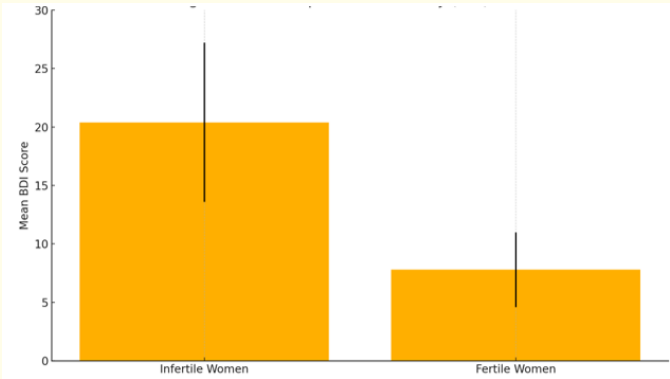


Figure 2: Mean beck depression inventory (BDI) scores for infertile (n = 100) and fertile (n = 100) women. Infertile women had significantly higher depression scores ($t = 9.32$ $P < .0001$). Data source: Study at R.G. Kar Medical College, 2016-2017.

Anxiety

BAI scores (18.9 ± 5.9 vs. 6.4 ± 2.8 ; $t = 7.717$; $p < .0001$); 30% had moderate-to-severe anxiety vs. 0% of controls (Figure 3).

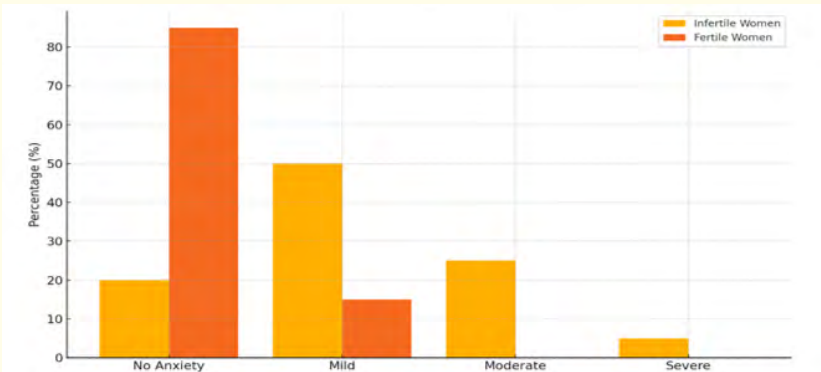
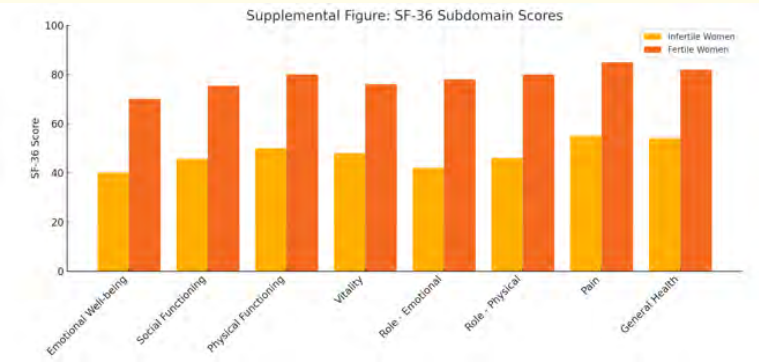


Figure 3: Distribution of Beck Anxiety Inventory (BAI) anxiety levels among infertile (n=100) and fertile (n = 100) women. Infertile women had significantly higher moderate-to-severe anxiety ($\chi^2 = 57.82$, $P < .0001$). Data source: Study at R.G. Kar Medical College, 2016-2017.

Psychopathology

SCL-90 GSI was elevated in infertile women (1.8 ± 0.6 vs. 0.7 ± 0.3 ; $t = 2.894$; $p < .01$) (Supplemental figure 1).



Supplemental Figure 1: Mean Symptom Checklist-90 (SCL-90) Global Severity Index (GSI) scores for infertile ($n = 100$) and fertile ($n = 100$) women. Infertile women had significantly higher psychopathology ($t = 2.894$, $P < .01$). Data source: Study at R.G. Kar Medical College, 2016-2017.

Quality of life

SF-36 scores were significantly lower (52.3 ± 12.1 vs. 78.6 ± 8.4 ; $t = 12.49$; $p < .0001$), especially in emotional well-being and social functioning (Figure 4).

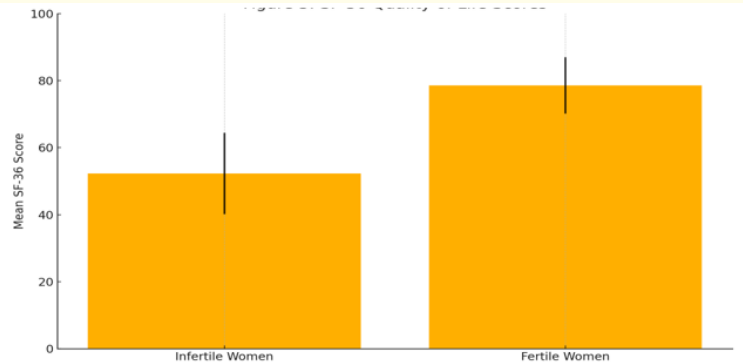


Figure 4: Mean SF-36 health survey scores for infertile ($n = 100$) and fertile ($n = 100$) women. Infertile women had significantly lower quality of life ($t = 12.49$, $P < .0001$). Data source: Study at R.G. Kar Medical College, 2016-2017.

Psychiatric diagnoses

MINI revealed:

- Major depression: 50%
- Dysthymia: 24%
- Suicidality: 15%.

SRQ classified 100% of infertile women as psychiatric cases ($Z = 14.14$, $p < .0001$).

ART barriers

Most participants reported not pursuing IVF treatment due to prohibitive costs (\$2,000-\$3,000 per cycle) in India. R.G. Kar Medical College and Hospital offers basic infertility management along with Intra-uterine insemination (IUI).

Discussion

This study confirms that infertility leads to significant depression, anxiety, and impaired quality of life in Indian women. The unique cultural pressures and unaffordability of ART amplify emotional distress, reinforcing the need for integrated care.

High prevalence of psychiatric diagnoses (50% MDD, 15% suicidality) underscores the urgency for mental health screening in infertility clinics. Data showing 15% suicidality among these infertile patients is of great concern and needs further studies and immediate state-level intervention to mitigate this risk. The lack of accessible ART options further compounds distress, as shown in prior literature [5,6].

Strengths of the Study:

- Multiple validated psychometric tools
- Matched control group
- Real-world data from a teaching Medical college-hospital.

Limitations of the Study:

- Cross-sectional design
- No subgroup analysis due to small sample sizes
- Single-center data.

Conclusion

Indian women suffering from infertility are associated with severe psychological morbidity due to cultural expectations and limited access to ART. Integrating psychiatric care in reproductive medicine and subsidizing ART can reduce this burden. Future studies should use longitudinal designs and explore the impact of therapeutic interventions.

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Conflict of Interest

All authors declare no conflicts of interest.

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