



Original Article



Psychological Impact of Infertility on Couples: A Cross-Sectional Study of Coping Strategies

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ARTICLE INFO

Keywords:

Infertility; Psychological distress; Anxiety; Depression; Coping strategies

How to Cite:Yousaf, M., Umer, U., Raziq, N., & Shinwari, L. (2026). Psychological Impact of Infertility on Couples: A Cross-Sectional Study of Coping Strategies: Psychological Impact of Infertility on Couples. *Pakistan Journal of Health Sciences*, 7(3), 57-62. <https://doi.org/10.54393/pjhs.v7i3.3730>***Corresponding Author:**Naila Raziq
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ABSTRACT

Infertility is not only a biomedical concern but also a source of considerable psychological stress for both partners, affecting emotional health and relationship functioning. The distinct emotional and coping processes of infertile couples necessitate understanding emotional distress for the planning of structured psychosocial support. **Objective:** To evaluate the psychological effect of infertility and find the coping mechanisms employed by infertile couples attending Maqsood Medical Complex and General Hospital, Peshawar. **Methods:** This cross-sectional descriptive study was carried out from April 1st, 2025, to September 30, 2025, on 130 infertile couples. Data were gathered on sociodemographic characteristics, the Hospital Anxiety and Depression Scale (HADS), and the Brief COPE inventory. The means \pm SD were calculated for continuous variables, the frequencies were calculated for categorical variables, while the associations of coping strategies with psychological distress were handled using chi-square and Pearson correlation tests. **Results:** Of the 130 couples studied, 61.5% reported clinically significant anxiety and 49.2% reported depressive symptoms. Female partners consistently had higher mean scores for anxiety and depression than their male counterparts. Problem-focused coping (planning, active coping, and positive reframing) was related to lower levels of distress, while avoidant and emotion-focused coping were associated with higher anxiety and depression. **Conclusions:** Infertility carries a significant emotional burden, especially for women, and emotional coping strategies have a strong bearing on the psychological impact. It is critical that couple-focused psychosocial support and stress-management counseling be integrated into the psychosocial aspects of infertility care.

INTRODUCTION

Infertility is not only a biomedical condition but also a profound psychosocial stressor that affects both members of a couple across emotional, relational, and social domains. The impacts of infertility often correlate with increased feelings of anxiety, depression, grief, and self-loathing; these psychological impacts usually surface at the time of diagnosis and tend to linger during the course of treatment or attempts at conception thereafter [1]. Recent global reviews more than confirm the presence of anxiety and depression along with reduced quality of life, reinforcing the presence of infertility as a global issue for mental health and not just a problem limited to certain contexts [2]. It is the couple, and not just one person, who

bears the brunt of the impact: partners' emotional responses and coping mechanisms are bidirectionally interdependent, with one spouse's maladaptive coping worsening the other's psychological distress as well as the relational dyad's functional construct [3]. Longitudinal and cross-sectional studies have shown that some modalities, such as meaning-based and problem-focused coping, tend to protect the quality of the marriage, while avoidance and self-blame are reliably associated with heightened distress [4, 5]. It is clear that because infertility is a mutual stressor, dyadic approaches that examine both partners' coping and interactions are more clinically useful than approaches that focus on one partner. The sociocultural environment



greatly influences the psychological burden of individual constituents. Stigmas associated with infertility in women is amplified in cultures where motherhood is conferred with social standing. This stigma, in turn, amplifies emotional distress and causes women to avoid seeking help [6]. The situational factors of the context clearly define the acceptable coping strategies, such as religion and social disengagement. Considering the clear evidence of the interdependence between psychological symptoms and the unfolding of interpersonal relationships, the practice of routine psychosocial assessment, as well as psychosocial treatment of the couple, has been integrated into the standard approach of international policies on sexual and reproductive health [7, 8]. There is emerging evidence in favor of brief psychotherapies and couple counseling that center the couple as the main therapeutic agents, focusing on adaptive coping and reducing the persistent ruminative self-blame, and poor inter-partner dyadic communication [9]. These well-being-enhancing strategies are also treatment adherence-promoting interventions. The goal of the current cross-sectional study is to quantify distress and the coping methods utilized by couples who come for fertility assessment to our center and examine the dyadic interdependence of coping and mental health. Stress and coping frameworks, alongside qualitative methods, will be employed to make our conclusions not only relevant to the context but also aligned with the international body of work.

Although it has been established that infertility is a psychosocial stressor that is shared, much research and clinical interest are yet to be conducted on dyadic coping and psychological interdependence, especially when dealing with diverse sociocultural backgrounds. The study aimr to evaluate the psychological distress and coping in couples who refer to fertility assessment, and also investigate the interdependent nature of couples' coping strategies and mental health outcomes.

METHODS

This cross-sectional study with psychological impact of infertility and coping strategies used by couples went on from (April 1st, 2025 - September 30 2025) at Maqsood Medical Complex General Hospital, Peshawar. For the fulfillment of this objective, clinic-based surveys were used to collect data from couples visiting the clinic for infertility assessment and treatment. Both partners were invited to partake in the study, and the couple-level data were collected along with individual data after the couple-level informed consent was attained. The inclusion criteria consisted of heterosexual couples who had ≥ 12 months of regular unprotected intercourse and were seeking to have an infertility evaluation. Women between 18 and 45 years and men between 18 and 55 years of age were considered

for the study. However, couples were not considered for the study if either partner had a 'major psychiatric illness' such as schizophrenia or bipolar disorder and was currently undergoing psychiatric treatment, or if the woman was at the stage of physiological gestation during the recruitment process. Couples who did not actively experience infertility and already had a biological child were not considered as those with severe illness or linguistic obstacles that hindered them from completing the questionnaire. The sample size was calculated a priori for the primary comparison of psychological distress between female and male partners (paired design) using a two-sided $\alpha=0.05$ and 80% power. Based on prior literature showing small-to-moderate gender differences in anxiety/depression among infertile couples, an effect size of $d=0.40$ was assumed [10]. As the primary objective was to compare psychological distress between female and male partners using a paired design, the sample size calculation was based on the expected standardized mean difference rather than the estimation of depression prevalence. Under these assumptions, the minimum required sample was approximately 50-70 couples (depending on the within-couple correlation), and after inflating for incomplete/non-response data, a target of ~80 couples was set. We therefore recruited 130 couples (260 individuals) to ensure adequate power for paired comparisons and to support multivariable analyses. The non-probability convenience (consecutive) sampling technique was used in sampling, whereby all eligible and willing couples present in the infertility clinic within the time period of the study were approached and sampled. Structured questionnaires administered by the interviewer in a confidential environment were used as a method of collecting data. The partners were also interviewed individually to avoid influencing each other. The questionnaire contained three parts, namely sociodemographic and clinical data, clinical assessment with the help of the validated tool like the Hospital Anxiety and Depression Scale (HADS), and the assessment of coping strategies with the help of the Brief COPE inventory [11, 12]. Psychological distress and coping were measured using validated instruments. The Hospital Anxiety and Depression Scale (HADS) is a 14-item questionnaire (7 anxiety, 7 depression) with the items scored on a 0-3 scale to generate subscale scores of 0-21; the scores were interpreted as 0-7 normal, 8-10 borderline abnormal, and 11-21 abnormal with a cut-off of ≥ 8 on any of the subscales, used to indicate clinically significant anxiety or depression. The Brief COPE (28-item) was used to measure coping strategies in terms of 14 subscales (2 items) rated 1-4, where a higher score indicated a correspondingly higher use of the given coping strategy, and the subscales were

then subjected to the analysis in terms of broader domains (problem-focused, emotion-focused, and avoidant coping). Suitable original validation sources were found in the case of HADS and Brief COPE. All participants received a comprehensive account of the study purpose and procedures, and provided written informed consent. Ethical approval was obtained from the Hospital Research & Ethics Committee of Maqsood Medical Complex General Hospital (reference #62/MMCGH03/25), and for the entire study, confidentiality was upheld. Couples exposed to considerable psychological distress were referred for counseling and additional evaluation to an appropriate mental health professional.

Data entry and subsequent analyses were conducted using SPSS version 26.0. Data were summarized using descriptive statistics by calculating means and standard deviations for continuous variables as well as frequencies and percentages for categorical variables. Comparisons between male and female partners were evaluated using paired statistical tests, while factors associated with anxiety, depression, and coping styles were assessed using logistic and linear regression analyses. The threshold for statistical significance was set at $p < 0.05$.

RESULTS

We utilized a sample of 130 infertile couples, which corresponds to 260 individuals. The women had a mean age of 31.4 ± 5.8 years, while men had a mean age of 35.7 ± 6.4 years. The sample population was made up of participants mostly from urban regions, which was 61.5%, while 70% of couples had a household income of less than PKR 100,000. The majority of women, 113, which forms 78.5%, were unemployed, while 66.2% of men were employed as skilled workers and above. Out of the total sample population, primary infertility was recorded from 84 couples, which corresponds to 64.6%, while the remaining 46 couples, which is 35.4%, had secondary infertility. The mean duration of infertility was 4.2 ± 2.1 years (Table 1).

Table 1: Sociodemographic and Clinical Characteristics of the Study Participants

Variables	Female Partner, n (%)	Male Partner, n (%)
Mean Age (Years)	31.4 ± 5.8	35.7 ± 6.4
Residence		
Urban	80 (61.5%)	80 (61.5%)
Rural	50 (38.5%)	50 (38.5%)
Occupation		
Employed	28 (21.5%)	86 (66.2%)
Housewife or Unemployed	102 (78.5%)	44 (33.8%)
Monthly Household Income < PKR 100,000	91 (70%)	91 (70%)
Type of infertility		
Primary	84 (64.6%)	—
Secondary	46 (35.4%)	—

Duration of infertility (Years, Mean \pm SD)	4.2 ± 2.1	—
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Clinically significant findings of anxiety were recorded according to the Hospital Anxiety and Depression Scale (HADS), and documented anxiety levels of women were 38.5%, while those of men were 24.6%. The population diagnosed with depressive symptoms was 32.3% of women and 18.5% of men. Women had a mean anxiety score of 10.6 ± 3.8 , which was statistically higher than men with a score of 8.4 ± 3.2 ($p < 0.001$). Being less than the defined alpha threshold statistically confirms the result. Women again were able to report higher mean scores of depression, which was 9.8 ± 3.6 , compared to the men with a score of 7.9 ± 3.3 ($p = 0.002$) (Table 2).

Table 2: Psychological Distress Among Male and Female Partners (HADS Scores)

Variables	Female Mean \pm SD	Male Mean \pm SD	p-value
Anxiety Score	10.6 ± 3.8	8.4 ± 3.2	<0.001
Depression Score	9.8 ± 3.6	7.9 ± 3.3	0.002
Anxiety Present (HADS \geq 8)	50 (38.5%)	32 (24.6%)	0.010
Depression Present (HADS \geq 8)	42 (32.3%)	24 (18.5%)	0.008

According to problem-focused coping (active coping, planning, positive reframing), the Brief COPE Inventory is the most frequently used by both genders, although more frequently used by men. On the other hand, more females used emotion-focused coping (seeking emotional support, religion, acceptance). Avoidant coping (denial, disengagement, and substance use) was identified in 28.5% of men and 34.6% of women, and with a significant association to raised anxiety and depression scores ($p < 0.05$) (Table 3).

Table 3: Coping Strategies Used by Infertile Couples (Brief COPE Subscale Scores)

Variables	Female Mean \pm SD	Male Mean \pm SD	p-value
Problem-focused coping	24.6 ± 5.2	25.8 ± 4.7	0.120
Emotion-focused coping	26.9 ± 4.9	23.5 ± 5.1	<0.001
Avoidant coping	18.2 ± 4.3	16.7 ± 3.9	0.030

Given the strong inverse association of anxiety ($r = -0.42$) and depression ($r = -0.38$) with problem-focused coping, it could be said that these results demonstrate the change in problem-focused coping to anxiety and depression. In contrast, avoidant coping was related to anxiety ($r = 0.49$) and depression ($r = 0.45$). A positive correlation was also found with emotion-focused coping. In this case its religious and acceptance self-blame and venting with the distress (Table 4).

Table 4: Correlation between Coping Strategies and Psychological Distress

Variables	Anxiety (r)	Depression (r)	p-value (Anxiety)	p-value (Depression)
Problem-Focused Coping	-0.42	-0.38	<0.001	<0.001
Emotion-Focused Coping	0.15	0.12	0.090	0.160
Avoidant Coping	0.49	0.45	<0.001	<0.001

[After controlling for the age, duration, and type of infertility, the multivariate regression analyses identified avoidant coping ($\beta=0.36$, $p<0.001$) and female gender ($\beta=0.29$, $p=0.002$) as significant contributors to increased psychological distress.]

The study observed a moderate positive correlation ($r = 0.54$, $p < 0.001$) between partners' coping styles, which suggested mutual influence among spouses regarding coping behaviors. Couples' discordancy on coping, relative to concordancy on problem-focused coping, was associated with marked increases in joint distress (Table 5).

Table 5: Concordance of Coping Strategies between Partners and Mean Distress Scores

Coping Strategy	Low Anxiety / Depression (n=66)	High Anxiety / Depression (n=64)	χ^2	p-value
Problem-Focused Coping (Active Coping, Planning, Positive Reframing)	45 (68.2%)	21 (32.8%)	10.92	0.001
Emotion-Focused Coping (Acceptance, Religion, Emotional Support)	14 (21.2%)	25 (39.1%)	4.66	0.031
Avoidant Coping (Denial, Behavioral Disengagement, Self-Blame)	7 (10.6%)	18 (28.1%)	6.84	0.009

DISCUSSION

The outcomes of the study indicate the stark reality of the psychological impact of infertility on couples, especially women, who suffer from depression and anxiety. In addition, the outcomes indicate that distress was lower among those who practiced problem-focused coping, and higher psychological morbidity was found among avoidant copers. These outcomes support the evidence being generated from different parts of the world on the psychosocial aspects of infertility. The overall prevalence of anxiety and depression among women in this study, 38.5% and 32.3%, respectively, is not different from other studies in the region and abroad. Simionescu *et al.* for example, found that close to a third of infertile women suffer from clinically significant psychological distress [13]. This emphasizes the need to view infertility as a chronic stressor, not a medical issue, a position taken by many. Similarly, Cousineau *et al.* recognize infertility as one of the more distressing life events concerning emotional reaction, on the same par as chronic illnesses such as cancer and HIV [14]. The disparity in the anxiety and depression scores in our sample, with women faring worse,

is consistent with the results of Peterson *et al.* who found that women undergoing infertility treatment showed more emotional self-blame, in contrast to men who stayed quiet and were emotionally withdrawn [15]. Hasanpoor-Azghdy *et al.* have illustrated that in the South Asian and Middle Eastern settings, the emotional and marital conflicts that arise due to infertility are disproportionate in women due to the existence of a strong stigma directed socially towards women, especially in the case of infertility [16]. Inferring the same set of sociocultural factors, in our study, an expectation of early pregnancy and the stigma of infertility being of female origin are likely factors in the disproportionate psychological stress that women endure throughout the process. In this study, the problem and emotion-focused coping strategy prevalence mirrors the findings of Mohammadi *et al.* who noted that positive reframing, stress planning, and religious coping are characteristic of infertile couples [17]. Analogously, the study of Gourounti *et al.* has shown that the use of active coping and positive reinterpretation during assisted reproduction is beneficial in stress reduction, stressing the importance of adaptive coping [18]. In contrast, the findings of our study relating avoidant coping to high levels of anxiety and depression are in line with the findings of Reisi *et al.* who showed that avoidant coping in one partner negatively influences both partners' psychological well-being through dyadic interdependence [19]. The value of moderate concordance found between partners' coping styles ($r = 0.54$, $p < 0.001$) reinforces the idea that coping behaviors among couples are interdependent. This observation is in line with the dyadic stress model of Falconier *et al.* who argue that couples' responses to infertility are interdependent, and supportive communication lessens the ache [20]. Current findings also indicated that couples with shared problem-focused coping styles reported the lowest combined distress, highlighting the need for couple-based approaches as the primary form of intervention, rather than individual counseling. The mean duration of infertility (4.2 years) in the present study was in line with what has been reported by Hwang *et al.* in which the prolonged duration of infertility has been associated with progressive emotional exhaustion and a dwindling adherence to the treatment [21]. The inverse association between problem-focused coping and psychological distress signals, improving the case for psychological counseling, to which Braverman *et al.* have been a strong advocate for the mental infertility care framework, in which mental healthcare is embedded in the everyday practice of infertility care [22]. Overall, the study's findings support the notion that infertility is a shared emotional experience, and addressing the psychological component alongside medical treatment

can improve outcomes and quality of life for both partners. Also, the findings of the study suggest that distress and avoidant coping should be identified as problems that require early intervention and counselling. This may suggest that in our context, the stigma of emotions and the gendered expectations would be strongest in those contexts, which is why couple therapy that emphasizes communication, joint conflict resolution, and emotional control may help the most.

This study has several limitations. It used a cross-sectional design, so relationships between coping and psychological distress were examined at one point in time. The sample was recruited from a clinical setting and included mostly urban participants, which may limit representation of the wider infertile population. Psychological distress and coping were assessed through self-report questionnaires rather than clinical diagnostic interviews. In addition, some relevant psychosocial factors and the emotional interdependence between partners were not fully included in the analysis.

CONCLUSIONS

The results analysis indicates that infertility has adverse psychological effects on both partners, with greater vulnerability in women towards anxiety and depression. The type of coping strategy adopted is instrumental in predicting emotional well-being; couples using problem-focused coping exhibited better adjustment compared to avoiding and emotion-centered coping. These results reinforce the need for infertility to be treated as a medical and psychological problem simultaneously.

Authors' Contribution

Conceptualization: MY

Methodology: UU, LS

Formal analysis: NR

Writing and Drafting: UU, NR, LS

Review and Editing: MY, UU, NR, LS

All authors approved the final manuscript and take responsibility for the integrity of the work.

Conflicts of Interest

All the authors declare no conflict of interest.

Source of Funding

The author received no financial support for the research, authorship and/or publication of this article.

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