Comparison of Anxiety, Depression and Mood Disturbances Among Fertile and Infertile Women

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Abstract
Objective: This study aimed to compare Anxiety, Depression and Mood Disturbances in fertile and infertile Women.

Design: The study included 68 (34 infertile and 34 fertile women) from various hospitals of Rawalpindi, Pakistan.

Place and duration of study: Data was collected from various Hospitals of Rawalpindi from Jan to July 2015 with duration of six months.

Methodology: A comparative study was carried out in the premise of Rawalpindi by using two separate scales to collect the data. The Profile of Mood Scale (POMS) (by Curran & Shelly) used to investigate the mood disturbance among both the groups while the Hospital Anxiety and Depression Scale (HADS) (by Zigmond & Snaith) were used to assess the level of anxiety and depression.

Results: The results indicated that level of Anxiety, Depression and Mood disturbance were higher in infertile women as compared to fertile women and there is positive relationship among anxiety, depression and mood disturbance.

Conclusion: Infertile women are vulnerable group having high prevalence of anxiety, depression and mood disturbances.

Keywords: Anxiety, Depression, Mood disturbances, Fertile, Infertile Women. Infertility.

Introduction

Need to have a child is an inborn wish in all beings. Fertility is the innate gift and having a child is an important aspect of marital life. Women after childbirth feel themselves to be psychologically and socially complete and satisfied but they experience pronounced feelings of defectiveness, incompetence, and despair if not to be conceived.¹ Infertility or inability to conceive affects one in six (17%) couples of childbearing age. Infertility is a painful experience which significantly affects their lives leading to profound social suffering for infertile couples.² Infertility is gradually increasing over the past few years and Psychological problems were also
considered to be an important cause of infertility along with other factors of infertility. Most of the time infertility is misunderstood with reference to a female’s inability to conceive. However, 5-10% of infertility is not attributable to any factor and called unexplained. Infertile women often have distressing emotions similar to any event of significant loss due to loss of ability to procreate or fertile. Typical psychological reactions include unhappiness, grief, anxiety, depression and mood disturbances as well as low self-esteem, low confidence and sense of loss of identity. Psychological problems like anxiety and depression may further contribute to primary infertility by decrease sperm motility in male and lower pregnancy rate in the female partner.

The estimated prevalence of mental health problems ranges from 30% to 80% as reported in different studies. In developing countries, including Pakistan, social status of women is defined by their fertility capacity and having children is the only way to improve her social status and respect in home. Moreover, infertility have significant social sequelae for women which include including stigmatization, marital discord, separation or divorce, social isolation and domestic violence. Inability to conceive is stressful for both husband and wife but several studies suggested gender base difference in anxiety level in infertile couples. Women feel more distress because of involvement of complex painful testing and checkup procedures. Fertile women may also have mood disturbance because excessive strain as a result of looking after their children and home.

In Pakistani culture having a child is considered to be most important thing for any couple. Sometimes, Expectations from society and family especially from in laws keeps the couple especially the wife in a very stressful situation and embarrassment.

In recent years, infertility has become an important reproductive health problem encountered by many Pakistani couples and this study was conducted to highlight this fact.

It was hypothesized in this study that there would be greater anxiety, depression and mood disturbances among infertile women.

### Methodology

This case-control study was carried out among 68 purposively selected women in various Hospitals of Rawalpindi from Jan 15 to July 15,2016. Out of 68 women 34 were infertile and 34 were fertile women. Married and literate (at least matriculate) fertile and infertile women of childbearing age (25-50) with at least 2 years of marriage who had no past history of psychiatric illness were included in this study and women married within last 2 years and having past history of any psychiatric illness were excluded from this study.

Consent of the participants and Personal/demographic data was gathered on self-made Demographic profile Performa and entered on SPSS spreadsheet, keeping in view their privacy and confidentiality after approval from the ethical committee. Instructions were given along with a questionnaire to the participants in their local language. Two separate psychometric scales used to collect the data. The Hospital Anxiety and Depression Scale (HADS) was used to assess the level of anxiety and depression. Hospital Anxiety and depression Scale developed by Zigmond and Snaith developed The Hospital Anxiety and Depression Scale (HADS) in 1983. HADS was used to evaluate the level of anxiety and depression among the participants of two groups. This scale consists of 14 items in which seven measures depression and seven measures. It is used in several studies and its reliability and validity is excellent. HADS appears to have high internal consistently; Cronbach’s alpha value for the total HADS was 0.884.

The Profile of Mood Scale (POMS) used to investigate the mood disturbance among both the groups. Profile of Mood States scale was developed by Douglas Maurice & Leo in 1971. The scale consists of 65 items describing mood states of people. It is self-administered scale used in several studies and found highly reliable and valid tool. POMS appears to have high internal consistency; Cronbach’s value is 0.63 to 0.96.It is found highly reliable and valid tool to assess mood states.

The rationale of present study was to classify the level of anxiety, depression and mood disturbances among fertile and infertile women. SPSS version 20 was used for statistical analysis of data.

### Results

In this study a total 68 women enrolled who fulfilled the criteria to participate in the study. Mean age of fertile women was 25.91±7.74 while infertile women were 28.32 ± 6.75. Among both groups (n=68) about 34 % women were matriculated, 10 % were a graduate, 23 % were primary pass and 33 % were illiterate. Mean Score on anxiety subscale of Hospital Anxiety and Depression Scale (HADS) for Fertile (n=34) was 7.03 ± 4.77 as compared to infertile (N=34) women 12.24 ± 4.418 and this difference was statistically significant (p< 0.001) (table 1). Mean Score on depression subscale of Hospital Anxiety and Depression Scale (HADS) for Fertile (n=34)
The proposed mechanisms through which anxiety and depression could directly affect infertility involve the pathophysiological state of the anxiety and depression state which includes various biological change like high prolactin level, dysfunctional immune system changes, hypothalamic-pituitary-adrenal (HPA) axis as well as thyroid dysfunction. It is considered that stress directly effects cortisol level by increasing the release hormones from the pituitary gland and have a significant negative effect on fertility.

Although the relationship between psychological stress including depression and infertility has been widely accepted.

The present study intended to explore the extent of Anxiety, Depression and Mood disturbances in Pakistani infertile women supported in lines of the current literature. Our research findings related to anxiety suggested that the level of anxiety was more in infertile women as compared to fertile women (Table 2. 12.24% vs. 7.03%; p< 0.001) which verified the first hypothesis. In a previous comparison study of 100 infertile women by Lamia et al, it was also higher (14.63 % vs. 3.69 %; p< 0.000). 41% subjects in the study group had moderate to severe anxiety and 29% had extremely severe anxiety, whereas in control group 10% had mild and only 1% had moderate anxiety and no subject had severe or extremely severe anxiety. This verified our first hypothesis.

Table IV: Mean Scores, Standard Deviation and t-value for the Profile of Mood States Scales (POMS) Fertile (n=34) and infertile (N=34) women.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertile</td>
<td>34</td>
<td>85.88</td>
<td>33.04</td>
<td></td>
</tr>
<tr>
<td>Infertile</td>
<td>34</td>
<td>140</td>
<td>27.65</td>
<td></td>
</tr>
</tbody>
</table>

df=66

Parenting a child is every couple’s dream and an important event in married life for both men and women. Infertile or childless women in developing countries like Pakistan, unfortunately, have societal discrimination and stigmatization which may sometimes lead to psychosocial consequences such as anxiety, depression, sexual dysfunction, and social isolation etc. Overall prevalence of psychological problems are estimated to be 25-60% in infertile couples usually caused by a complexity of factors such as cultural environment, gender, duration, etiology, and treatment method. A number of studies have found that the incidence of mood related disorders like anxiety or depression in infertile couples is significantly higher than in fertile controls. A study conducted by Shoaib et al, also revealed that depression and anxiety are the most common illnesses affecting mental health and wellbeing of Infertile Women.
In previous study by lamia et al, it was (16.14% vs. 3.90 %; p< 0.00) clinic show that 79% of the patients with infertility had some degree of depression and 49% of the study group subjects had moderate to severe degree of depression and 10% had extremely severe depression. This was higher compared to control group where only 9% had mild depression and no subjects were found having higher degrees of depression.22 Volgsten H et al reported that 26.2% of females had suffered from any type of mood disorder. Depression was the most common mood disorder prevalent in 10.9% of females and anxiety disorder was second most common disorder.23 A study by Omoaregba et al, also found that depression (21%) was the commonest diagnosis followed by GAD (9%) and adjustment disorder (3%).24 There were slightly different results in other studies. Ramezanzadeh F et al, found in a survey that 40.8% of women had depression and 86.8% had anxiety.21 Another study of 50 infertile couples by Pragati S et al, suggested 54% of females had psychiatric morbidity. The most common diagnosis was MDD (Major Depressive Disorder) (18%), whereas the second most common diagnosis was GAD (Generalized Anxiety Disorder) (16%) Which support our result of the higher incidence of anxiety and depression in infertile women 25. According to the third hypothesis of the study the level of Anxiety and Depression is more in infertile women as compared to fertile women. This hypothesis was also verified by the scores (Table IV. 21.97 % vs 12.65 %; p< 0.001). A survey of 100 infertile women in Ghana using the Beck Depression Inventory questionnaire reported prevalence of depression was 62.0% with a significant positive correlation of depression with age of the women and the duration of infertility.26 Similarly, Guerra D et al. found the prevalence of depression to be 69% among infertile women27 in China. Higher rates of depression among infertile females have been reported from Japan28 and Gambia29 Lawson AK et al and Kraaji V et al have also shown higher rates of anxiety in patients undergoing infertility treatment.30,31 This fourth hypothesis was verified by studies of Lamia Yusuf et al and Drosdzel A et al which revealed a score of (35.44%) above the cut-off for severe symptoms of depression in infertile women compared with 19.47% of fertile women. In the case of anxiety evaluation, there was significant total prevalence among infertile women (15.53%).32 In this study group, 69% subject had some degree of stress (mild stress in 14%, moderate stress in 21%, severe stress in 29% and extremely severe stress in 5%. Similarly, stress scores have been found to be higher in infertile women by Luk BH et al, Dooley M et al and El Kissi Y et al have shown higher prevalence of stress (69%) among infertile females, in their studies.33-35 Most of the studies in the literature support our findings but a cross-sectional study by Sezgin H et al, using Hospital Anxiety and Depression Scale (HADS) in married women disregard our study. In this study the mean anxiety subscale score and depression subscale score of HADS were slightly higher in the infertile group than in controls as our study, but the differences were not statistically significant like our study. The proportion of subjects with clinically significant anxiety (i.e., anxiety subscale score of HADS ≥11) was significantly higher (31% v. 17%, p=0.020) in infertile women than in fertile women validating our study but like our study depressive symptoms (i.e., depression subscale score of HADS >8) were not clinically significantly significant (43% v. 33%, p=0.145)36 which disregard our study.

Findings of previous studies revealed clinically significant relationship in Anxiety, Depression, Mood disturbance and Infertility. The present study supported the past findings that of a positive relationship among anxiety, depression, and mood disturbances. As we know the fact that Not only infertility but also its treatment outcome is influenced by psychological factors and mental health of couple. Recent research studies indicate that treatment of anxiety and depression improves the conception rate in infertile patients. A recent meta-analysis by hammerli K et al has also found that psychological interventions have positive impact on pregnancy rate.37

**Conclusion**

Infertile women are a vulnerable group having high prevalence of anxiety, depression and mood disturbances. Most of them presenting to various medical setups with somatic symptoms are infact manifestations of their underlying anxiety and depression.

**References**

10. Wischmann T, Stammer H, Scherg H, Gerhard I, Verres R. Psychosocial characteristics of infertile couples: a study by the “Heidelberg fertility consultation service” Hum Reprod 2001 16(8);1753-61