

Psychological Distress in Infertility Patients Receiving Treatment at a Specialized Hospital: A Study in a Tertiary Care Setup

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Abstract:

Background: Infertility is a common issue that causes physical, emotional, financial, and psychological strain on couples. Women are often blamed for infertility in developing countries, despite only one-third of infertility issues being caused by women. Little research exists on psychiatric morbidity in infertile patients in India and their coping mechanisms, making this study valuable. The study aims to investigate the prevalence of infertility and associated demographic factors in a tertiary care facility.

Methods: This case control study was conducted in a LLRM medical college Meerut, including 280 females attending the obstetrics and gynaecology opd and infertility clinic opd. A questionnaire was used to collect data on infertility and associated factors, and standardized scales were used to assess depression, anxiety, and coping strategies. SPSS version 20 was used for data analysis.

Conclusion: Infertile women are at high risk of psychological morbidity, and risk factors such as multiple abortions, Nulliparity, and lack of support can increase stress. Healthcare professionals should be aware of these factors and evaluate potential patients, using a quick screening tool to identify those in need of psychological support.

Keywords: Infertility, Depression, Psychological Distress, Scales.

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Introduction

Infertility is the inability to conceive without the use of contraceptives after a year of trying [1] for couples with women under the age of 35. Contrarily, couples with women over the age of 35 who have not gotten pregnant after six months without using contraception are considered to be infertile. Infertility is extremely common in the world. Infertility is regarded as a health issue when its prevalence in a country exceeds 15% [2]. According to estimates, nearly 10% of couple's worldwide struggle with infertility [3].

According to estimates, the prevalence of infertility is highest in Canada, where it is expected to be between 11.5 and 15.7% [4], followed by India (12.6% [5]), the US (10%), and China (1.72%). Infertility puts a couple under physical, emotional, and financial strain in addition to psychological strain [7-9]. The married couple's quality of life is negatively impacted. Additionally, it might increase the likelihood of divorce [10]. In impoverished countries, women are typically held accountable or blamed for the couple's infertility [11,12]. Only one-third of infertility problems are however, due to women [1]. Few research [13-17]

document the incidence of anxiety, depression, and low self-esteem in couples without children. The psychological strain that a married couple experiences as a result of infertility is comparable to that seen in patients undergoing cardiac rehabilitation, cancer treatment, and hypertension treatment [18].

There is currently very little information available in the Indian context that discusses the range of psychiatric morbidity reported in infertile patients. Additionally, there is a dearth of information to identify the coping mechanisms used by patients in the Indian context [19]. Our study is an effort to present the Indian situation as a result.

Materials and Methods

This was a case control study conducted in a tertiary care setting at a LLRM medical college, Meerut. Patients attending the obstetrics and gynaecology opd & infertility clinic opd, served as study participants. Patients who were married and had children were considered controls; these were typically the patients who attended the family planning OPD. Although every effort was made to

include all patients attending these clinics during the proposed time period, those who declined participation were excluded. The research was carried out over a six-month period, from October 2022 to march of 2023.

Inclusion Criteria: The study included a total of 280 females who are willing to give consent for participation in the study.

Exclusion Criteria: Patients with a history of medical illness as well as those seeking medical abortion were excluded from the study. Patients with a history of mental illness were also barred.

Infertility data was gathered using a pre-approved questionnaire. Participants signed a consent form and were promised of secrecy. Based on pregnancy outcomes, infertility was classed as primary or secondary. The questionnaire asked about demographics, obstetrics, and the cost of infertility treatment.

The Beck Depression Inventory [20,21] consists of 21 questions designed to assess the presence of symptoms such as hopelessness, irritability, lack of concentration and interest, guilt, fatigue, weight loss, and lack of interest in sex. It is intended for people over the age of 13.

The standard cut-offs for minimal, mild, moderate, and severe depression is 0-9, 10-18, 19-29, and 30-63, respectively [22]. The Hospital Anxiety and Depression Scale [23] is a standardized questionnaire used to assess the prevalence of anxiety and depression in study participants. This scale has 14 items, 7 of which are related to anxiety and 7 to depression the Brief Cope Inventory evaluates a wide range of coping responses [24]. There are 28 items in total. The scale covers 14

dimensions in total, with each dimension having two items. Coping strategies are classified into two types: problem-focused strategies and emotion-focused strategies. Problem-focused measures include active planning, using instrumental support, and planning, whereas emotion-focused measures include self-blame, religion, positive reframing, humour, and denial [25].

To estimate depression and anxiety, a sample size of 123 cases and 123 controls is required, with a 95% confidence level, a level of significance of 5%, and an effect size of 0.17. To compare the case and control groups, the t-test was used. Fischer's Chi-Square was used to contrast fertile and infertile females.

SPSS version 20 was used to analyse the data.

Result/Discussion:

In all, 296 women participated in the study. The study excluded 10 women from the family planning OPD and 6 from the infertility clinic. Women who were younger than 18 or older than 45, weren't available for data collection, or had co-morbid conditions, including but not limited to psychiatric diseases, were all excluded from the study.

Hence, 280 females in all were included in the study. This included 140 females from the infertility clinic and the family planning clinic, respectively. Female cases who were infertile on average were 26.69 5.361 years old. The average age of the controls was 28.70 5.943 years. 45.6% (36/75) of the female patients at the infertility clinic were between the ages of 26 and 35. [Table/Fig-1] shows the sociodemographic features, gynaecological history, and obstetric history of the cases and controls.

Table 1: Socio demographic profile of the study population (N=140)

Infertility Clinic Patients (N=140)		
Indices	Frequency (N=140)	Percentage
Age of the Study Subjects		
18-25	39/140	27.9%
26-35	79/140	56.4%
36-45	22/140	15.7%
Residence		
Rural	62/140	44.3%
Urban	78/140	55.7%
Employment		
No	76/140	54.3%
Yes	64/140	45.7%
Education		
No	67/140	47.9%
Yes	73/140	52.1%
Abortion		
0	42/140	30%
1	61/140	43.6%
2	37/140	26.4%
3		
No of Child		

0		74/140	52.9%
1		45/140	32.1
2		19/140	13.6%
3		2/140	1.4%
Spouse	supportive		
No		92/140	65.7%
Yes		48/140	34.3%
Relative	Supportive		
No		82/140	58.6%
Yes		48/140	41.4%
Menses			
Menorrhagia		45/140	32.1
Regular		9/140	6.4%
Irregular		86/140	61.4%
Gynae	infection		
No		67/140	47.9%
Yes		73/140	52.1%
Infertility	Duration		
<5	years	60/140	42.9%
6-10	Years	50/140	35.7%
>10 Years		30/140	21.4%
Previous treatment for infertility			
No		56/140	40%
Yes		84/140	60%
Family Planning Clinic Patients (N=140)			
Indices		Frequency	Percentage
Age of the Study Subjects			
18-25		30/140	21.4%
26-35		58/140	41.4%
36-45		52/140	37.1%
Residence			
Rural		71/140	50.7%
Urban		69/140	49.3%
Employment			
No		53/140	37.9%
Yes		87/140	62.1%
Education			
No		54/140	38.6%
Yes		86/140	61.4%
Abortion			
0		115/140	82.1%
1		19/140	13.6%
2		4/140	2.9%
3		2/140	1.4%
Number of Children			
0		2/140	1.4%
1		41/140	29.3%
2		81/140	57.9%
3		16/140	11.4%
Spouse	supportive		
No		10/140	7.1%
Yes		130/140	92.9%
Relative	Supportive		
No		22/140	7.1%
Ye		118/140	84.286%
Menses			
Menorrhagia			
Regular		131/140	93.6%
Irregular		3/140	6.4%

Gynaecological infection		
No	3/140	2.1%
Yes	137/140	97.9%

Table 2: Socio demographic profile and the prevalence of depression of the infertile study subjects; after utilizing the Becks Depression Inventory (N= 140)

Infertility Clinic Patients (N=140)								
Indices	Frequency Of pts with depressed mood	Frequency of pts not suffering from depressed mood	Percentage of pts with Depressed Mood	Chi-Sq/ p-value	Odds Ratio (Crude)	p-value	ODDs adjusted	95% CI
Age of the Study Subjects				p< 0.005		0.018		
18-25	30/79	9/61	38%	Chi-Sq-				
26-35	36/79	43/61	45.6%	10.515				
36-45	13/79	9/61	16.5%					
Residence				p- 0.735,	0.890			
Rural	34/79	28/61	43%	Chi-Sq-				
Urban	5/79	33/61	57%	0.114				
Employment				p- 0.0001,	0.175	0.014		
No	57/79	19/61	72.2%	Ch Sq-				
Yes	22/79	42/61	27.8%	23.321				
Education				p- 0.194,				
No	34/79	33/61	43%	Ch Sq-				
Yes	45/79	28/61	57%	1.687				
Abortion				p- 0.0001,		0.006	3.067	1.369-6.873
0	0/79	0/79	0%	Chi-Sq-				
1	5/79	37/61	6.3%	50.729				
2	46/79	15/61	58.2%					
3	28/79	9/61	35.4%					
Number of children				p- 0.0001,		p- 0.0001	0.125	0.049-0.318
0	57/79	17/61	72.2%	Chi-Sq-				
1	20/79	25/61	25.3%	35.663				
2	1/79	18/61	1.3%					
3	1/79	1/61	1.3%					
Spouse supportive				p- 0.029,	0.456			
No	58/79	34/61	73.4%	Chi-Sq-				
Yes	21/79	27/61	26.6%	4.776				
Relative Supportive				p- 0.0001,	0.155			
No	61/79	21/61	77.2%	Chi-Sq-				
Yes	18/79	40/61	22.8%	25.972				
Cost of treatment borne by				p- 0.0001,		p- 0.0001	0.074	0.023-0.239
Maternal	15/79	2/61	19%	Chi-Sq-				
Inlaws	38/79	8/61	48.1%	35.902				
Mother	26/79	51/61	32.9%					
Husband and Wife								

Menses Menorrhagia Regular Irregular	32/79 5/79 42/79	13/61 4/61 44/61	40.5% 6.3% 53.2%	p- 0.051, Chi- Sq- 5.964				
Gynaecological infection No Yes	29/79 50/79	38/61 23/61	36.7% 63.3%	p- 0.003, Chi- Sq- 9.030	2.849			
Infertility Duration <5 years 6-10 Years >10 Years	22/79 31/79 26/79	38/61 19/61 4/61	27.8% 39.2% 32.9%	p- 0.0001, Chi- Sq- 21.318		p- 0.0001	6.273	2.333- 16.864
Previous treatment for infertility No Yes	18/79 61/79	38/61 23/61	22.8% 77.2%	p- 0.0001, Chi- Sq- 22.389	5.599	p- 0.0001	15.862	3.821- 65.84

Table 3: Distribution of Depressed Females according to the Brief Cope Inventory (N=79)

Indices	Percentage of depressed females	p-value
Self-Distraction	46/79(58.2%)	0.0001
Active Coping	44/79(55.7%)	0.0001
Denial	41/79(51.9%)	0.104
Substance Use	16/79(20.3%)	0.006
Use emotional Support	42/79(53.2%)	0.0001
Use instrumental Support	55/79(69.6%)	0.761
Behavioural Disengagement	56/79(70.9%)	0.640
Venting	57/79(72.2%)	0.0001
Positive Reframing	43/79(54.4%)	0.126
Planning	38/79(48.1%)	0.024
Humor	29/79(36.7%)	0.126
Acceptance	48/79(60.8%)	0.431
Religion	43/79(54.4%)	0.0001
Self-blame	34/79(43%)	0.004

Table 4: Socio demographic profile and the prevalence of anxiety and depression of the infertile study subjects; after utilizing the Hospital Anxiety and Depression Scale (N= 140)

Infertility Clinic Patients (n=140)								
Indices	Frequency Of Pts suffering from depression and Anxiety (N=96)	Frequency of pts not suffering from depression (N=44)	Percentage Of pts suffering from depression	Chi-Sq/ p-value	Odds Ratio (Crude)	p-value	ODDs adjusted	95% CI
Age of the Study Subjects 18-25 26-35 36-45	34/96 45/96 17/96	5/44 34/44 5/44	35.4% 46.9% 17.7%	p<0.003, Chi-Sq- 11.980				
Residence Rural Urban	43/96 53/96	25/44 19/44	55.7% 44.3%	0.859				
Employment No	69/96	7/44	71.9%	p- 0.0001,	0.074	0.033	0.300	0.100- 0.906

Yes	27/96	37/44	28.1%	Chi-Sq-38.081				
Education								
No	37/96	30/44	38.5%	p-0.001, Chi-Sq-10.622	3.417			
Yes	59/96	14/44	61.5%					
Abortion						0.006	2.821	1.345-5.917
0	0/96	0/44	0%	p-0.0001, Chi-Sq-56.263				
1	10/96	32/44	10.4%					
2	55/96	6/44	57.2%					
3	31/96	6/44	32.3%					
Number of Children								
0	60/96	14/44	62.5%	p-0.003, Chi-Sq-13.661				
1	23/96	22/44	24.0%					
2	11/96	8/44	11.5%					
3	2/96	0/44	2.1%					
Spouse supportive								
No	69/96	23/44	71.9%	p-0.023 Chi-Sq-5.146	0.429			
Yes	27/96	21/44	28.1%					
Relative Supportive								
No	66/96	16/44	68.8%	p-0.0001, Chi-Sq-13.042	0.260			
Yes	30/96	28/44	31.2%					
Cost of treatment borne by								
Maternal	15/96	2/44	15.6%	p-0.0001, Chi-Sq-33.747		0.0001	0.205	0.089-0.474
Inlaws	44/96	2/44	45.8%					
Mother	37/96	40/44	38.5%					
Husband and Wife								
Menses								
Menorrhagia	36/96	9/44	37.5%	p-0.130, Chi-Sq-4.076				
Regular	6/96	3/44	6.2%					
Irregular	54/96	32/44	56.2%					
Gynaecological infection								
No	34/96	33/44	35.4%	p-0.0001, Chi-Sq-18.944	5.471			
Yes	62/96	11/44	64.6%					
Infertility Duration								
<5 years	31/96	29/44	32.3%	p-0.0001, Chi-Sq-19.217		0.0001	4.229	1.927-9.283
6-10 Years	36/96	14/44	37.5%					
>10 Years	29/96	1/44	30.2%					
Previous treatment for infertility								
No	20/96	36/44	20.8%	p-0.0001, Chi-Sq-46.755	17.100	0.007	4.625	1.515-14
Yes	76/96	8/44	79.2%					

Table 5: Distribution of anxious and depressed females according to the Brief Coping Inventory (N=96)

Indices	Percentage	P-value
Self-Distraction	58.3%(56/96)	0.0001
Active Coping	56.2%(54/96)	0.0001
Denial	51%(49/96)	0.104
Substance Use	19.8%(19/96)	0.008
Use emotional Support	52.1%(50/96)	0.0001
Use instrumental Support	70.8%(68/96)	0.751

Behavioural Disengagement	69/96(71.9%)	0.656
Venting	70.8%(68/96)	0.0001
Positive Reframing	53/96(55.2%)	0.147
Planning	47.9%(46/96)	0.025
Humor	33.3%(32/96)	0.656
Acceptance	59.4%(57/96)	0.632
Religion	53.1%(51/96)	0.001
Self-blame	41.7%(40/96)	0.016

The goal of the current study was to use the BDI scale to assess depression prevalence and severity, and the HADS scale to assess depression and mixed anxiety. A study on Chinese women found a greater percentage of depression, at 67%, which is in line with the prevalence of depression recorded in underdeveloped countries like Ghana (62% [26]). The percentage of depression in our study was determined to be 56.4%. This study found greater levels of depression than the Ramezanzadeh et al. study, which found that 40.8% of infertile women had depression [27]. The results of the current study also show that having a job, having a supportive spouse, and having family support appeared to shield against the causes of depression. Yet, the prevalence of sadness in infertile women seems to be increased by the presence of gynaecological diseases and prior infertility therapy. Alhassan et al. have observed similar findings.

as well [26]., it was discovered that the length of infertility has a negative impact on women since it is associated with depression more and more as time goes on [30,27,31,29]. The findings of our study are closely in line with those of Ramezanzadeh et al. and Domar et al. [28,32] in terms of educational status.

Conclusion

It is important to recognize how common anxiety and despair are among infertile women. In addition to looking for obstetrical causes of infertility, these women should be seriously concerned about psychological distress. Also, a number of risk factors, such as the occurrence of two or more abortions, nulliparity, a lack of support from a husband or other family members, etc., may raise the likelihood of psychological stress. When assessing an infertility case, physicians, obstetricians, and other healthcare professionals must maintain these in kind.

Also, it is advised to evaluate potential patients arriving for infertility treatment, particularly if any of the risk factors listed above are present. These risk factors are significantly linked to the prevalence of anxiety and/or depression in these women. For the benefit of doctors and healthcare professionals, a rapid and concise screening tool that can quickly and accurately identify potential

patients who require psychological support should be developed.

Ethical Clearance: The ethical approval was obtained from institute ethical committee prior to the start of the study. The study subject's permission was obtained.

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