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## A descriptive study to assess the level of depression among infertile couples undergoing assisted reproductive treatment at selected infertility clinic of Delhi

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### Abstract

The stress of the non-fulfillment of a wish for a child has been associated with emotional consequence such as anger, depression, anxiety, marital problems, sexual dysfunction, and social isolation. The lifetime risk of depression in males is 8-12% and in females it is 20-26%.

**Methodology:** A cross sectional survey approach was adopted in the study. The study was conducted among 300 couples (150 male and 150 female) diagnosed with infertility and undergoing treatment at ART center of quaternary care hospital at south west Delhi. Data collection was done by interview method using standard questionnaire using Beck depression Inventory.

**Results:** It was observed that out of 300 samples, most of the samples 45.7% belong to the age group of 35-44 years. 76% of subjects had history of primary infertility and about 78% of couples did not have any children and nearly about 48.7% couple had 4 to 6 years duration of infertility. Majority of subjects 153 (51%) had extreme levels of depression and around 141 (47%) of infertile couple had severe levels of depression, and only 6 (2%) of infertile couple had mild to moderate level of depression. Infertile couple had mean depression score of  $41.57 \pm 8.67$  (SD). The study also revealed that about 115 (50.43%) couples with primary infertility had extreme levels of depression. The computed Chi value was 3.762, with (p value 0.152), shows that there is no considerable association between depression, and type of infertility. Majority of the samples 79 (54.11%) with history of 4 to 6 years duration of infertility, had severe depression. 62 (51.67%) samples married for almost 3 years had severe depression, than those married for more than 10 years. The calculated Chi square value was 43.042 with (p value 0.001) significance. The present study concluded that infertile couples had high prevalence of depression, more prevalence was seen among female partners. There was significant association between selected socio demographic variable type of infertility and duration of infertility.

**Keywords:** Infertility and depression

### Introduction

The stress of the non-fulfillment of a wish for a child has been associated with emotional consequence such as anger, depression, anxiety, marital problems, sexual dysfunction, and social isolation. Infertility is a disease of the reproductive system seen in male and female, which is distinct as, the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse, as per World Health Organization (WHO 2010). The lifetime risk of depression in males is 8-12% and in females it is 20-26%. WHO estimates that depression will be the second leading disability after heart disease by 2020 in terms of global disability, and in India 7-10% of the population suffers from minor depressive disorders (Ganguly HC 2000). Depressed mood is closely coupled with other changes notably a lowering of self-esteem, pessimistic or negative thinking, and a reduction in or loss of the experience of pleasure. It is estimated that about 40% of infertile couple's experiences anxiety and 86% experience depression in their life time. Depression is a common health problem in infertile women. The lifetime prevalence of major depression among women is approximately 14% to 21% (Kaplan SS, Sadock VA 2008). Depression may be provoked by the prospect of feeling of infertile leading to helplessness, loss of status in the society (Marcus *et al.* 2013) [5]. This is quite alarming and need immediate attention.

### Need of the study

It is well known that there are negative effects of infertility on quality of life among infertile couples. Sterility may have many psychological effects.

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Partners may become more anxious to conceive, increasing sexual dysfunction, marital discord often develops, especially when they are under pressure to make medical decisions. Emotional stress and marital difficulties are greater in couples where the infertility lies with the man commonly seen in Indian scenario. A huge 27.5 million couples who want to conceive suffer from infertility. Women with fertility problems may be unloved, neglected or abused by their husbands and extended family. As a nurse working in the clinical setting observed the struggle of infertile couples undergoing various invasive procedure for the conception, the pain, stress and agony behind it at times during counseling it was asked by the couples why god is punishing them like this why aren't they blessed with a child. It was also observed that there is so much of social stigma and psychological issues associated with infertility.

### Background of the study

The global estimate report on infertility shows that 72.4 million women are currently infertile with 40.5 million looking for treatment. Emotional distress in infertility is a broad expression that loosely denotes anxiety, depression, grief, crisis, depleting psychological well-being, and all forms of affective and interpersonal disturbances faced by individuals with infertility. The distress is usually associated with involuntary childlessness as it is an unwelcoming event. The developmental crisis associated with childlessness among infertile couples poses a threat to one's sense of self at all levels (individual, family and social). Reproductive failure in humans is not often a single cause but the result of complex interdependencies or related risk factors of demographic, physiological and psychology (Nakamura *et al*, 2008) [6].

SA Oladeji and AD Olaolorun 2018 [7] using the Patient Health Questionnaire-9 to screen for and determine the severity of depression among 110 women with infertility. The study shows 52.7% prevalence of depression.

### Objectives of the study

1. To assess the level of depression among the infertile couples undergoing ART.
2. To explore the association between depression and selected demographic variables (type of infertility and duration of infertility among infertile couples).

### Operational definition

#### Infertility

It is non-success or inability to conceive after twelve months or more staying together and having unprotected sex. The reason for infertility may vary both in male and female.

#### Infertile couples

It is the couples struggling to have babies, and not able to get pregnant despite having unprotected sex

#### Depression

In this study it is assessed as low mood, reduced sleep and feeling of hopelessness that can affect a person's thoughts, behavior, and sense of well-being due to the process of infertility which will be assessed by using BDI (Beck Depression Inventory).

### Hypothesis

1. H<sub>1</sub>- There will be significant level of depression among

infertile couples at  $p < 0.05$  level of significance.

2. H<sub>2</sub>- There will be significant association between selected demographic variable and depression among infertile couples at  $p < 0.05$  level of significance.

### Conceptual framework

Sister Callista Roy's Adaptation Model.

### Review of literature

Alimohamadi *et al.* (2020) [1] has done a Meta-analysis of all cross-sectional studies "The prevalence of depression among Iranian infertile couples: an update systematic review and meta-analysis, Middle East" published between the years 2005 and 2019. Total 230 studies were retrieved and 31 studies were included revealed the predictable occurrence of depression or mean and standard deviation of depression score amid Iranian infertile couple. The collective frequency of depression between samples (infertile couples) was about 35.3% with (95 % CI 24.1–46.5), and it was observed that the occurrence of depression among females was 48.7% (95% CI 24.0–73.3) and males were 9% (95% CI 0% to 23.7%) correspondingly. The results of the research suggested high prevalence of depression among infertile couples. Outcome of research findings highlighted a significant and rising mental disorder among the samples infertile couples that may be overlooked.

Kamala Verma and Girish Chandra Baniya (2016) [3] had done an "A comparative study of depression among infertile and fertile women" at Department of Obstetrics & Gynaecology, at S P Medical College & Hospital Bikaner, Rajasthan, among fertile and infertile women. It was found that both the research groups were similar in respect to age, religion education level, occupation, type of family, socioeconomic status, and area of living. It was also seen that the mean age of fertile women 27.45 and infertile women was 28.72 year respectively. The study observed that majority of females hailed from middle class family in both the research groups, 48 (68.57%) in infertile and 50 (71.42%) in the fertile group respectively. 57.1% of infertile women participants observed to be having depression as compared to 11.4% fertile female group, and which was statistically important at ( $p$ -value = 0.00), and it was also revealed that duration/period of infertility had significant relationship between depression ( $r = 0.588$ ,  $p$ -value = 0.00). Seyyedeh Zahra Masoumi *et al.* (2013) [8] conducted a study on "Prevalence of Depression among Infertile Couples in Iran: A Meta-Analysis Study". Screening of the research heading and abstract of the recovered studies were done to decide on which research studies full fill the enclosure criterion of the current research work. There was no blinding of authors to the names of the research studies' authors, results and journals. On the whole incidence rate of depression was "0.47 (95% Class Interval: 0.40, 0.55)" among infertile couples. The prevalence rate of depression during 2000 to 2005 was "0.44 (95% Class interval: 0.32, 0.56)" and during 2006 to 2011 it was "0.50 (95% Class Interval: 0.43, 0.57)". The occurrence rate of depression among women was "0.46 (95% Class Interval: 0.39, 0.53)" and 0.47 "(95% Class Interval: 0.40, 0.54)" among men.

### Materials and Methods

A cross sectional descriptive research design with survey approach was adopted in the study. The study was

conducted among 300 couples (150 male and 150 female) diagnosed with infertility and undergoing treatment at ART center of quaternary care hospital at south west Delhi. As per the inclusion criteria the subjects were recruited in the study using simple random sampling (probability sampling). Institutional ethical committee approval was taken prior to the study. Data collection was done by interview method using standard questionnaire, the tool/instrument comprised of socio demographic variables and assessment of prevalence of depression Beck Depression Inventory was used for both the samples. The tool was translated in Hindi for easy administration. Informed consent was taken prior to the study after brief explanation about the research work. Pilot study was conducted among 30 samples to see the feasibility and reliability of the tool. Obtained data was tabulated and analyzed using descriptive and inferential statistics. Mean and percentage distribution with SD, and Chi square test were used for statistical analysis.

**Results**

The obtained data was tabulated and analyzed using descriptive and inferential statistics. Shows that out of 300 samples availing treatment, at ART Center, it was observed that most of the samples 45.7% belong 35-44 years of age group. 76% of subjects had history of primary infertility and

about 78% of couples did not had any children and nearly about 48.7% couple had 4 to 6 years duration of infertility. 169 (56.3%) participants were from joint family, 109 (36.3%) from nuclear and 22 (7.3%) were from extended family.

**Table 1:** Distribution of subjects as per prevalence of depression

Depression	Frequency	Percentage	Mean	SD
Mild to Moderate depression	6	2.0	42.57	8.67
Severe depression	141	47.0		
Extreme depression	153	51.0		
Total	300	100.0		

Table 1: Reveals that major part of total subjects (infertile couple) 153 (51%) had extreme levels of depression and around 141 (47%) of infertile couple had severe levels of depression, and only 6 (2%) of infertile couple had mild to moderate level of depression. Infertile couple had mean depression score of 41.57 ± 8.67 (SD). The prevalence of depression was more among the infertile couples. In comparison of prevalence of depression among couples, it was seen that depression was more high among female partners than in comparison to male, and 81 (54%, *P* < 0.017).

**Table 2:** Chi square analysis of association between depression and types of infertility among infertile couple

Depression	Type of infertility		Total	df	P value
	Primary	Secondary			
Moderate depression	6 (2.63)	0 (0)	6 (2)	2	0.152
Severe depression	107 (46.92)	34 (47.22)	141 (47)		
Extreme depression	115 (50.43)	38 (52.77)	153 (51)		
Total	228 (100)	72 (100)	300 (100)		

Chi value- 3.762, Table value- 5.99, (N = 300)

Table 2: The data in the table reveals that about 115 (50.43%) couples with primary infertility had extreme levels of depression. The computed Chi value is 3.762, which is less than the table value 5.99 at df = 2 with p value 0.152, it reveals that there is no considerable association between

depression, and type of infertility. It shows that couples with primary infertility had extreme levels of depression invariable to type of infertility. Chi square analysis to see association between primary infertility and depression (Chi value is 3.762, with P value 0.152) not significant.

**Table 3:** Chi square analysis of association between duration infertility and depression among infertile couples

Depression	Duration of infertility			Total	df	p value
	<=3 yrs	4-6 yrs	>=10 yrs			
Moderate depression	0 (0)	6 (4.11)	0 (0)	6 (2)	4	<0.001
Severe depression	62 (51.67)	79 (54.11)	0 (0)	141 (47)		
Extreme depression	58 (48.33)	61 (41.78)	34 (100)	153 (51)		
Total	120 (100)	146 (100)	34 (100)	300 (100)		

Chi value - 43.042, Table value - 9.49

Table 3: Shows that the calculated Chi square significance is 43.042 which is more than the table value 9.49 at df = 4 with (p value 0.001) significance. It reveals that there is considerable association connecting duration of infertility and depression. Majority of the samples 79 (54.11%) with history of 4 to 6 years duration of infertility, had severe depression. 62 (51.67%) samples married for almost 3 years had severe depression, than those married for more than 10 years. There was significant association with depression and duration of infertility (Chi square 43.042, *p* < 0.001).

**Discussion**

The analysis of present study reveals that maximum couple 115 (50.43%) those who had primary infertility had extreme

levels of depression. A study conducted by Shezadi Sabah Imran, (2017) Out of 350 infertile women with primary infertility 55.8% had extreme depression while 35.2% women with secondary infertility had 115 (50.43%) depression. This was consistent with study. In a study by Jasim Naeem (2015), Depression was found to be prevalent in 68.9% of the study population, 42.2% had mild depression, 50.3% had moderate depression, and only 7.5% had severe depression. It was significantly related to primary type of infertility. 79 (54.11%) majority of couples had 4-6years duration of infertility, severe depression. Kamala Verma (2016) [3] It was also found that 57.1% of infertile women were diagnosed with depression, which was statistically significant at (p-value = 0.00), and there was

significant correlation between depression and duration of infertility ( $r = 0.588$ ,  $p\text{-value} = 0.00$ ) the findings were found to be consistent with present study. The reason could be long awaited wish to have own child and waiting for the positive outcomes of medical procedures, and many of them felt that natural parenthood is better than going for alternative ways of conception.

### Recommendations

1. The same study can be replicated with large sample size with diverse research group for easy generalization.
2. Similar study may be repeated with control group diagnosed with infertility and couples with fertility.
3. Further studies can be carried out to find out the attitude of family members towards depression among infertile couples. Depression in patients with infertility can be best managed clinically by utilizing a combination of supportive psychotherapy, counseling, medications and cognitive-behavioral techniques.

### Conclusion

The present study concluded that infertile couples had high prevalence of depression, more prevalence was seen among female partners. There was significant association between selected socio demographic variable type of infertility and duration of infertility. Mode of conception and parenthood should be couples choice, as nurses being an integral member of the health care team, play a key role in providing information on fertility issues and as well as render psychological support to reduce emotional turmoil's among couples and can enhance fertility options by educating couples.

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