

## Research Article

# Stress Levels among Post In Vitro Fertilization (IVF) Embryo Transfer (ET) Pregnant Women: A Descriptive Study

Kumud Dogra<sup>1</sup>, Renjini Gopalakrishnan<sup>2</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>Assistant Professor, M.Sc. Obstetrical and Gynaecological Nursing, College of Nursing, Army Hospital Research and Referral, New Delhi, India.

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## I N F O

### Corresponding Author:

Kumud Dogra, M.Sc. Obstetrical and Gynaecological Nursing, College of Nursing, Army Hospital Research and Referral, New Delhi, India.

### E-mail Id:

mukudiya@gmail.com

### Orcid Id:

<https://orcid.org/0000-0002-9590-6256>

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## A B S T R A C T

**Background:** Undergoing In Vitro Fertilization (IVF) Embryo Transfer (ET) procedure is a stressful experience and fraught with failures. Pregnancy and parenthood after a period of infertility are often assumed to be unproblematic and gratifying. Any stress during pregnancy can potentially be detrimental to the health of mother and fetus.

**Methods:** A Cross sectional descriptive study was done to determine the stress levels among 30 post IVF-ET pregnant women attending Antenatal OPD of a quaternary level hospital in Delhi. The objectives of the study were to assess the stress level among post IVF ET pregnant women and to determine the association of stress with selected demographic variables. The subjects were selected by purposive sampling. Tool consisted of a demographic profile and 20 items self-assessed rating scale.

**Results:** The analysis of data revealed that majority (56.66%) of the subjects experienced moderate stress and a significant number of the subjects 33.33% experienced severe stress. Among the various factors, stress related to self and unborn child was the leading cause (34.56%) of stress.

**Conclusion:** The study reflects that in spite of having a positive outcome after IVF-ET, the pregnant woman continues to have significant stress. The study concluded that there is a need for ongoing emotional assessment and care in Post IVF ET pregnancy.

**Keywords:** Post IVF ET, Pregnant Women, Stress

## Introduction

Childbearing is considered the essence of being a woman. Some face difficulties while pursuing this goal. WHO estimates that 48.5 million couples between 20-40 years are unable to have a child.<sup>1</sup> In Vitro Fertilization (IVF) is one of the widely known techniques among the scope of available assisted reproductive technologies. A study

conducted by Human Fertilization and Embryology authority in 2016 revealed that the success rate of women undergoing IVF treatment is 35.9%.<sup>2</sup> Participation in IVF programme requires significant physical and emotional involvement. IVF is considered stressful and it affects all parts of the couple's life be it social, marital, financial or religious. Pregnancies posts IVF are uncertain, accompanied by constant risks

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and tend to have more complications as compared to normally conceived pregnancies. This has not deterred the infertile couple seeking a result and IVF is increasingly becoming widespread and socially accepted procedure. A retrospective study conducted by Malhotra N et al. in India over a period of 3 years showed an increase of 60% of maternity centers providing services in a span of 2 years from 2007 to 2009.<sup>3</sup>

A psychological research review conducted by Eugster A, Vingerhoets AJ in 1999 on psychological reactions among couples who underwent successful IVF-treatment revealed that these parents experience more stress during pregnancy than the 'normal fertile' parents.<sup>4</sup> Similarly a study conducted by Crespo E, Bestard J, in Barcelona, highlights the complexity of the psychological and social consequences of pregnancy, childbirth and parenting after successful treatment with assisted reproductive technology. This can be linked with a higher risk of complications during pregnancy after assisted reproductive treatment compared with spontaneous conception.<sup>5</sup>

As a routine practice, pregnant women conceiving after IVF procedure are reviewed and managed along with spontaneously conceived woman after 12 weeks of gestation in the antenatal OPDs. It is crucial that nurse midwives who interface with post IVF ET pregnant women, understand the emotional aspects. A descriptive cross-sectional study was done to assess the stress levels among post IVF ET pregnant women attending the ante natal OPD of the selected quaternary level hospital of Delhi from where they took successful IVF treatment.

### Objectives

The objectives of the study were:

- To assess the stress level among the post IVF ET pregnant women attending antenatal OPD.
- To determine the association of the stress with selected demographic variables among post IVF ET pregnant women.

### Materials and Methods

A descriptive cross-sectional study was conducted among 30 antenatal women who successfully conceived post IVF ET and attending the antenatal OPD of the selected quaternary level hospital over a period of one month in 2017. This hospital has a monthly turnover of 100-120 women in the IVF centre with a success rate of approximately 35% post IVF ET. The study used purposive sampling technique to include post IVF ET pregnant women who were able to read and write Hindi or English so as to understand the questionnaire. Women with associated medical complications were excluded from the study.

The tool comprised of two parts. Part A consisted of 09 items related to socio-demographic areas such as age,

age of marriage, type of family, type of accommodation, total attempts of IVF, period of gestation etc. Part B of the tool was a self-administered stress rating scale with 20 items. The scale covered three aspects of stress namely stress related to self and unborn child, stress related to identifying maternal role and stress related to altering body structure and functioning. The total score was graded as nil, mild, moderate and severe stress. The tool was validated by experts of the field and the reliability was tested using Cronbach's Alpha. Institutional ethical clearance was obtained. Informed consent was taken from the willing participants. The anonymity and confidentiality of the participants were ensured by coding.

Analysis of data was done by descriptive and inferential statistics. Fischer's exact and Chi square was used to find association between stress and selected socio-demographic variables.

### Results

#### Findings related to demographic profile of the Post IVF ET pregnant women attending the OPD

The data in Table 1, describes the subjects in terms of socio-demographic variables. 19 (63%) women were in age group 25-30 years. 26 (86.67%) were married before 25 years of age. 18 (60%) were living in rented accommodation at the time of treatment and follow up. Most of the samples had more than 24 weeks of POG. Majority 20 (67%) had initiated treatment after 1 year of marriage. Among the women a significant number 14 (47%) conceived in their second attempt.

#### Findings related to Stress Scores among Post IVF ET Pregnant Women Attending OPD

Data from figure 1 indicates that all the women in the study group reported some amount of stress. Majority of the women had moderate stress 17 (56.6%) and a significant one-third women 10 (33.33%) experienced severe stress. The data in Figure 2 reflects the major areas of stress among post IVF ET pregnant women were related to self and unborn child 17 (57%) and in identifying maternal role 16 (53%).

**Table 1. Frequency and percentage distribution of samples as per demographic variables**

(n=30)

S. No.	Demographic characteristics	Category	Number	Percentage (%)
1.	Age (in years)	<25 years	1	3.33
		25-30 years	19	63.33
		>30 years	10	33.33
2.	Age of marriage (in years)	<25 years	26	86.66
		25-29 years	4	13.33

3.	Place of accommodation	Own/relative	7	23
		Rented	18	60
		Other	5	17
4.	Period of gestation	<12 weeks	4	13.33
		13-24 weeks	11	36.66
		25-36 weeks	12	40
		>36 weeks	3	10
5.	Initiation of treatment after marriage	<1 year	4	13.34
		1-5 years	20	66.67
		>5 years	6	20
6.	Total attempts of IVF	1 <sup>st</sup> attempt	12	40
		2 <sup>nd</sup> attempt	14	47
		3 <sup>rd</sup> attempt	3	10
		>3 <sup>rd</sup> attempt	1	3

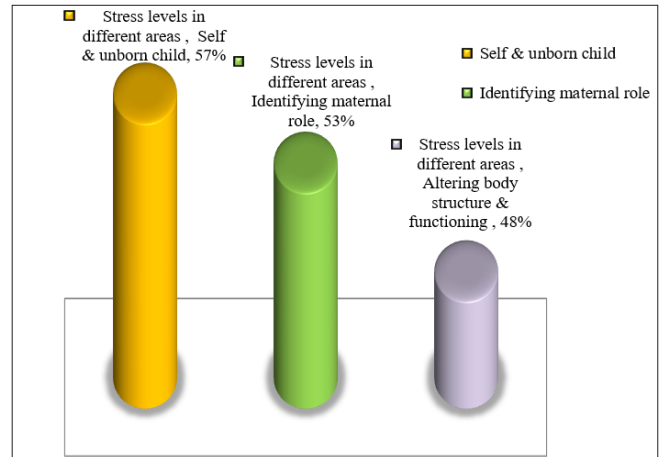


Figure 2. Area wise distribution stress levels among post IVF ET women

**Findings Related to Association between Selected Demographic Variables and Stress Scores among Post IVF ET Pregnant Women Attending OPD**

Table 2, depicts the association between the number of IVF attempts as well as the type of accommodation and level of stress. Both were found to be statistically insignificant at p=0.05 level. Also, there was no statistically significant association found between the period of gestation and stress during post IVF ET pregnancy.

**Discussion**

The present study reflects that in spite of having a positive outcome after IVF treatment, all women experienced some level of stress during pregnancy. Most experienced moderate to severe stress. Majority women experienced stress related to the issues surrounding her and her unborn child’s health. The women were least stressed regarding altering body structure and functioning. The results are consistent with findings of the study conducted by Fen-Fen Shih et al. to compare pregnancy stress between IVF ET and spontaneous pregnancy in women wherein ‘stress from seeking safe passage for herself and her unborn child during pregnancy, labour and delivery’ was the main pregnancy related stressor.<sup>6</sup> In a study conducted by Hasanjanzadeh P et al the stress associated with change in body image was not significant during second and third trimester.<sup>7</sup>

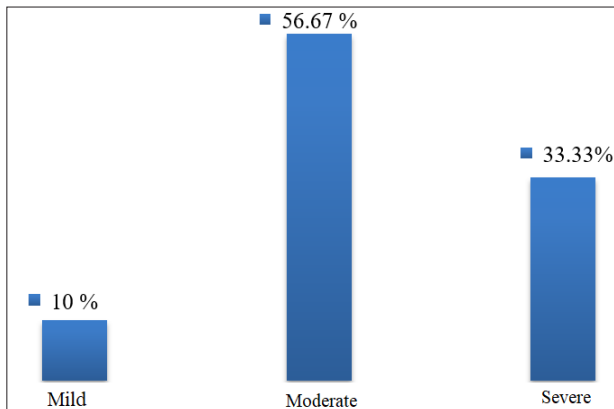


Figure 1. Distribution of post IVF ET pregnant women as per stress levels

Table 2. Association between selected demographic variables and stress scores among post IVF ET pregnant women

Variables		Level of Stress			Test Applied	p-value	Remarks
		Mild	Moderate	Severe			
No. of attempts	1 <sup>st</sup> attempt	2	6	4	Fisher’s Exact	0.6490	Not significant at 0.05 level of significance
	More than Once	1	11	6			
Type of accommodation	Own house	0	6	0	Fisher’s Exact	0.0330	Not significant at 0.05 level of significance
	Others	5	9	10			

df=2

No significant associations were found between levels of stress and number of IVF attempts or type of accommodation. The probable reason can be the small sample size in the present study. However, in a study conducted by Carolan-Olah M, Barry M to evaluate stress anxiety levels and depressive symptoms among pregnant women in second trimester in an area in Ireland revealed that the age group of the mothers affected the stress level scores though the area of living was least significant.<sup>8</sup>

This study is limited to the selected setting over a selected duration of time. Hence the findings cannot be generalized. Availability of similar studies is meager in number and hence more intensive researches should be encouraged to deliver optimum psychological care to post IVF ET pregnant women.

There are several implications emanating from the present study for nursing practice. Armed with this knowledge the practicing nurse can deliver comprehensive care, assisting the post IVF ET pregnant woman in meeting their psychological needs. Nurses are in a key position to extend an emotionally supportive role and providing need-based counseling or psychotherapy. Short-term courses in infertility counseling will be of immense benefit to the practicing nurse. Similar study can be replicated on a large sample size to examine more closely the association of various factors of the level of stress. A study can be done to compare the pregnancy stress between IVF ET pregnancy and spontaneous pregnancy in women. Furthermore, the effectiveness of structured psychosocial counseling programme on stress levels of post IVF ET pregnant women can be studied. A nurse counselor can be posted to the antenatal OPD to identify and counsel couples especially women experiencing stress in their pregnancy.

## Conclusion

Pregnancy after IVF ET procedure is a positive outcome for a couple grappling with infertility. In spite of this the women can experience stress during the pregnancy due to various factors. The present study supports the fact there is always a varied amount of stress amongst pregnant women despite undergoing successful IVF ET. There is a need to understand and accept this fact that health care providers must also pay attention to the psychological aspects of these mothers. Nurses can play a pivotal role in helping these women by developing information material, training programmes and providing need-based counseling to these women.

**Conflict of Interest:** None

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