A Study to Assess the Effectiveness of Structured Teaching on Anxiety Level of Women Undergoing in Vitro Fertilisation (IVF) in a Selected Infertility Centre

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Abstract: _Background: According to WHO, one in seven couples have problems in conceiving out of 60 to 80 million couples with the incidence similar in most countries independent of the country's development. In India 10 to 15% of couple were infertile as per the data available in 2000. Aim: to assess the effectiveness of structured teaching on anxiety level of women undergoing IVF in a selected infertility centre. Methods: Patients (N=60) were surveyed for pre procedure anxiety using the Spielberger State Anxiety Inventory (SAI). For the experimental group (n=30), structured teaching was administered by the principal researcher using a self prepared pow`er point presentation on anxiety relieving strategies, counseling on various stressors and a video showing the steps of the procedure. For the control group(n=30) no structured teaching was given, the usual hospital routine of informing the patients verbally by the staff was followed. Results: Both the experimental and control group were homogenous in terms of selected demographic variables. In both the groups, there was high level of anxiety before the intervention. The post test reduction in anxiety score varied from 63.07 to 53.83 in the experimental group and 60.17 to 58.67 in the control group. In experimental group there was highly significant reduction in anxiety (p< 0.0001)post structured teaching , but in control group the level of anxiety reduction post conventional teaching was not as highly significant (p<0.05) as in experimental group. There was no significant correlation of anxiety with any of the fourteen demographic study variables. Conclusions: Anxiety can produce an adverse effect on the physiological and psychosocial aspects of infertile women who is undergoing IVF. This study strongly emphasizes the importance for providing structured teaching to patients undergoing IVF to reduce their anxiety Nurses are in a key position to extend an emotionally supportive role by providing teaching, counselling and psychotherapy._

Keywords: Structured teaching, Anxiety, In Vitro Fertilization, Selected infertility centre.

1. Introduction

The inability to bear children is a tragedy bringing a sense of loss, failure and exclusion for the affected couple. WHO defines Infertility as the inability of a couple to obtain a clinically recognizable pregnancy after 12 months of unprotected intercourse. Infertility and its treatment have considerable impact on a person's quality of life. Research suggests that infertility problems are among the most upsetting experiences in people's lives. First human baby resulting from IVF was born in 1978, since then medical treatment for infertility has advanced dramatically. However most couple who plan to have IVF treatment have already experienced extensive and emotionally challenging methods of diagnosis and/or treatment. People who seek IVF treatment have been reported to be more anxious and emotionally distressed than people in the general population. They have greater susceptibility to anxiety.

2. Materials and Methods

The population for the present study constituted of patients undergoing In Vitro Fertilisation (IVF) in a selected infertility centre. As per the inclusion criteria, the patients were selected randomly and randomly allocated to experimental and control group.

For the present study, as per the inclusion criteria, 60 patients were randomly selected and randomly assigned to two groups: experimental and control. The experimental group was given structured teaching on IVF and the control group was given information as per the routine followed in the hospital.

The tool used in this study was divided in to two parts; Part A: Structured Questionnaire for collecting socio-demographic data and part B–which has the Spielberger's STAI-Form Y is a standardized tool for assessing the anxiety level of the patients. The willingness for participation in the study was sought and written informed consent was obtained in the language they understood. The patients were made to sit comfortably in the Nursing Officer -in- charge room of the IVF centre in the tertiary care centre. On the day of ovulation induction after they report to the centre their socio demographic data as well as their anxiety level was assessed using part A (Demographic data) and part B (STAI) of the tool . Structured teaching regarding IVF was administered to the selected patients in the intervention group on the same day. The same teaching is repeated approximately after 12 days on the day prior to ovum pick up. The structured teaching included a video depicting the procedure of IVF, a power point presentation showing the various stages in the IVF procedure and a counselling session on how to cope up with the various stressors and levels of anxiety involved in the procedure. They were familiarised with the OT of IVF centre through the

photographs in the power point slide. The teaching process was carried out one to one in an interactive environment in which the patient was able to clarify her doubts regarding IVF. On the day of the scheduled procedure these patients were reassessed for their anxiety level in the waiting room before the procedure

3. Results

The data collected was analyzed using descriptive and inferential statistics. The statistical analysis revealed that the structured teaching programme resulted in a significant decrease in the level of anxiety in the experimental group (p<0.0001). The post test reduction in anxiety score varied from 63.07 to 53.83 in the experimental group and 60.17 to 58.67 in the control group. The mean reduction in anxiety score in experimental group is 4.84 with Z value 2.04 at p<0.05 which is highly significant and in control group it is only 2.90 with Z value 1.63 at p >0.05 which is not significant In experimental group there was highly significant reduction in anxiety (p< 0.0001)post structured teaching , but in control group the level of anxiety reduction post conventional teaching was not as highly significant (p<0.05) as in experimental group. There was no significant difference (p>0.05) in the level of anxiety between the experimental and control group before the intervention ,but there was significant difference (p<0.05) in the level of anxiety between the experimental and control group after the structured and conventional teaching respectively.

In the experimental group more than 50% of samples (60%) had severe anxiety before intervention which is reduced to 13.33% after the intervention. The level of anxiety considerably reduced from severe to mild after the intervention in experimental group. Only 40% experienced mild anxiety before intervention which is increased to 70% after intervention. None of the experimental subjects had normal or extreme level of anxiety before intervention whereas 16.66% of samples experienced normal anxiety level after intervention.. In the control group more than 50%(56.66%) had mild anxiety and 40% had severe anxiety before intervention which remained the same after the intervention also

Percentage and Frequency Distribution of Anxiety Score among Study Groups during the Pre and Post Test

Anxiety score	Experiment n=30				Control n=30			
	Pre (f)	%	Post (f)	(%)	Pre (f)	%	Post (f)	(%)
Normal (20 – 44)	0	0	5	16.66	0	0	1	3.33
Mild moderate (45 – 62)	12	40	21	70	17	56.66	17	56.66
Severe (63 – 74)	18	60	4	13.33	12	40	12	40
Extreme (75 – 80)	0	0	0	0	1	3.33	0	0
Total	30		30		30		30	

In the experimental group the mean anxiety score in the pre-test before the intervention is 63.07± 7.362 SD and in the post test after the intervention it is 53.83±8.048 SD with Z value 4.80 which is higher than the table value. And therefore it can be extrapolated that in the experimental group there was a highly significant difference between the

pre test and post test anxiety score at level of significance p<0.0001

Comparison of pre and post anxiety score in experimental group

Parameter	Pre test (n=30)		Post test (n=30)		Z Value	P Value
	Mean	SD	Mean	SD		
Anxiety score	63.07	7.362	53.83	8.048	4.80	<0.0001

In the control group the mean anxiety score in the pre-test before the intervention is 60.17±7.14SD and in the post test after the intervention it is 58.67±8.43 SD with Z value 2.36 which is more than the table value. And therefore it can be concluded that there was a significant difference between the pre test and post test anxiety score at level of significance p<0.05
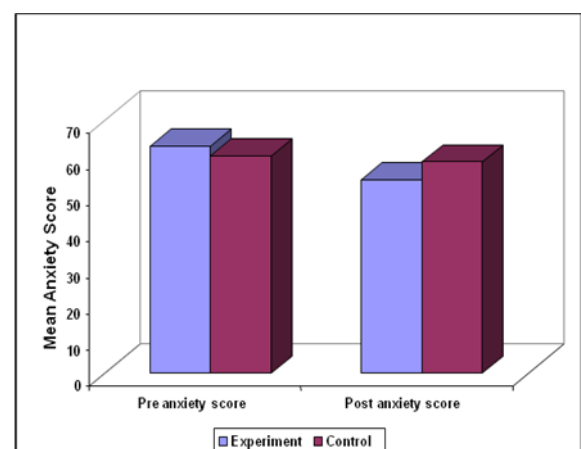
Comparison of pre and post anxiety score in control group

Parameter	Pre test (n=30)		Post test (n=30)		Z Value	P Value
	Mean	SD	Mean	SD		
Anxiety score	60.17	7.14	58.67	8.43	2.36	<0.05

The pre test mean anxiety score of experimental and control group is 63.07 and 60.17 respectively with Z Score 1.63 at level of significance > 0.05 which implies that there is no significant difference between the pre test mean anxiety score of experimental and control group. Whereas in the post test the mean anxiety score of experimental and control group is 53.83±8.048 SD and 58.67±8.43 SD respectively with Z Score 2.04 which is more than the table value at level of significance <0.05. This means that there is a highly significant difference between the mean anxiety score of experimental and control group in the post test after the intervention

Comparison of anxiety score in Experimental and Control group pre and post intervention

Parameter	Experiment (n=30)		Control (n=30)		Z Value	P Value
	Mean	SD	Mean	SD		
Pre anxiety score	63.07	7.362	60.17	7.14	1.63	>0.05
Post anxiety score	53.83	8.048	58.67	8.43	2.04	<0.05

Comparison of anxiety score in Experimental and Control group pre and post intervention

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4. Discussion

This study confirms that all patients undergoing IVF have moderate to severe levels of anxiety. The study findings revealed that the patients who were given structured teaching on IVF had lesser anxiety as compared to the control group who were given information regarding IVF in the conventional method. There is a lack of effective educational intervention in the setting regarding patient preparation for IVF which may be due to varied reasons like the mismatch between the increasing numbers of patients undergoing IVF and the limited number of the specialists and health care providers etc Imparting structured teaching and counseling regarding IVF, will result in greater reduction in the anxiety level and better procedure outcome.

The present study has highlighted the importance of providing information to the patients using appropriate audiovisual aids. Pre procedural information has a significant role in reducing the anxiety of the patients which increases the success rate of the procedure. The increasing technological advances to treat infertility as well as the increasing number of couples seeking infertility treatment greatly enhances the likelihood that those who work in various health care settings will come in contact with people experiencing the emotional difficulties of infertility. Therefore it is crucial that all member of the health care team, especially nurses understand the emotional aspect of infertility and be prepared to address those needs along with the physical ones. Nurses should implement treatment schedule which aim at improving the physiological, psychological and social impact of infertile couple

A holistic approach is based on the premise that disease is never the result of one causative agent or condition but rather the result of a complex interplay between people and their physical, emotional, cultural, social and spiritual situations.

5. Conclusion

This was an experimental study to determine the effects of structured teaching on anxiety levels of women undergoing In Vitro Fertilization (IVF). This study evaluated that it is extremely important for the nurses to alleviate the anxiety of the patient during IVF as this will help to reduce stress and results in higher pregnancy rates. This will also help them to lead a normal life in the society even if the treatment could not bear success. Hence the study strongly suggests the need for a structured teaching which includes a pre- procedural education and counselling for women undergoing In Vitro Fertilization The effectiveness of mind body approaches meditation/breathing exercises/relaxation techniques on stress may be studied. Further research can be done to establish the relation between anxiety and success rate of IVF

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