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DEPRESSION, ANXIETY AND STRESS AMONG INFERTILE WOMEN AND THE IMPACT OF COUNSELING ON THESE LEVELS

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ABSTRACT

The main objective of the study was to measure depression, anxiety and stress (DAS) in infertile women and to assess the impact of counseling on these depression, anxiety and stress levels. 230 women of age ≥ 18 yrs attending the infertility clinic were selected for the study. DASS21 questionnaire was used for assessing DAS. Counseling was given to the study group (115 women) once in 15 days for a period of 3 months and the impact of counseling on DAS was assessed. There were significantly reduced mean (SD) scores for DASS - depression, anxiety and stress in the study group as compared to those in the control group. Again the control group was also counseled and the effect of counseling was assessed. Counseling markedly reduces the depression, anxiety and stress in infertile women. Moreover, counseling along with regular treatment for infertility, improved the treatment outcome. The number of women conceived in the counseled group was more when compared to the uncounseled group. Counseling to reduce depression, anxiety and stress should be given to all infertile women as a regular practice along side their treatment for infertility.

INTRODUCTION

Infertility is defined as not achieving pregnancy in one year inspite of unprotected intercourse. Infertility is classified as primary when pregnancy has not occurred previously and secondary when pregnancy has occurred already, not bothering about its outcome [1]. All over the world, infertility was experienced by individuals and couples as a stressful situation [2]. All cultures and societies perceive infertility as a problem. Infertility signifies the most severe emotional crisis [3]. The report given by clinicians and researchers states that infertility and its treatment are viewed by infertile women as extremely stressful situation [4,5,6,7]. Based upon the Individual differences on psychological stress, this stress may lead to a chronic disease [8]. In recent years, attention has been increased on the impact of infertility on the psychological well being of couples. It should be accepted that for many couples, infertility and its treatment is a deeply distressing experience [9]. Eventhough men are also responsible for infertility [10], the negative social and economical consequences due to infertility mainly affect the women. It is very essential to understand the magnitude of stress of infertile women, as the infertile women try to adapt to the problems of infertility and its treatment. As previous quantitative study assessing psychological distress among infertile women has not been carried out in India, this study was carried out to assess whether the qualitative distress can be measurable in quantitative terms and also to assess the impact of counseling on depression, anxiety and stress.

EXPERIMENT WORK

The study was conducted in the outpatient infertility clinic of Obstetrics and Gynecology (OBG) department of Sri Ramachandra Hospital, after getting approval from the Institutional Ethics Committee of Sri Ramachandra University. The details of women attending the infertility clinic were entered into a specially designed proforma. The study was carried out for a period of 18 months. Women with co-morbid conditions were excluded from the study. The aim and expected benefits of the study were explained in the patient consent form, and signature of the patient was received in the consent form. Explanations related to the study were given to the participants. The consent form was prepared both in English and Vernacular language. The subjects were 230 infertile women ≥ 18 yrs of age who attended the infertility clinic of Sri Ramachandra Hospital for treatment of their infertility problems.

After obtaining consent from each patient, data were collected using DASS21 (Depression, anxiety, stress scale) questionnaire.

DASS, a 21-item questionnaire, is a set of three self-report scales. The negative emotional states of depression, anxiety and stress can be measured using DASS21. Each of the

three DASS scales contains 7 items. Each item is rated on a four-point scale of severity. This questionnaire was translated into vernacular language also.

DASS questionnaire

DASS21 *Name:* *Date:*

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Infertile women were divided into 2 groups – by block randomization method. Counseling was given to one group of infertile women (study population) once in 15 days for a period of 3 months and the other group was wait-listed (control group). Individual counseling was given to the study population. Counseling module was specially prepared for counseling both I English and Vernacular language and given to all the participants. Their coping strategies were assessed and counseling varies from person to person depending upon their coping scores. Women were counseled to cope up with the situation in which they lag behind. After 3 months, DAS was measured in both the groups.

The treatment outcome was also assessed in both the groups. Results were expressed as mean (S.D), the significant difference between the control and the study group was statistically analyzed using t-test. Then the wait-listed control group was also counseled once in 15 days for a period of 3 months and DAS was measured after 3 months. Then again the treatment outcome was assessed in the control group as well.

RESULTS

A total of 230 infertile women (115 control group and 115 study group) participated in the study. Socio-demographic characteristics such as age, duration of infertility, education level, job characteristics and reasons for infertility for both control group and study group were depicted in table I.

Table I:*Socio-demographic characteristics of study group and control group*

Socio-demographic characteristics		Study group (n=115)	Control group (n=115)
		Mean (SD)	Mean (SD)
Age (year)		29.86 (4.39)	29.17 (4.82)
Duration of infertility (year)		4.72 (2.43)	4.29 (2.52)
		No. (%)	No. (%)
Education	Illiterate	8 (6.96)	10 (8.7)
	Primary	42 (36.52)	36 (31.3)
	High school	32 (27.83)	34 (29.57)
	Higher secondary	22 (19.13)	24 (20.86)
	Collegiate	11 (9.56)	11 (9.57)
Job	Housewife	87 (75.65)	72 (62.61)
	Employee	28 (24.35)	43 (37.39)
Factors affecting fertility	Endometriosis	34 (29.56)	38 (33.04)
	Tubal obstruction	26 (22.61)	20 (17.39)
	Anovulation	22 (19.13)	24 (20.87)
	Unexplained infertility	33 (28.70)	33 (28.70)

Table II shows the effect of counseling on the mean (SD) scores (before and after counseling) for DASS – depression, anxiety and stress scales in the study group as compared to those in the control group. There were significantly reduced mean (SD) scores for DASS - depression, anxiety and stress in the study group compared to control group. Counseling markedly reduces the depression, anxiety and stress in infertile women

Table II: ***Comparing mean (SD) scores for DASS – depression, anxiety and stress between study group and control group pre and post-counseling***

Variables	Study group n=115			Control group n=115			n=94	
	First visit Mean (SD)	After 3 months (Post-counseling)	P value	First visit Mean (SD)	After 3 months (No Counseling)	p value	After 6 months Value (Post-counseling) Mean (SD)	p
D	23.32 (6.12)	11.79 (2.38)	<0.0001* (4.10)	22.33	21.65 (4.20)	0.23	14.7 (3.71)	<0.0001*

A	16.66 (4.42)	9.43 (1.98)	<0.0001* (4.59)	17.20	16.56 (4.64)	0.31	9.51 (2.03)	<0.0001*
S	28.61 (5.19)	16.52 (5.99)	<0.0001* (5.29)	28.16	27.5 (5.43)	0.36 (5.84)	16.62	<0.0001*

*p<0.001 is statistically significant

In the study group, 48 were conceived after 3 months of counseling whereas in the wait-listed group, only 11 were conceived. Table III depicts the treatment outcome in control and study groups. The wait-listed control group (n=115) was reduced to n=94, since 10 did not come for follow up and 11 were conceived.

Table III: ***Comparing the treatment outcome between study group and control group***

Groups	Total number of women	Number of women conceived after 3 months	Treatment outcome (%)
Study	115	48	41.74
Control	115	11	9.57

After 6 months, when the wait-listed control group was also counseled, the treatment outcome became 34.77%. The pregnancy rate was increased after counseling and thus counseling had a positive effect on infertile women.

DISCUSSION

The effects of counseling on depression, anxiety and stress in infertile women were examined using the depression anxiety stress scale (DASS 21) questionnaire. Results depicted that counseling was effective in decreasing depression, anxiety and stress in these women.

Several studies have demonstrated that anxiety has a negative effect on fertility [11]. Lapane et al indicated that depression plays a major role in the pathogenesis of infertility [12,13]. Our study confirms that infertile women have high levels of anxiety and depression.

Psychological problems of infertile patients are complex. Various factors such as factors affecting infertility, duration of infertility, employment status affect the psychology of infertile women. According to Freeman et al, almost half of the infertile couples described infertility as the most upsetting experience of their lives, whereas in view with Mahlstedtet et al, almost 80% of the infertile women described their infertility experience to be either stressful or very stressful [14,15]. In our study, we found that as the duration of infertility increases, the depression, anxiety and stress levels also increase and infertile women suffer from high stress.

Edelmann et al assessed that infertility affects psychological well-being of the infertile women. Health issues, sexual distress, depression, anxiety, frustration, emotional distress and marital problems are all associated with infertility [16]. In our study, infertile women suffer from nervousness, panic, loss of energy, agitation and intolerance.

The pregnancy outcome was more in the study group after counseling when compared to the control group without counseling. Also when the control group was also given counseling, the pregnancy rate increased. Hence we can conclude that counseling may be one of the factors to increase the pregnancy rate.

CONCLUSION

Counseling had a positive effect on infertile women in reducing some aspects of self-perceived depression, anxiety and stress and also in increasing the pregnancy rate. Therefore, intervention programs to reduce depression, anxiety and stress should be given to all infertile women as a regular practice along side their treatment for infertility.

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