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Original Research Article

Epidemiological correlates of depression in females at an infertility clinic of government medical hospital- a cross sectional study

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ABSTRACT

Background: Infertility affects lives of millions of people worldwide which includes the couples themselves as well as extends further to their families, wider communities also. Moreover, in contrast to the usual belief, the problem is faced by men and women both. Infertility-related stress adversely affects all dimensions of health, quality of life of the couples and relationship with family.
Methods: This cross sectional study was carried out in the outpatient department (OPD) of obstetrics and gynecology during a period of two months (August and September 2022). The study subjects comprised of women in the age group of 18-45 years. Data was collected using interview techniques by a pre designed questionnaire. Statistical analysis was carried out nu epi info software.
Results: A total sample of 113 was covered in the present study. The mean age of the study subjects was 28.38 years, range being 21 to 37 year. Depression of varying levels was detected in 76 (67.25%) of the study participants. However, 32 (32.75%) females were normal without any detection of depression. Mild depression was observed in 15 (13.27%), moderate in 62 (49.56%) and remaining 5 (4.42%) had severe depression.
Conclusions: Depression of a varying level of severity is common occurrence in the women attending infertility clinic. Though role of socio demographic factors is not statistically proven in relation to depression in the study, their role cannot be denied.

Keywords: Correlates, Depression, Females, Infertile, Infertility

INTRODUCTION

Infertility that brings psychosocial and sexual catastrophes, is often considered as life crisis that often has multiple cultural, religious, and class aspects. The definition of infertility describes it as either the absence of pregnancy or inability to continue with the pregnancy.[1] It is the failure to achieve a pregnancy by the female even after 12 months or more of regular sexual intercourse without usage of any contraceptive method.[2] Infertility is comparatively less common in the women with one or more previous child births.[3] Infertility affects lives of millions of people worldwide which includes the couples themselves as well as extends further to their families, wider communities also. Moreover, in contrast to the usual belief, the problem is faced by men and women both. Approximately 20-30% of infertility cases are due to both male and female factors. Studies indicate that female factor is the cause of infertility in about half the cases. Male causes are implicated in minimum 30%.[4,5] Hence infertility-related stress adversely affects all dimensions of health, quality of life of the couples and relationship with family.[6]

All this eventually leads to psychological ill-health of the couple may be more manifested in the females. Depression hence is a common occurrence among the females who are having infertility. Thus, it is empirical to understand the possible factors related to it. Despite the realization of importance about all this there are hardly

few. With this back drop the current survey was undertaken with the following objectives: (1) to estimate depression and (2) to assess certain epidemiological factors related to it in the females attending infertility clinic at a tertiary care hospital from central India.

METHODS

This cross-sectional study was carried out in the outpatient department (OPD) of obstetrics and gynecology during a period of two months (August and September 2022). The study subjects comprised of women in the age group of 18-45 years having primary infertility and attending the obstetrics and gynecology OPD for the same. Universal sampling technique was used and all women attending the OPD in the above mentioned period wear enrolled in the study.

Women having any other major illness or psychiatric disorder were excluded. Approval and permission were sought from the institutional ethics committee and the head of obstetrics and gynecology department respectively before commencing the study. The study subjects were explained in details about the nature and purpose of the study and ensured of complete anonymity and confidentiality before obtaining a written informed consent.

Data collection tool was a predesigned and pretested questionnaire based on the Beck anxiety inventory and Beck depression inventory. Face to face interview technique was used for collecting the data. The data obtained was entered in Microsoft office excel software. Statistical analysis was carried out with the help of Epi info 7.2.5.0. Percentages and mean were calculated, chi square test was applied and p value of less than 0.05 was considered to be significant.

RESULTS

A total sample of 113 was covered in the present study. The mean age of the study subjects was 28.38 years, range being 21 to 37 year. Out of 113 study subjects 66 (58.40%) were from urban area and 47 (41.60%) were from rural area. Majority of the study subjects were from Hindu religion i.e. 56 (49.56%) followed by Buddhists i.e. 34 (30.09%) and Muslims i.e.14 (12.39%) followed by others. Educational status of the study participants revealed that majority of women had their education up to HSC level- 62 (54.87%), followed by graduates- 29 (25.67%). 9 were functional literate. Functional literacy is reading and writing skills that are adequate to manage daily living and employment tasks that require reading skills beyond a basic level. Details of the education level is represented as the pie chart in Figure 1.

The females who participated in the study belonged to various socio economic strata of the community. Details of the socio economic status of these females are depicted in Figure 2. Depression of varying levels was detected in 76 (67.25%) of the study participants. However, 32 (32.75%) females were normal without any detection of depression. Mild depression was observed in 15 (13.27%), moderate in 62 (49.56%) and remaining 5 (4.42%) had severe depression. Though overall only moderate level of depression was a finding as shown in Figure 3.

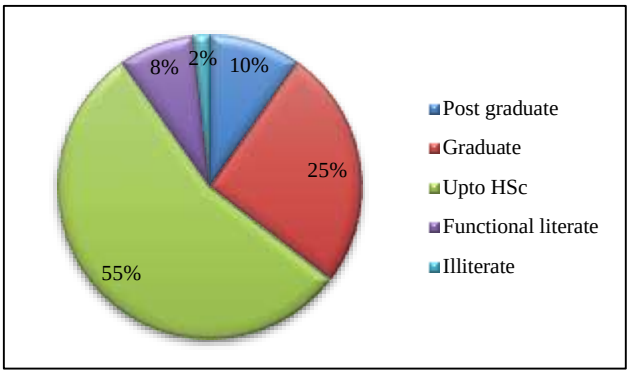

Figure 1: Education level of the study participants.

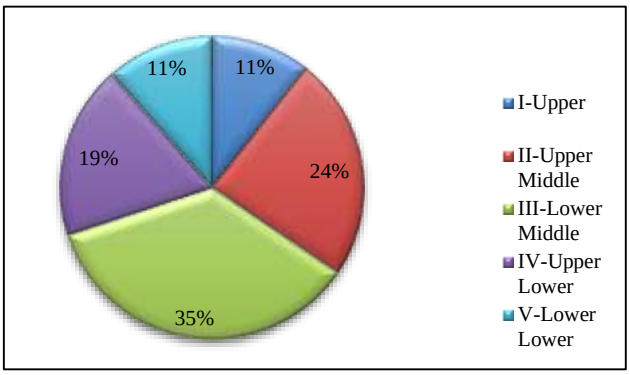

Figure 2: Distribution of study participants according to their socio economic status.

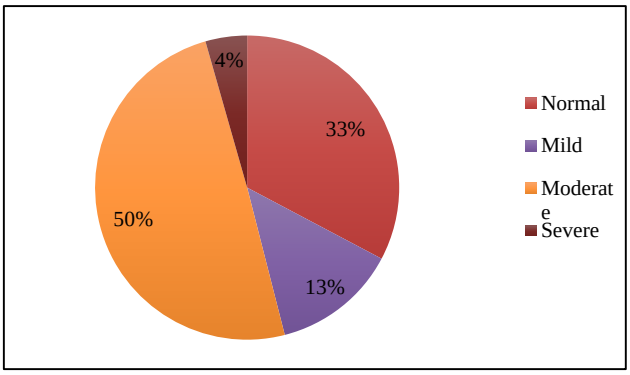

Figure 3: Level of depression in the study participants.

Thus, depression was a common observation in females attending the infertility clinic. The role of various factors such as socio demographic factors and other circumstances from family in relation to the depression in study participants was also assessed and are presented in the tables ahead. Education of an individual and

socioeconomic status of the family are important socio demographic factors that affect all corners of life. The same is tabulated in Table 1 showing effect of socio demographic factors on depression.

Table 1: Effect of socio demographic factors on depression.

Education	Level of depression									
	Normal		Mild		Moderate		Severe		Total	
	N	%	N	%	N	%	N	%	N	%
Post graduate	4	10.81	1	06.67	5	08.93	1	20.00	11	09.73
Graduate	6	16.22	7	46.66	14	25.00	2	40.00	29	25.67
Up to HSC	23	62.16	5	33.33	32	57.14	2	40.00	62	54.87
Functional literate	4	10.81	1	06.67	4	07.14	0	00.00	9	07.96
Illiterate	0	00.00	1	06.67	1	01.79	0	00.00	2	01.77
Chi square =1.68, p value=0.19, df=1										
Socio economic status										
I-upper	7	18.91	4	26.67	1	01.79	0	00.00	12	10.62
II-middle	18	48.65	7	46.67	39	69.64	3	60.00	67	59.29
III-lower	12	32.43	4	26.67	16	28.57	2	40.00	34	30.09
Chi square= 0.14.p value=0.7df=1 (upper, middle versus lower category)										

Table 2: Duration of infertility and depression in study participants.

Duration of infertility (years)	Level of depression									
	Normal		Mild		Moderate		Severe		Total	
	N	%	N	%	N	%	N	%	N	%
<5	18	48.65	06	40.00	38	67.86	02	40.00	64	56.63
6-10	09	24.32	07	46.67	15	26.79	03	60.00	34	30.09
11-15	10	27.03	02	13.33	3	05.36	00	00.00	15	13.27
Total	37	32.75	15	13.27	56	49.56	05	4.42	113	100.00

Chi square for linear trend= 4.43 and p value = 0.035.df=2

Table 3: Role of stress and depression in study participants.

Stress due to spouse	Level of depression									
	Normal		Mild		Moderate		Severe		Total	
	N	%	N	%	N	%	N	%	N	%
Present	10	21.88	4	25.00	23	42.19	4	06.25	41	56.64
Absent	27	38.78	11	26.53	33	38.78	1	02.04	72	43.36
Chi Square=2.03, p = 0.15, df=1										
Stress due to other family members										
Present	13	19.40	8	11.94	42	62.69	4	5.97	67	59.29
Absent	24	52.17	7	15.22	14	30.43	1	2.17	46	40.71
Chi square=13.3, p=0.0002, df=1										

As seen from the Table 1, there was no statistically significant relation between education and depression level. Socio economic status as calculated by BG Prasad method was grouped in three categories as obvious from table it did not have statistically significant impact on level of depression of study participants in the current study.

Longer the duration of infertility, more are the psychological problems related to it. Considering this role of duration of infertility is represented in Table 2. Table shows duration of infertility and its association with depression level. Moderate depression was highest with duration of infertility <5 years whereas mild and severe depression was found to be highest with duration of infertility 6-10 years. Duration of infertility is significantly associated with level of depression and as duration of infertility increases depression level increases.

Stress with either the husband or other family members can lead to depression in the females undergoing treatment for infertility. Effect of such stress on level of depression is shown in Table 3.

On assessing spousal stress and its effect on depression. It appears that, moderate and severe depression was higher in those women who has spousal stress but spousal stress was not significantly associated with depression. However, stress due to other family members and its association with level of depression. Indicates that prevalence of depression was significantly more among those who were exposed to stress due to other family members.

DISCUSSION

The purpose of the present study was to estimate the occurrence and severity of depression and also to assess some epidemiological factors associated with depression among infertile women attending tertiary care clinic in central India. Motherhood is often the only way for women to enhance their status within their family and community. These societal pressures may have some psychological impact on the infertile women which may leads to depression.

Findings of a high depression prevalence of three fourths among the infertile women in the present study highlight the psychological challenges that childless women are confronted with. This is consistent with the work of Guerra et al which also found about 67% depression. Another review also supports this finding.[7,8] The prevalence of depression in the present study is however higher than the findings of Ramezanzadeh et al which showed a prevalence of 40.8% among infertile women in Iran and Domar et al, which reported that 24.9% of the infertile women had depressive disorders.[9,10] Similar observations are reported by other researchers also.[11-13] The high prevalence of depression in the present study could be attributable to the societal and family demand on Indian women to have their own children.

In the present study it was observed that socio demographic factors such as education level and socio-economic status have no significant relationship with depression. This is in contrast to Domar et al who showed that there was positive correlation between them.[10] It has reported that, education may be the long gate leading women to joyful aspects of their life other than maternity. This is why education plays a considerable role in decreasing their depression.

Duration of infertility had a significant positive correlation with the depression score. Women who had infertility duration of 5 years and less than it showed more moderate level of depression whereas women who had infertility duration of 6-10 years showed more severe level of depression. But after 10 years there is fall in depression level observed. It shows that as duration of infertility increases, depression level also increases with time and depression peaks after 5th year of infertility. But infertile patients who had infertility for a long time >11 years showed less symptoms of depression than those who are in their first stage of their problem. This can be attributed to the fact that, during the early stages of being diagnosed with infertility the hopefulness of the women for a successful outcome of medical interventions is higher. However, as the interventions progresses without a success combined with the stress of moving from one hospital to other, they may become psychologically stress up with fading hopes of conception. Fatemeh et al in their study found out that, depression was most common after 4-6 years of infertility and severe depression could be found in those who had infertility for 7-9 years.[4] Domar et al, Pol et al study results were consistent with present study.[10,11] Also Kees et al found out that depression level decreases after certain long duration of infertility.[14]

There was no significant relationship found out between spousal stress and depression in present study. However, the quality of relationship and communication with the partner seems to have major impact on the emotional status of an infertile woman. The partner is potentially a crucial source of support for women who are reluctant to discuss their fertility difficulties with others. Gourounti et al in their study, found out the positive and significant association of spousal stress and depression.[15]

Stress due to other family members has shown significant association with depression. This can be attributed to the fact that, in India, family status especially childbearing is very important and valuable. Having a child stabilizes the family and increases marital satisfaction whereas being childlessness causes family conflicts, marital problems such as divorce. Intervention of relatives especially husband's family, negative attitude and behavior of surroundings (family, friends, neighbours etc.) causes major psychological problems for infertile women. Domar et al study shows significant association between depression and stress due to other family members for not getting pregnant.[10] Family always plays a vital role in psychological health of an individual. Support and care from family is a factor that dominates the prognosis as well as outcome in infertile women. Hence it needs to be addressed at all levels.

The study has limitations inherent to a cross sectional study. It was conducted only at one set up. However due care has been taken in designing tool and collecting data to minimize all biases.

CONCLUSION

Based on the study findings it can be concluded that depression of a varying level of severity is common occurrence in the women attending infertility clinic. Though role of socio demographic factors is not statistically proven in relation to depression in the study, their role cannot be denied. Duration of infertility has a significant role in level of depression. Stress due to other family members is also noted to be a significant factor for depression in the present study. This demands the role of psychological support for such females as well as couples to improve the overall health.

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