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Prevalence and determinants of depression in females with primary infertility.

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ABSTRACT... *Objective:* This study was designed to evaluate the prevalence of depression in females with primary infertility at a tertiary care hospital in Rawalpindi and identify the factors associated with the condition. **Study Design:** Descriptive Cross-sectional study. **Setting:** Infertility Clinic of the Department of Obstetrics and Gyanecology, Benazir Bhutto Hospital, Rawalpindi. **Period:** February to August 2016. **Material & Methods:** Females between the ages of 18 and 40 years with primary infertility were included in the study. The presence and severity of depressive symptoms were assessed using the Hamilton Rating Scale for Depression (HAM-D). Socio-demographic details and clinical information was collected on a pre-designed proforma. ***Results:*** A total of 102 females were included in the study. The mean age of the patients was 31 years with a STD of ± 4.3 years. 78.4% (n=80) patients were suffering from depression on the basis of HAM-D scores. 18 (17.6%) had mild depression, 34 (33.3%) had moderate depression, 20 (19.6%) had severe depression and 8 (7.8%) patients had very severe depression. An analysis of the socio-demographic factors showed that a majority of the females were educated, housewives and living in extended families. The frequency of depression was significantly associated with a low monthly household income (p=0.046). ***Conclusion:*** A high proportion of females with primary infertility suffer from depression. Screening for psychiatric illnesses should be part of the standard evaluation of these patients. Early detection and timely psychological intervention can lead to a significant reduction in long-term morbidity.

Key words: Depression, Infertility.

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INTRODUCTION

Infertility is the failure of a couple to conceive after twelve months of regular intercourse without use of contraception in women less than 35 years of age.[1] Worldwide there is a high incidence of infertility and recent studies show that it is prevalent in approximately 10% of couples.[2] The rates of infertility in Pakistan are not known but neighbouring India with similar demographics is ranked as the country with second highest infertility rates in the world.[3]

Infertility causes psychological, physical and financial burden on the couples. The psychological reactions in couples suffering from infertility may range from grief and anxiety to depression.[4] Depression is characterized by sadness, loss of interest, feelings of guilt, and disturbed sleep.[5] The World Health Organization (WHO) task force on Diagnosis and Treatment of Infertility reported female factor infertility in about one-third (37%) of couples yet they bear the brunt of the blame for infertility in developing countries.[6] Studies have shown that women with infertility are 2-3 times more likely to develop depression.[7] Depression in women with infertility may affect treatment seeking, compliance to follow-up as well as hope for the future.[8]

A review of the research literature from Pakistan shows that Shoaib et al (2004) looked at the mental health of females with infertility and found psychiatric morbidity in 76% of their study sample of which depression was the most common diagnosis (46.03%).[9] A similar study conducted by Verma et al (2015) at a tertiary care hospital in

India found 56.4% (79/140) of the infertile females to be suffering from depression.[10]

Early detection and prompt treatment of depression in couples suffering from infertility will lead to a significant decrease in disease burden, treatment cost per patient and long term morbidity. The aim of this study was to determine the presence of depression in women with primary infertility in a tertiary care hospital in Rawalpindi with a look at the socio-demographic factors associated with it.

MATERIAL & METHODS

This descriptive cross-sectional study was conducted at the infertility clinic of the Department of Obstetrics and Gyanecology, Benazir Bhutto Hospital, Rawalpindi, Pakistan from February to August 2016. Ethical approval was taken from the institution's research ethics review committee. Females between the ages of 18 and 40 years with diagnosis of primary infertility were included in the study. Patients with secondary infertility, previous history of psychiatric illness and with current severe medical conditions were excluded. The patients were selected using non-probable consecutive sampling. They were informed about the design and aims of the study and consent was taken individually. The demographic details (age, duration of marriage, education, occupation, socio-economic status, family structure, place of residence) of the patients were collected on a pre-designed proforma. The presence and severity of depressive symptoms were assessed using the Hamilton Rating Scale for Depression (HAM-D). This is a physician rated questionnaire comprising of 17 items. Test-retest reliability and validity of the questionnaire has been proven by several studies and researches. A score of less than 7 on the scale indicates no depression, score from 8-13 signifies mild depression, from 14-18 moderate depression, and greater than 19 indicates severe depression.

The demographic and clinical data were analyzed using Statistical Package for Social Sciences (SPSS). Results were reported as mean ± standard deviation (SD) for continuous variables and as frequencies for categorical variables. Chi-square test was applied to ascertain association with a p value of less than <0.05 considered significant.

RESULTS

A total of 102 females with primary infertility were included in the study on the basis of the inclusion and exclusion criteria. The mean age of the patients was 31 years with a STD of ± 4.3 years. 78.4% (n=80) patients were suffering from depression on the basis of HAM-D scores (Figure-1). The minimum score on HAM-D was 3 while the maximum was 25. The mean score on HAM-D was 14 with a STD of ± 6.2. 17.6% (n=18) had mild depression while the remaining patients (n=62) showed more severe grades of depression (Figure-2).

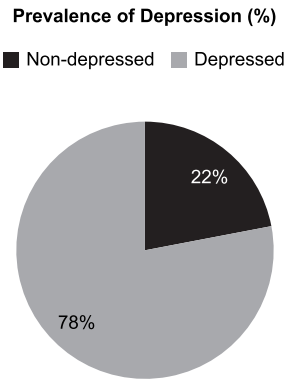

Figure-1. Pie chart showing prevalence of depression among study participants based on HAM-D scores.

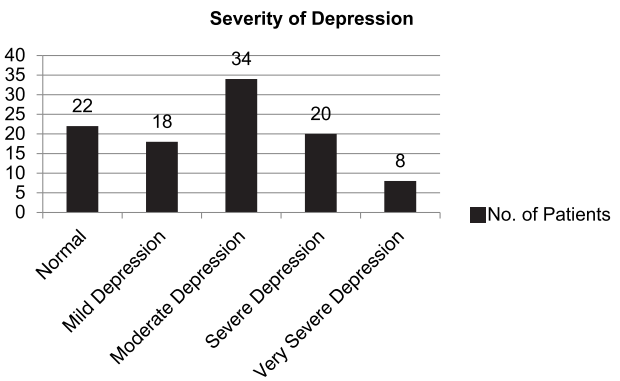

Figure-2. Bar Chart showing severity of depression among study participants based on HAM-D scores.

DISCUSSION

The number of couples seeking medical intervention for infertility has significantly increased in recent times.

Socio-demographic Variable	Categories	Presence of Depression		P-Value
		Yes	No	
Age group	≤ 30 years > 30 years	28 52	9 13	0.814
Educational level	Primary Secondary Graduate Post-graduate	5 55 14 6	1 17 4 0	0.598
Occupation status	Housewife Working	58 22	18 4	0.414
Marriage duration	≤ 2 years > 2 years	7 73	3 19	0.461
Household type	Nuclear family Extended family	22 57	10 11	0.084
Household income	≤ 16000/- 16,000 – 30,000/- > 30,000/-	18 32 29	2 15 6	0.046

Table-I. Association of demographic variables with the presence of depression in the study participants.

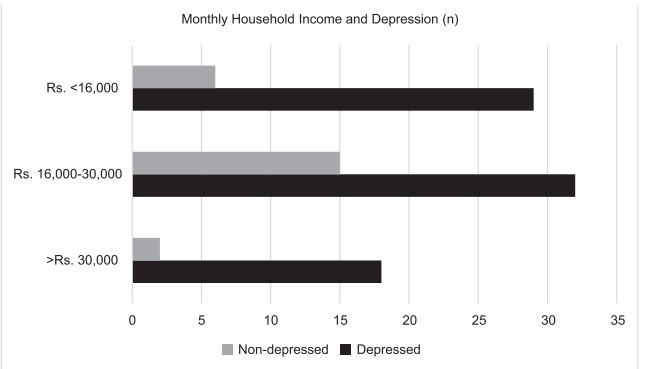

Figure-3. Association of prevalence of depression with monthly household income (p=0.046)

The psychological morbidities present in these couples are often overlooked which may affect the long-term outcomes of these treatments.

Our study included female patients with primary infertility presenting to one of the busiest tertiary care hospitals in Rawalpindi. The results of the study show that out of the 102 study participants, 80(78.4%) had depression. Patients with depression were further divided into 18 (17.6%) having mild depression, 34 (33.3%) having moderate depression, 20 (19.6%) having severe depression and 8 (7.8%) patients having very severe depression. These results are compatible with recent studies conducted in Pakistan. A study conducted by Ali et al at an infertility clinic in Rawalpindi showed that 83.2% of infertile couples suffered from anxiety and depression.[11] Another study conducted by Qayyum et al at CMH, Abbottabad showed that females with infertility were more likely to suffer from depression compared to fertile women (p-value<.001).[12]

Our study also looked at various demographic factors which may be associated with depression in infertile females. Previous studies had shown that duration of marriage may be associated with a greater prevalence of depression; a longer duration of infertility leads to depression.[13] However, we were unable to replicate these results in our study (Table-I). One of the findings in our study was that females who belonged to a household with lower incomes had a greater incidence of depression. This is understandable as economic hardship is an independent risk factor for psychological stress and indirectly it may lead to depression in infertile couples by limiting their access to medical interventions for infertility which is expensive in our settings. Future studies may look in detail at how economic aspects exert their effects on the development of depression in infertile females.

It had been suggested by some western studies that higher levels of education and a current job may confer a protective element to the development of depression in infertile females.[14]

The results of our study do not show this to be the case in local settings. A similar study conducted by Verma et al in India also replicates our results with the rates of depression in educated and uneducated infertile females as well as working and non-working infertile females to be the same.[15] This is perhaps an indication of the greater emphasis placed on having children in South Asian culture with the primary responsibility of not having off springs resting with the females.

One of the limitations of the study was that all the patients were taken from a single tertiary care institute so the results may not be generalizable to other settings. Future studies can include multiple centers to improve this aspect. Our study also did not differentiate between the causes of infertility and some studies have shown that female factors for infertility may pose a greater risk of depression.

CONCLUSION

Depression rates among females with primary infertility are extremely high. These females should be routinely screened for depressive symptoms to ensure early detection. Psychological support and treatment must be provided to infertile females diagnosed with depression.

CONFLICT OF INTEREST

No conflict of interest

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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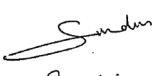
1	Sundus Fatima	Conceptualization, Study design, Manuscript writing.	
2	Zaidan Idrees Choudhary	Manuscript writing, result interpretation.	
3	Nariman Haider	Data collection, data entry, literature review.	
4	Fareed Aslam Minhas	Project supervision, editing of manuscript.	
5	Sadia Yasir	Data collection, data entry, literature review, statistical analysis.	
6	Aqsa Naheed	Statistical analysis and results.