Psychiatric Morbidity in Infertile Women Undergoing Treatment at an IVF Centre

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ABSTRACT

Introduction: Infertility in India is a growing phenomenon. Psychiatric conditions are important aspects in these women undergoing interventions. This study was undertaken to screen Indian Infertile women seeking treatment, for Psychiatric Morbidity.

Material and Methods: The present study included a total of 115 female patients who registered in the Gynaecology OPD for infertility treatment. They were interviewed on Symptoms Checklist 90 Revised, SCL-90R. Data was analysed using appropriate statistics and software.

Result: Highest mean scores for psychiatric morbidity among infertile females was observed for Somatization. Interpersonal Sensitivity, Phobic Anxiety, Anger Hostility, Paranoid Ideation, Depression, Anxiety and Psychoticism had Significant values among the groups Education, Duration of marriage, Duration of taking ART and number of ART Failures.

Conclusion: The finding indicated importance of Psychological Assessment of Females undergoing Infertility treatment, as a part of their management.

Keywords: Infertility; IVF; Psychiatric Morbidity

INTRODUCTION

The imbued drive with emotions of motherhood, to bear a child is very strong, in the woman. The whirlwind of emotions that infertility brings can be devastating to the women.

Psychological health of infertile females has been given special attention during the last few years and due to growing data collection, an association has been observed between Infertility and Psychiatric Symptoms.

Infertile women are more likely to be observed with a psychiatric diagnosis than fertile women, as early as at the time of their first contact with a specialized fertility service center[1]. These women undergo severe stress and experience various psychological symptoms at the time of seeking treatment, before a specific infertility diagnosis is made and before starting treatment, suggesting that these symptoms might be the direct consequence of the infertility. In Indian contexts, Suicide have resulted in, by married women when they face ill treatment from in-laws, fertility problems being one of the factors.

An early study done in infertile women, among the age group 18 to 45 years, found out 57.5% of the infertile females who presented in an infertility clinic had psychiatric disturbance, while it was only 25% in the control group.[2] When the infertile and control groups were compared to each other regarding the relative risk of developing psychological morbidity it was found that the study group had 7 times more risk than the control group. The other recent study which recruited all consecutive women visiting the assisted reproduction clinic, with the intention of starting a new assisted reproduction treatment course, found out that 40.2% had a psychiatric disorder[3]. Comorbidity with two or more diagnoses was also common. Depression has been frequently observed among the infertile women. The researchers have noted, Depression was prevalent irrespective of primary or secondary infertility[2,4,5,6]. Sargolzaee et al found out that among the depressed, higher proportion had moderate depression than mild depression[7].

Anxiety has been found in a common proportion in infertile women in most of the surveys[8]. In a review article, Kocelak et al stated, that among the infertile obese women occurrence of anxiety is more persistent than depression symptoms. Anxiety seems to be a trigger for emotional eating as well as for binge eating[9].

Occurrence of Adjustment disorder, especially with mixed anxiety and depressed mood, more often in infertile females than in infertile males, has been statistically proven[10].

Women not giving birth after the infertility evaluation has been observed to have an increased risk of hospitalization for mental disorders including alcohol and intoxicant abuse, schizophrenia and psychoses. Also, it has been found that infertile women as compared to fertile women had higher levels of psychoticism, somatization, worse interpersonal relations, paranoid ideation and phobic anxiety[11].

Psychiatric comorbidity has been found to be positively associated with length of infertility. Infertile patients whose reproductive problems were 2 or more years long were more likely to be diagnosed with adjustment disorder with depression than infertile patients whose reproductive problems were <2 years long[14]. Thara et al quoted that it is probable that as years roll by, hopes of birth of a child die to give place to futility and despair[2].

Treatment of infertility has also been found to have an impact on development of psychiatric disorders. In a cohort study, women with infertility treatments had fewer hospitalizations due to depression, psychotic disorders, personality disorders, anxiety disorders, bipolar disorder or mania, eating disorders,

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adjustment disorders and alcohol or other intoxicant abuse, than their respective controls without treatment. The infertile women who gave birth had fewer hospitalizations for all psychiatric diagnoses than did infertile women who did not gave birth. The difference was statistically significant for depression, anxiety disorders and alcohol or another intoxicant[12].

Most of the above research has scarcity of Indian data. With growing concern for Infertility, being an extensive stressor in the females, this study was undertaken to screen Indian Infertile women seeking treatment, for Psychiatric Morbidity.

MATERIAL AND METHODS

The study was carried out in a large tertiary care hospital situated in Pune. The Centre is furnished with all state of art technology required for In-vitro Fertilization and other interventions required for treatment of Infertility, aimed at conceiving.

Those Women suffering from Infertility who were seeking treatment for Infertility, both Primary and Secondary, at the center were interviewed. They were selected randomly.

This cross-sectional study was conducted for one year. The period of data collection was Aug 2014 - Aug 2015.

Inclusion Criteria

1. All Females attending the Infertility OPD at the ART center.
2. All suffering from Primary Infertility.
3. All with age 20 years and above.
4. All having education 8th class and above.

Exclusion Criteria

1. Have undergone or undergoing treatment for any Psychiatric illness.
2. Suffering from any co-morbid medical / surgical conditions.
3. All suffering from secondary infertility.

Procedure

After approval from Institutional Ethics Committee, a total of 115 female patients who registered in the OPD for infertility treatment were interviewed.

All patients were interviewed in the OPD, when they were waiting for their appointment. The interview took place in parts, before and after the patient visited the gynecologist. After adequate briefing, patients were asked to mark the answers on the hard copy of the questionnaires, at their own speed. WHO consent form was explained in their language, nature of the study was explained, and signatures were taken. 15 patients were excluded based on the factors of secondary infertility, previous psychiatric illness and co morbid medical illness.

Psychometric Scale Used

Symptoms Checklist 90 Revised, SCL-90R[13]. It is a revised and updated version of the Hopkins Symptoms checklist and the SCL-90. It is a 90-item multidimensional self-report inventory designed to screen for a broad range of psychological problems and symptoms of psychopathology. The nine primary items are: 1. Somatization 2. Interpersonal-sensitivity 3. Obsessive-compulsive 4. Depression 5. Anxiety 6. Anger-hostility 7. Phobic anxiety 8. Paranoid ideation 9. Psychoticism. The responses are marked on a scale of 0 (not at all) to 4 (extremely). It has high test-retest reliability. The scale has been used in Hindi in Indian studies[14].

STATISTICAL ANALYSIS

Calculation of statistics was done by ANOVA and CHI SQUARE Test with the help of SPSS software.

RESULTS

Socio-Demographic profile of sample

Most women were younger, with 45% were among 26-30 years. 57% belonged to the education group 11th -12 th class, signifying considerable lesser education. Nuclear family structure was more common (79%). The study revealed that, in all, total number of females who reported within 6 years of their marriage (64%) were more than those seeking treatment after 6 years of marriage (36%). Infertile women who were undergoing ART since only one year were highest (48%), while those undergoing for more than 2 years were least (23%). Most women who underwent ART, suffered failures at least 2 times (54%).

Psychiatric Morbidity

Overall psychiatric morbidity, warranting further assessment for confirmation of diagnosis was 43%.

The highest mean score obtained, in the present study, among infertile women were on the domain of Somatization (1.23), Depression (1.14), Anxiety (1.03) and Phobic Anxiety (1.00) (Table 1).

In the age groups, significant values (P <0.05) were observed for Interpersonal sensitivity, Depression, Anxiety, Anger hostility, Phobic anxiety, Paranoid ideation and Psychoticism. Highest values were observed for Depression in the age group 26-30 years.

In the statistical analysis while considering education, significant values (P <0.05) were obtained in Interpersonal Sensitivity and Phobic anxiety. Highest mean score for Interpersonal Sensitivity were obtained for Graduates. For Phobic Anxiety higher scores were among those who has education in the age group 11th -12th class.

While analyzing psychiatric morbidity with family type significant scores (P <0.05) were observed in the domains

SCL-90 R	Mean	SD
Somatization	1.23	0.87
Obsessive-Compulsive	0.93	0.54
Interpersonal Sensitivity	0.91	0.44
Depression	1.14	1.03
Anxiety	1.03	0.70
Anger Hostility	0.83	0.29
Phobic Anxiety	1.00	0.31
Paranoid Ideation	0.92	0.31
Psychoticism	0.96	0.39
GSI	1.01	0.34
PSDI	1.48	0.27
PST	60.96	15.87

Table-1: Prevalence of Psychiatric Morbidity.

SCL-90 R	Duration of marriage(years)										P-value
	1 - 2 (n=9)		3 - 4 (n=31)		5 -6 (n=24)		7 - 8 (n=16)		> 8 (n=20)		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Somatization	1.0	0.3	1.4	1.2	1.1	0.8	1.2	0.9	1.3	0.3	0.680
Obsessive Compulsive	1.2	1.0	0.8	0.5	0.8	0.5	0.9	0.6	1.1	0.3	0.112
Interpersonal Sensitivity	0.7	0.3	0.9	0.4	0.9	0.3	1.1	0.8	0.9	0.2	0.212
Depression	0.6	0.3	1.2	1.2	1.2	1.0	1.3	1.1	1.1	1.0	0.495
Anxiety	0.6	0.2	1.0	0.6	1.0	0.6	0.9	0.3	1.4	1.1	0.063
Anger Hostility	0.5	0.2	0.9	0.3	0.8	0.3	0.9	0.3	0.9	0.2	0.009
Phobic Anxiety	0.9	0.2	1.0	0.4	0.9	0.3	1.0	0.3	1.2	0.2	0.150
Paranoid Ideation	0.7	0.1	0.9	0.3	0.9	0.3	1.0	0.3	1.1	0.3	0.024
Psychoticism	0.9	0.3	1.1	0.4	0.9	0.4	1.0	0.4	0.8	0.4	0.237
Additional Scales	0.7	0.4	0.9	0.5	0.9	0.4	0.9	0.5	1.0	0.2	0.503

Table-2: Correlation of Psychiatric morbidity with Duration of marriage.

SCL-90 R	Duration of treatment(years)						P-value
	< 1 (n=48)		1 - 2 (n=29)		> 2(n= 23)		
	Mean	SD	Mean	SD	Mean	SD	
Somatization	1.39	1.03	1.16	0.74	0.99	0.55	0.162
Obsessive Compulsive	0.99	0.60	0.94	0.47	0.80	0.49	0.385
Interpersonal Sensitivity	0.99	0.30	1.01	0.55	0.62	0.43	0.001
Depression	1.45	1.23	0.94	0.90	0.74	0.20	0.01
Anxiety	0.90	0.28	0.86	0.24	1.52	1.28	< 0.001
Anger Hostility	0.82	0.31	0.81	0.34	0.87	0.20	0.746
Phobic Anxiety	1.02	0.29	0.95	0.36	1.04	0.29	0.536
Paranoid Ideation	0.87	0.26	0.92	0.37	1.01	0.31	0.188
Psychoticism	1.09	0.35	0.76	0.46	0.95	0.26	0.001
Additional Scales	0.93	0.44	0.97	0.39	0.80	0.34	0.301

Table-3: Correlation of Psychiatric morbidity with Duration of taking ART.

SCL-90 R	Number of ART failure								P-value
	0 (n=7)		1 (n=20)		2 (n= 54)		>2 (n= 19)		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Somatization	1.56	1.09	1.56	1.27	1.07	0.76	1.23	0.37	0.122
Obsessive Compulsive	0.91	0.20	0.94	0.47	0.87	0.64	1.09	0.37	0.535
Interpersonal Sensitivity	0.73	0.11	0.96	0.45	0.91	0.50	0.95	0.32	0.669
Depression	0.65	0.32	1.44	1.17	1.02	0.94	1.37	1.19	0.175
Anxiety	0.64	0.30	0.94	0.29	0.95	0.62	1.51	1.07	0.006
Anger Hostility	0.69	0.15	0.87	0.37	0.76	0.24	1.04	0.28	0.001
Phobic Anxiety	1.04	0.18	1.06	0.30	0.90	0.31	1.21	0.26	0.001
Paranoid Ideation	0.88	0.21	0.87	0.25	0.86	0.31	1.14	0.30	0.004
Psychoticism	1.26	0.11	1.08	0.37	0.84	0.40	1.09	0.35	0.003
Additional Scales	1.00	0.25	0.97	0.51	0.82	0.35	1.09	0.44	0.073

Table-4: Correlation of Psychiatric morbidity with number of ART Failures

of Anger hostility, Phobic anxiety and Paranoid ideation. Highest mean scores were observed in the Extended families while lowest were found in Nuclear families.

When duration of marriage was considered, significant scores were obtained for Anger Hostility and Paranoid ideation (Table 2).

Significant values (P <0.05) were observed for prevalence of Interpersonal Sensitivity, Depression, Anxiety and Psychoticism while considering duration of undergoing ART (Table 3).

Anxiety, Anger Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism, all had significant values (P <0.05) when analyzed against number of ART failure (Table 4).

DISCUSSION

Psychiatric morbidity in the same subjects have been obtained by various authors. A recent study in infertile women, found that 39.16% had psychopathology[15]. Using SCL-90-R, many authors have proven presence of Psychiatric morbidity in infertile women[16]. In the study performed by Noorbala et al[17], the prevalence of psychological disorders was found to be about 44%.

The subjective distress is often expressed in terms of somatic symptoms (Somatization). Reporting of non-specific physical complaints, prominently, by infertile women. particularly in Indian setting, is common as reflected by Chaturvedi et al[18]. Women in the age group 26-30 years reported more of depressive symptoms like loneliness, loss of pleasure, crying etc. possibly due to perceived stress of infertility. This finding signifies the development of psychiatric morbidity in this age group which corresponds to other studies which observed that infertile women of this age group are at higher risk for developing psychological disorder[19,20]. Infertile women may develop suspiciousness, while in social gatherings, without adequate evidence, these women would believe that they are being watched or are being talked about in relation to their childless status, possibly why they are infertile at such an older age. Anxiety, Phobic anxiety and Anger Hostility were prevalent for women aged > 36 years. Women in this age group possibly have apprehension and nervousness, which may have developed due to concerns of possible failures of ART, with their relatively older age. Obtaining more scores on Phobic Anxiety signifies that these females might have excessive and irrational fear possibly related to undergoing ART, or it could be due to meeting child bearing females, attending functions where relatives might discuss their infertility or attending functions related to newly born children where they might be looked down. While Anger hostility is present as experiences of resentment, irritability, aggression, and, possibly, rage. Psychoticism and Interpersonal sensitivity are also prevalent in infertile women who were in the age group 26-30 years. Higher Scores being on a psychoticism continuum, ranging from minor levels of interpersonal alienation to a full display of severe psychotic symptoms as Psychoticism. For Interpersonal sensitivity, infertile women in this group, may present with negative expectations regarding their relationships and would be self-conscious. When they would compare themselves with fertile women, they typically feel inferior and, thus, experience self-doubt and inadequacy.

Considering the scores among the type of family group, it seems that Extended families pose a risk factor for development of these psychological disorders and adopting Nuclear family norms may help in likely reduction in the occurrence.

In the present study it was observed that probably with growing years of nuptial knot, suspiciousness and projection might develop with increasing years of infertility in the marriage. Experiences of resentment, irritability, aggression, and possibly rage as Anger Hostility was prevalent among those married for 3-4 years and > 7 years.

Depression was more prevalent in the infertile females taking treatment for less than 01 year as compared to those having duration of treatment > 2 years, probably with increasing duration hope builds up and sadness ameliorates. Anxiety was prevalent among those who were taking treatment for more than 2 years, probably due to enduring restlessness and nervousness over increasing duration of treatment. Interpersonal sensitivity was prevalent among those under treatment for 1-2 year and Psychoticism was prevalent who have recently enlisted for ART.

It was observed that increasing number of ART failures may serve as a risk factor for occurrence of Anxiety. Similar result was observed in one of a recent study, where prevalence of severe anxiety was directly proportional to number of failed attempts[21]. While Phobic Anxiety, Anger Hostility and Paranoid Ideation are prevalent in those who had failure more than twice, Psychoticism was prevalent who had yet to undergo intervention and were still under evaluation.

Strenght and limitation of study

There has been scarcity of Data of Psychiatric symptoms and morbidity in Indian scenario and this study fulfills the requirement. The study provides only screening of the symptoms and a thorough evaluation is further required for a diagnosis.

CONCLUSION

Among the Infertile Women who were seeking treatment there was considerable Psychological disturbances and Psychiatric morbidity, warranting further thorough evaluation for a Psychiatric Diagnosis and treatment.

The following recommendations are suggested as guide line for providing psychological interventions at the Infertility Clinic –

1. All infertility work-up should also include detailed psychological history.
2. Psychiatrist, Psychologist and Social Worker should work in unison with the gynecologist with a holistic multidisciplinary approach.
3. Psychometric scales should be applied in all suspected cases to identify possible psychiatric cases
4. All those scoring high on dimensions of psychiatric morbidity should be reassessed for diagnostic confirmations, by using nosological Systems such as ICD-10 or DSM-5.
5. After confirmation they should be treated adequately according the latest guidelines on the disorders.

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