Psychological correlates in women with infertility

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ABSTRACT

Aims: To assess the psychological status of infertile women using the Fertility Problem Inventory and to identify any relationship between characteristics of infertility and the psychological problems.

Methods: A prospective, quantitative, descriptive, questionnaire-based study with institutional ethics committee clearance was conducted for two months, on women undergoing infertility treatment. Fertility Problem Inventory Questionnaire was applied and stress levels analyzed. Data were tabulated into Microsoft Excel and statistical analysis was performed in terms of percentages and students t tests for categorical variables.

Results: Thirty-two patients were studied in the time period with an average of 30.15 years. Seventy-five percent of the patients were found to be suffering from a moderately severe level of infertility-related stress. The remaining were suffering from a moderate level of infertility-related stress.

Conclusions: Majority (two-thirds) of the study group were suffering from a serious psychological morbidity. Psychological evaluation of people seeking infertility treatment could be considered.

Key words: fertility problem inventory; Ferti-QO; infertility stress; psychological burden of infertility

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INTRODUCTION

One of the most satisfying life events is the birth of progeny. However, in the modern world, due to various factors, infertility is on the rise. While the physical causes of occurrence of infertility are varied, psychological stress can also be a cause. The quantification of the level of stress among infertility patients has not been dealt upon in India adequately. World Health Organization (WHO) quotes infertility as "inability to conceive even after 12 months of unprotected intercourse".[1] The prevalence

of infertility is varied, affecting almost one in five couples. People suffering from infertility can be many millions, and the picture is similar in India too.[2,3] While infertility is a "couple" entity, at least 40% is attributed to the female population.[4] Physical health and psychological health are closely linked, and infertility is no exception. Medical literature has addressed this relationship in two ways - Infertility as a consequence of psychological illness and infertility causing psychological effects, the latter being the focus of this study.

Factors such as social status, anxiety, stress or sudden changes in weight can have an effect on the Gonadotropin-release hormone release, and hence leading to infertility. The individual effects of novel hormones such as Ghrelin are also being investigated.[5] As per data available in the National registry of Artificial Reproductive Technique Clinics and Banks in India, there are 402 clinics registered with the ICMR in the ART registry.[6] Evaluation of psychological status of infertile women has not been incorporated as a standard practice for patient care in most centers despite the availability of many inventories and questionnaires.

A systematic review conducted by Mousavi et al[7] concluded that the Fertility Problem Inventory is one of the few available inventories with a good reliability and validity properties. The analysis of the response to the questionnaire gives an idea about the current stress level of the patient. In this context, this study aimed at assessing the psychological status of infertile women using the Fertility Problem Inventory. A secondary objective was identifying any relationship between characteristics of infertility and the psychological problems.

METHODS

The study was commenced after seeking permission from the Institutional Ethics Committee. This was a quantitative, descriptive, questionnaire- based study performed in the wards and outpatient department of Obstetrics and Gynecology. All women in the age of 21-45 years with at least one year of marriage were included and with known psychiatric illnesses were excluded. A locally developed version of The Fertility Problem Inventory (translated, back translated and locally validated) was used. Written informed consent was obtained and the Fertility Problem Inventory was administered.

The Fertility Problem Inventory is a 46-item questionnaire, which have questions related to the five domains. The five broad domains are namely Social Concern,

Sexual Concern, Relationship Concern, Rejection Of Child Free Lifestyle Concern and Need For Parenthood Concern. The analysis of the response to the questionnaire gives an idea about the current stress level of the patient. Participants They were asked to answer on a scale of 1 to 6. Care was taken not to repeat or re-explain any of the questions. Care was taken that patient was relaxed and had had a good night's sleep and there was no any surgical procedure prior to the

administration of the questionnaire to minimize confounding effects.

Demographic details such as age, educational status, occupational status, religion, type of family, location of residence, previous relationships, children from previous relationships, duration of marriage and duration of attempt at fertility were noted.

The FPI scores (1 to 6), total of which give rise to mild/moderate/moderately severe and severe stress, which in turn correspond to 1/2/3/4 respectively were used for comparative statistics. Chi-square test (for categorical variables) and students t test (for continuous variables) was applied between the various factors which influenced the severity score.

RESULTS

During the study period, 32 patients were identified fulfilling the inclusion criteria. There were nine other patients identified during the study period who had infertility but did not fulfill the age criteria or were not willing to participate. The average age was 30.15 (±5.26) years and maximum number of patients belonged to the age group of 31-35 years [Figure-1].

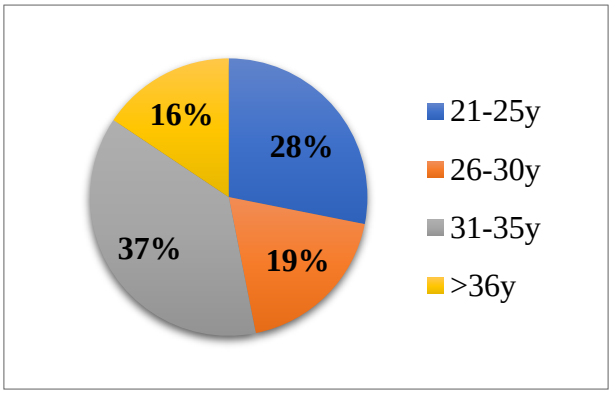

Figure-1: Age distribution

Majority of the patients (62.5%) were educated up to primary school and 6% had illiterate status. The remaining 30% were secondary school educated or higher level. Most of the patients had been married for duration of 6 to 10 years, and very small proportion were married for more than 16 years. The average age of attempting to conceive was 5.96 (±5.027) years. A majority (62.5%) had an attempt at fertility for less than 5 years [Table-1]

Table-1: Duration of attempt to conceive

Years	Frequency (%)
1-5	20 (62.5%)
6-10	8 (25%)
11-15	2 (6.25%)
≥16	2(6.25%)

Twenty-four patients out of 32 (75%) suffered from moderate amount of stress and 25% suffered from moderately severe amount of stress. There were no patients of mild stress. This is the most significant finding of the study. On a comparative basis, patients were less stressed about the "Social concern" and "Need for parenthood" parameters when compared to the "sexual", "relationship" and "rejection of child free lifestyle". [Table-2]

Majority of the population were Hindus (81.25%) which is consistent with the population distribution of India. The remaining belonged to the Muslim community (18.75%). Most of the respondents were unemployed (96.87%). Majority of the patients (65%) were residing in a rural setting and a majority

(68.7%) were living in a joint family. Majority (93.75%) of the patients had primary infertility. For 9 patients (28%) in the study participants, the current visit to the hospital was the first ever visit to a medical care facility for the management of infertility. Seven patients (21.87%) had coexisting medical problems such as hypothyroidism, diabetes etc. Four of their partners (12.5%) had co-existing medical problems. None of the patients claimed to be consuming tobacco or alcohol. Further analysis was done to study the influence of various factors on the scores [Table-3].

Table-2. Results of the Fertility Problem Inventory (FPI) scoring

Severity of stress	1 (Mild stress)	2 (Moderate stress)	3 (Moderately severe stress)	4 (Severe stress)	Total
Social concern	0	15	17	0	32
Sexual concern	0	4	27	1	32
Relationship concern	0	6	24	2	32
Rejection of child free lifestyle	0	6	25	1	32
Need for parenthood	2	28	2	0	32
Composite	0	8	24	0	32

Table 3. Influence of Demographic paramteres on Stress level

Parameter	Mild/ moderate stress	Moderately severe/ severe stress	p-value
Age	33 +/- 4.84	29.2 +/- 5.26	0.08
Graduate education	25 % (2/8)	12.5 % (3/24)	0.58
Joint family	50% (4/8)	75% (18/24)	0.21
Rural residence	87.4% (7/8)	58.3% (14/24)	0.21
Duration of marriage >8yrs	62.5%(5/8)	50% (12/24)	0.69
Duration of attempt to fertility	37.5% (3/8)	54.16% (13/24)	0.68
Proportion with Medical Problem	12.5% (1/8)	25% (6/24)	0.64

DISCUSSION

Age: In our study, the average age of the participants was 30.15±5.26 years. It was observed that in a study by Jumayev et al, the average age of infertile participants was 25, with 75% in between 21-30years.[8] In contrast to Asian countries, Western countries have patients with infertility

at a higher average age. Franco et al in their study of 251 infertile couples noted the average age to be 34±4.2 years in women and 36.8±6.5 years in men.[9] A mean age of 33.30±4.85 years was noted in a study conducted in 2 fertility centers in Hungary.[10] Hence, in most studies with a higher average age have higher infertility stress. However, in our study, age is not considered to be statistically associated with stress level (p=0.08). Oladeji et al also showed similar findings.[11]

Educational Status: In our study, most of the women (62.5%) had only primary education and stress levels are high immaterial of educational status. Different studies have shown varied educational backgrounds, yet the stress levels continue to be independent. Zurlo et al showed majority of women had senior school education.[12] Ozakan et al concluded that the stress is inversely proportional to level of education.[13] Educational status had an influence as to when women reported for the first time to the infertility clinic. While educated reported first to clinic, the illiterate group continued to consider faith and traditional healers as their first line consultation.[14]

Type of Infertility: In our study, most presented with primary infertility (93.75%, p=0.20). Similar predominance was noted in a study by J Franco et al (74%).[9] Study by Oladeji et al[11] showed almost similar levels of stress in both primary and secondary infertilities with slightly lower burden of 46% in primary infertility. In a study by Mousavi et al[7], it was shown that primary infertility is hampering the sexual relationship and the quality of life leading to a major contributory factor for sexual

Residence type: The infertility stress is not dependent on location of residence (p=0.21). In our study, 65.6% belonged to a rural background. An apparent reason could be better accessibility of hospitals in urban areas provide with an opportunity of earlier evaluation and hence treatment. Jumayev et al [8] noted a similar observation - 51.7% belonging to rural population.

Duration of Marriage: Majority (65.6%) of participants were married for more than a mean of 8 years. Mousavi et al had concluded that duration of marriage is one of the important variables affecting the quality of life in infertile couples.[7] However, this finding was inconsistent with study by Oladeji et al, where the authors concluded that duration of marriage is an insignificant factor associated with infertility stress (p=0.93).[11] A similar lack of association between duration of marriage and the stress is noted in our study too (p=0.69).

Employment Status: Due to smaller sample size, we found only two women who were employed, and hence, no specific association could be drawn. However, literature is consistent about this association. Unemployed infertile men had shown a neglected physical health and anti-social behaviour in a study by Bolsoy et al in Turkey (p<0.01).[15] In a study by Tiyuri et al,[16] authors concluded that the women's employment status had a direct correlation with the infertility stress. Housewives are more prone for higher levels of stress as compared to

working women (p=0.02).

Family Status: Support from the family is extremely important when a couple suffers from infertility. The two types of family structures prevalent in India are the nuclear families and joint families. The advantage of inter-woman support is something that the joint family can offer, while privacy concern is a disadvantage. In the study by Mary et al, there was no difference in infertility-related stress between those belonging to either of the two-family types.[17] This is similar to the findings of our study (p=0.21).

Religion: Very little literature appears to be available on this matter. In our study, there appeared to be no relationship between religion and infertility-related stress. In the study by Mary H et al also showed no relationship.[17]

The strengths of the study include a well-validated and well-established questionnaire. The limitations of the study include a small sample size.

CONCLUSIONS

Our study notes that more than 75% of infertile patients showed moderately severe and 25% showed moderate level of infertility-related stress. There were no patients with mild stress. The occurrence of infertility related stress is not dependent on any demographic factors or type of infertility. Hence, it is recommended that screening for latent stress should be considered in all women being treated for infertility using appropriate tools like the FPI. Whether improving psychological status can help improve reproductive outcomes needs further detailed study.

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