



Depression in women undergoing infertility treatment: A clinic-based study in Kerala, India.

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ABSTRACT

Background: In a country such as India, for a woman to be socially acceptable, she should be able to bring forth an offspring of her own. The inability to have offspring is a devastating experience for a couple as a dyad. Infertility, and its perceived undesirability, upsets women's lives in physical, mental, emotional, financial, social, and spiritual aspects. Anxiety and depression are the two major psychological disturbances reported to be prevalent among infertile women.

Aim: The study aimed to assess the level of depression in childless women undergoing infertility treatment.

Setting and Design: A total of 253 women undergoing infertility treatment in a tertiary care hospital in Pattambi, Palakkad District, Kerala from January 2016 to December 2019 were included in this study. The research is a cross-sectional study.

Methods and Material: Beck Depression Inventory and socio-demographic data forms were used as tools.

Statistical Analysis Used: Frequency and percentages were used for the analysis of descriptive data, and the Spearman correlation test was used for quantitative analysis.

Results: This study found that depression was seen in 43.87% of women who participated in the study. Women who had 3–5 years of married life showed higher levels of depression than other groups.

Conclusion: Infertile women have significant levels of depression, and this fact requires consideration in the management of infertility.

Keywords: women; depression; infertility; infertility treatment

Introduction:

Involuntary childlessness becomes a subject of discussion in society in a country like India, causing much pain (Mishra, & Dubey, 2014). In modern times also, childlessness is socioculturally considered a big issue causing severe social and religious repercussions leading to depression, anxiety, and other psychosocial problems (Inhorn & Patrizio, 2015). The World Health Organization (WHO) defines infertility as “the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse” (Zegers-Hochschild et al., 2009). Demographers, however, define infertility as the absence of a live birth in a sexually active woman who is not using any contraceptive method (Larsen, 2005). According to the Indian Society of Assisted Reproduction, infertility currently affects approximately 10 to 14 percent of the Indian population. The major causes of infertility can be generally classified as (a) male factor, (b) female factor, (c) combined—both male and female factors, and (d) unexplained infertility (Kumar & Singh, 2015).

The problem of infertility has medical, psychological, and social components which cannot be separated. Infertility is a condition affecting two individuals, i.e., husband and wife, and is associated with feelings of worry, fear, and also discrimination and the burden of stigma, along with associated anxiety and depression (Goffman, 1986). All over the world, women appear to bear the major burden of infertility along with blame, anxiety, frustration, and grief (Inhorn & Patrizio, 2015) as motherhood is the central part of a woman's identity (Greil, 1997).

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration (Marcus et al., 2012; Eid et al., 2019; Sabic 2021).

Treatment for infertility alters the lifestyle of women and puts a strain on their psychological life (Imeson & McMurray, 1996; Braverman et al., 1998; Direkvand-Moghadam et al., 2013). For the past few years, research in the field of emotional aspects of infertility has been growing. Studies have shown the emergence of a pattern of emotional reactions expressed by men and women (Peterson et al., 2007). The level of desire for parenthood in both men and women with infertility determines their level of depressive symptoms. In pronatal societies where parenthood is an important goal of life, childlessness may influence depression because it exacerbates their idea of defeat. When parenthood is an important life goal, a childfree state of life may influence depression by exacerbating their perception of defeat (Galhardo et al., 2015; Ha & Park, 2022).

OBJECTIVE OF THE STUDY

This study was performed to determine the level of depression in women undergoing treatment for infertility.

Subjects and Methods:

This is a cross-sectional, single-unit clinic-based study. The study period is 5 years, and data were collected from January 2016 to December 2019. Women with three years or more of infertility, attending the outpatient clinics in the departments of Reproductive Medicine at the Rusiya Health Care in the Palakkad District of Kerala State in India were included in the study. Women who agreed to participate in the study between January 2016 and December 2019 were included. Hence, a total of 253 women have been selected as the sample for the study.

INCLUSION CRITERIA

The inclusion criteria for the current study are as follows:

1. Couples who have been living together continuously for a minimum period of three years.
2. The age of the participant being less than 40 years.
3. No major psychiatric illness seen in women.
4. The age of marriage of female partner being less than 30 years.
5. The age of marriage of female partner being more than 18 years.
6. Couple where women had one or more first trimester abortions.

EXCLUSION CRITERIA

The exclusion criteria of the current study are as follows:

1. Those couples in which one partner lives abroad.
2. Women's age being less than 20 years or more than 40 years.
3. Women having serious psychiatric problems.
4. Those women who had married after 30 years.

MEASURES

In the study, the sociodemographic data sheet and Beck Depression Inventory (Beck 1996) were used as the major tools.

STATISTICAL TOOLS USED FOR THE ANALYSIS AND INTERPRETATION OF DATA

Data were analysed using statistical software SPSS. Descriptive statistics such as mean, median, variance, standard deviation, standard error were used done in the study. Correlation analysis-test and paired t-test were also done in the study.

Table 1. Data on sociodemographic details of the respondents.

Socio demographic profile		
Variables	N	Percent
Age group		
20-30	201	79.4
30-40	52	20.6
Educational Qualification		
School	45	17.8
Higher Secondary	75	29.6
Degree/Diploma/Professional	133	52.6
Religion		
Hindu	211	83.4

Muslim	38	15
Christian	4	1.6
Economic activity		
Home maker	192	75.9
Self-employment/ Professional	Business/ 23	9.1
Employee	38	15.7
Duration of Married life		
3-5 Years	188	74.3
5-8 Years	46	18.2
More than 8 Years	19	7.5
Infertility factor		
Female	89	35.2
Male	71	28.1
Both	46	18.2
Unknown	47	18.6

Approximately 79.4% of women belonged to the age group 20–30 years, whereas 20.6% of women are in the age group 30–40 years. Most of the women (79.4%) belonged to the age group 20–30 years. Most of the women (52.6%) had degree/diploma/professional level of education. Nearly 29.6% of the women had higher secondary level education. A majority of the women (83.4 %) were Hindus and 15% of the women were Muslims. Christians form only 1.6% of the total sample. Almost 76% of the women are homemakers, and 15.7% are employees. Nearly 9.1% of the women did business/self-employment/professional job. Majority (74.3%) of the women had a duration of within 3–5 years of married life. Only 7.5% of women had a duration of more than 8 years of married life. The remaining women (18.2%) had a length of married life of approximately 5 to 8 years. The female factor infertility was 35.2% and the male factor infertility was 28.1%. The combined infertility was found in 18.2% while that of unexplained infertility was 18.6%.

Table 2. Data on the level of depression among the respondents.

Beck Depression Inventory with sociodemographic data				
Variables	N	Mean	SD	p-value
Age group				
20-30	201	14.58	10.33	0.016*
30-40	52	10.69	9.9	
Educational Qualification				
School	45	14.78	12.24	0.34
Higher Secondary	75	14.8	10.14	
Degree/Diploma/Professional	133	12.87	9.78	
Religion				
Hindu	211	13.47	10.29	0.283
Muslim	38	15.95	10.83	
Christian	4	9.5	8.23	
Economic activity				
Homemaker	192	13.6	10.19	0.862
Employee	38	14.61	10.32	
Self-employment/Business/Others	23	13.91	12.1	
Duration of Married life				
3-5 years	188	14.38	10.32	0.033*
5-8 years	46	13.78	10.8	
>8 years	19	7.89	8.05	
Infertility factor				
Female	89	12.55	9.32	0.141
Male	71	12.89	10.74	

Both	46	16.52	10.5
Unknown	47	14.79	11.22

The p-value of mean scores of women between different age groups is 0.016 (<0.05), implying that the mean scores are significant across the age groups of women. The mean BDI scores of women belonging to the age group 20–30 years are larger than that of women in the age group 30–40 years. On evaluating the mean scores of women with respect to education levels, the difference in mean scores of women is not statistically significant at the 5% level (p-value of 0.340 (>0.05)). On analyzing the mean scores of women with respect to religion, the study found that the p-value is 0.283 (>0.05), and it is concluded that the differences in mean scores are not statistically significant. The p-value of mean scores of women with respect to economic activity is 0.862 (>0.05), which indicates that the differences in mean scores of women are not statistically significant at the 5% level. On analyzing the mean scores of women with respect to duration of marriage, it was found that the difference in mean scores of women with respect to duration of marriage is statistically significant (p-value 0.033 < 0.05). The BDI mean score is higher (14.38) for those having a marriage duration of 3–5 years, and it is 13.78 and 7.89 for the other two groups. Post-hoc analysis showed that the means are significantly different between women having 3–5 (mean=14.38, sd=10.32) years of married life and those having more than eight years of married life (mean=7.89, sd=8.05). The means of other pairs of groups are not statistically significant. Since the p-value of mean scores of women with respect to infertility factor is 0.141 (>0.05), it is concluded that the differences in mean scores are not statistically significant at the 5% level.

Discussion

Sociodemographic factors

Of the participants in this study, the majority of the participant women belonged to the age group of 20–30 years (79.4%). The education (52.6%) of most of the women in the study is of degree/diploma/professional level. This is in conformity with the general educational level of women in Kerala. According to Government of India National Statistics Office – NSS Report No 585 (75/25.2/1) (Household Social Consumption on Education in India), a majority (83.4%) of the participants belonged to Hindu religion followed by Muslims (15%) and Christians (1.6%). Approximately 75.9% of women are home makers, 9.1% belong to the self-employed professional category, and 15.7% are employees in government/private institutions. The disparity between the level of education and the status of employment in the female partners is evident, which is the current scenario in Kerala and is termed as educated unemployment. Pradeep M.B (2019) in his study has stated that educated unemployed women is a major issue in Kerala. This maybe because of higher education among women and fewer job opportunities. The present study has not explored the possibility of women leaving their job or not seeking employment because of the problem of prolonged infertility treatment (frequent visits to hospital, absence from duty, non-availability of leave from duty, etc), which needs further research.

In this study, a majority of women were found to be seeking treatment in 3–5 years of married life. Approximately 98% of women were in their first marriage. The female factor infertility is predominant (35.2%). The male factor infertility is 28.1%, and the combined male and female factor is 18.2%. In 18.6% of women, the cause was unexplained. Gupta and Deshpande (2019) also showed female factor predominance.

Relationship between Beck Depression Inventory Scores with Sociodemographic factors

In this study, women were found to have higher levels of depression. This was consistent with the results of a study by Singh et al. (2020). Women who are 20–30 years were found to have higher levels of depression. Educational status and employment (occupation) did not appear to influence the level of depression in women. A significant influence is seen with the number of years of married life on the level of depression among women. Women who had 3–5 years of marriage life showed the highest level of depression. Infertility factors (male, female, combined, and unexplained) and religion do not seem to influence the level of depression in infertile women. Kazandi et al. (2011) in their study showed a higher levels of depression among housewives with longer duration of infertility. Their study did not show any correlation between depression and the level of education or cause of infertility in women.

This study found depression in 43.87% of women. Women showed 56.1% minimal, 15% mild, 16.2% moderate, and 12.6% severe depression. Depression was found to be the highest in the age group 20–30 years. According to Alimohamadi et al. (2020), depression among infertile women was reported as 48.7%. A study by Alhassan et al. (2014) showed that 62% of women underwent depression. Elsous et al. (2021) found that 50% of the women showed some form of depressive symptoms.

A study by Lata et al. (2020) using the Beck Depression Inventory showed minimal depression in 41.6%, moderate depression in 32.7%, and mild depression in 16.8%. Major depression was found in only 8.9% of women. The relationship between age and depression showed that severe depression was found to be the highest for those more than 35 years. The relationship between depression and employment status showed that 44.2% of unemployed females had severe depression. Moderate-to-severe depression was found in women with higher secondary schooling level of education, among low-income group (63.7%) and among women

whose married life was more than 15 years. This is in variance with the present study which shows no correlation between depression and education/occupation and in the difference in age and the duration of married life. This may be because of the higher educational status of women in Kerala. A study by Iran Maroufzadeh et al. (2018) showed depression in 49.6% of women. Their study showed that patients with more than 5 years of infertility duration were one to three times more likely to have depression than others. These findings do not match the findings of the present study. A study by Beyene (2020) showed that age of women, type of infertility, partner's education level, occupational status of women, and monthly income were associated with depression.

Kazandi et al. (2011) from Turkey in their study showed that education levels were not correlated with depression, which is consistent with the present study. Depression ratio in infertile housewives was higher, and infertility duration was related to depression with longer period of infertility showing higher levels of depression. These findings do not agree with the findings of the present study. In a study by Chachamovich et al. (2009), the authors could not find severe depression in women. The findings of this present study do not agree with their findings. The other levels of depression were higher among women, which agrees with the present study. However, Peterson (2007) reported severe depressive symptoms in 11.6% of women, which agrees with the present study. Farzadi and Ghasemzadeh (2008) in a study from Taiwan showed depression in 72.54% of women undergoing treatment for infertility. In this study, the BDI scores were lower when the cause of infertility was the male factor. This is in variance with the present study where the infertility factor is found to have no correlation with women's depression. Elsous et al. (2021) however showed an increase in the level of depression in women with a higher level of education. Our findings do not agree with their results. In their study, male factor and unexplained infertility were found to increase the level of depression in women. The results of the present study do not agree with that result. Benbella et al. (2018) showed low depression in employed women compared to unemployed women. In the present study, no such correlation was found. These authors also showed a significant relationship between depression, women's age, and type of infertility. In the present study, women's depression had a significant correlation with age but not with the infertility factor.

Conclusion

Infertile women have significant levels of depression, and this fact requires consideration in the management of infertility.

Conflicts of interest

All authors declare no conflict of interest.

Ethical statement

Proper institutional ethics committee review and clearance is adhered to for the study. The written informed consent was taken from the clients before data collection. The participants were assured of providing all the necessary information regarding the study. Confidentiality is ensured and was informed that they could withdraw at any point during the study.

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