

Anxiety and Depression among Men Undergoing Treatment for Infertility - A Clinic Based Study

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Abstract

Background: Anxiety and depression are major psychological issues that infertile couples face. Most of the studies on this subject have been done with reference to women.

Objectives: To study whether the male partners in infertile couples suffer from anxiety and depression.

Methods: Cross-sectional study of 253 men of couples undergoing infertility treatment in Pattambi, Kerala. Socio demographic data Sheet, Sinha Anxiety Scale and Beck's depression inventory are used as measures.

Results: Depression - 5.5% severe, 9.1% moderate, 15.8% mild and 69.6% minimal. Age, education status, economic activity (occupation), duration of married life, infertility factor (Male, Female, Combined and unexplained) and religion do not show any correlation with the level of Depression. Anxiety - 0.4% show high level, 26.5% medium level, 73.1% low level. Age, occupation (economic activity), duration of married life, infertility factors or religion don't show any relationship with anxiety. Educational levels influence the level of anxiety. Lower educational levels result in higher levels of anxiety. Anxiety and Depression levels show a direct positive correlation.

Conclusion: Psycho socially infertility affects not only women but men also. This study shows that among infertile couples men also suffer from anxiety and depression.

Keywords: Anxiety, depression, infertility

INTRODUCTION

Both women and men suffer from the consequences of infertility and both may be involved in treatment. Still for many years little attention was being paid to Men's psycho social problems in infertility^[1]. However Men's reproductive health issues have been attracting more attention from Social Scientists and Anthropologists for the last few years. Men's need for parenthood and their reproductive desires are being discussed more and more by sociologists and anthropologists^[2]. This shift to the reproductive health paradigm has had many influences on how men are looked upon for their role in reproduction. Health and illness according to sociologists are socially constructed categories and not objectively measurable states. How sufferers are seen by others and how they view themselves are results of social definitions^[3]. This is very true of the problem of infertility, where a purely personal problem has assumed various social dimensions causing distress to the sufferers.

According to the World health organization Infertility is "The failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse"^[4].

For demographers, the definition of infertility is the absence of a live birth in a sexually active woman who is not using any contraceptive methods^[5]. Generally in relation to diagnosis and treatment, infertility is classified according to the cause as related to the problem in Female, Male, Combined or as unexplained.

Parenthood is an existential necessity and inability to achieve it can cause severe psychological problems in couples, aggravated by social pressures, social isolation and stigma. Studies have shown anxiety, depression, marital instability, sexual dysfunction etc among infertile couples, more in the female partners. Studies related to psycho social problems of male partner are fewer as compared to those about the female partner. Fatherhood is an important mark of social status and the sign of proven masculinity^[6].

There are studies that show involuntary childlessness in Males to cause significant anxiety, mood disturbance, depression and sexual dysfunction^[7]. The chances of the male partner having depression may be related to age, economic status, etiology, duration of infertility and social support^[8].

Therefore this study was undertaken to know whether the men among infertile couples attending an Infertility Clinic in Kerala, India, suffer from anxiety and depression and whether this has any relationship to the sociodemographic factors of the population under study.

Material and Methods

This is a cross sectional single unit study. Couples with three years or more of infertility, attending the Reproductive Medicine clinic at two tertiary care centers in Pattambi, Kerala were selected. 253 couples were selected as sample for the study. The present paper is an analysis of the problem of anxiety and depression among the male partners of these couples..Measures used were Socio demographic Data sheet, Beck's Depression Inventory and Sinha Anxiety Scale. The data was analyzed using statistical software SPSS. Descriptive statistics like mean, median, variance, standard deviation, standard error etc, Correlation analysis, T-test and paired t-test, one way ANOVA and Chi-square test was used.

Results

Socio Demographic

SOCIODEMORAPHIC PROFILE		
	Class	Male
Age	20-30	39(15.4%)
	30-40	185(73.1%)
	40-50	29(11.5%)
Educational Qualification	School	161(63.6%)
	Higher Secondary	33(13%)
	Degree/Diploma/Professional	59(23.3%)
Religion	Hindu	211(83.4%)
	Muslim	38(15%)
	Christian	4(1.6%)
Economic Activity	Elementary Occupation	128(50.6%)
	Self Employment/Business/Professional	60(23.7%)
	Employee	65(25.7%)
Duration of Married Life	3-5 Years	188(74.3%)
	5-8 Years	46(18.2%)
	More than 8 Years	19(7.5%)
Order of Marriage	First	246(97.2%)
	Second	7(2.8%)
Infertility Factor	Female	89(35.2%)
	Male	71(28.1%)
	Both	46(18.2%)
	Unknown	47(18.6%)

15.4% of the husbands are in the age group 20-30. 1% of the husbands are in the age group 30-40. Only 11.5% of the husbands are in the age group 40-50. Majority of the husbands (63.6%) have education only up to the school level. 13% of the husbands have higher secondary level education. Majorities (83.4 %) of the couples are Hindus and 15% of the couples are Muslims. Christians form only 1.6% of the total sample.50.6% of the husbands is engaged in elementary occupation and the percentages of husbands belonging to other two groups respectively are 23.7 and 25.7. Majority (74.3%) has 3 to 5 years of married life. Only 7.5% have duration for more than 8 years of married life. The remaining (18.2%) have a length of married life of 5 to 8 years. Almost 97% of the husbands are in their first marriage. The female factor infertility was 35.2% and the male factor infertility was 28.1%. The combined infertility was found in 18.2% where as the percentage of unexplained infertility was 18.6%.

Depression

Level of Depression in Males		
Depression Level	Number	Percentage
Minimal	176	69.6
Mild	40	15.8
Moderate	23	9.1
Severe	14	5.5

Out of 253 husbands facing infertility related problems, 5.5% of them show severe depression and 9.1% of them have Moderate depression. Mild depression is seen in 15.8%. Majority of the participants (69.6 %) show minimal depression.

Analysis of Socio Demographic Data with Depression					
	Class	N	MEAN	SD	P
Age	20-30	39	9.44	9.63	0.873
	30-40	185	10.01	9.66	
	40-50	29	10.69	10.68	
Educational Qualification	School	161	10.85	10.4	0.091
	Higher Secondary	33	10.15	10.32	
	Degree/Diploma/Professional	59	7.59	7.24	
Economic Activity	Elementary Occupation	128	10.77	10.99	0.1
	Self Employment/Business/Professional	60	10.8	8.73	
	Employee	65	7.75	7.83	
Duration of Married Life	3-5 Years	188	9.76	9.68	0.554
	5-8 Years	46	11.34	10.05	
	More than 8 Years	19	9.05	10.6	
Infertility Factor	Female	89	10.61	9.98	0.379
	Male	71	10.1	9.71	
	Both	46	10.89	9.68	
	Unknown	47	7.81	9.7	
Religion	Hindu	211	9.85	9.95	0.731
	Muslim	38	11.02	9.32	
	Christian	4	8	6.27	

Age groups: the p-value is 0.873, which implies that the means scores are not significant across the age groups of husbands.

Education levels: A p-value of 0.091 (>0.05) indicates that the difference in mean scores of husbands is not statistically significant at 5% level.

Economic activity: the difference in mean scores of husbands with respect to economic activities are not statistically significant at 5% level (p-value of 0.100 (>0.05)).

Duration of marriage: A p-value of 0.554 (>0.05) indicates that the difference in mean scores of husbands with respect to the duration of marriage is not statistically significant at 5% level.

Mean scores of Husbands with respect to **infertility factor:** since the p-value is 0.379 (>0.05), it is concluded that the differences in mean scores are not statistically significant at 5% level.

Religion: since the p-value is 0.731 (>0.05), it is concluded that the differences in mean scores are not statistically significant.

Anxiety

LEVEL OF ANXIETY IN MALES		
Anxiety Level	Number	Percentage
Low	185	73.1
Medium	67	26.5
High	1	0.4

This table shows the level of anxiety, the number of males having high level of anxiety was 1 (0.4%). In the case of Medium level anxiety 26.5% of males show this trend. 73.1 % (Majority) of husbands show low level of anxiety.

SOCIO DEMOGRAPHIC DATA WITH ANXIETY					
	Class	N	MEAN	SD	P
Age	20-30	39	28.1	18.04	0.074
	30-40	185	22.88	15.37	
	40-50	29	19.79	14	

Educational Qualification	School	161	24.36	15.72	0.034
	Higher Secondary	33	26.36	16.09	
	Degree/Diploma/Professional	59	18.83	15.04	
Economic Activity	Elementary Occupation	128	25.24	16.47	0.056
	Self Employment/Business/Professional	60	23.42	14.47	
	Employee	65	19.49	14.98	
Duration of Married Life	3-5 Years	188	23.76	16.37	0.701
	5-8 Years	46	22.65	13.77	
	More than 8 Years	19	20.79	14.54	
Infertility Factor	Female	89	22.98	15.67	0.964
	Male	71	23.39	16.56	
	Both	46	24.37	13.71	
	Unknown	47	22.89	16.98	
Religion	Hindu	211	22.64	15.6	0.132
	Muslim	38	27.29	16.82	
	Christian	4	22.5	11.03	

Age Groups: The p-value is 0.074 and this in turn implies that the means scores are not significant across the age groups of husbands. Post-hoc analysis was performed to see the pairs of significantly different age groups. It was observed that the mean scores of husbands belonging to the age groups 20-30 and 40-50 are statistically significant. (p-value = 0.031 <0.05). Mean scores of other pairs of age groups are not statistically significant.

Education: A p-value of 0.034 (<0.05) indicates that the difference in mean scores of husbands are statistically significant at 5% level. Post-hoc analysis was conducted to test for the pair wise differences and it was found that the mean scores of husbands having school and HSS level of education are significantly larger than those with Degree/Diploma/Professional levels of education. (P-values 0.021 < 0.05 and 0.027 <0.05).

Economic activity: A p-value of 0.056 (>0.05) indicates that the difference in mean scores of husbands with respect to economic activities are not statistically significant at 5% level. An in-depth analysis shows that the husbands engaged in elementary occupations (Manual labors, Mason, Carpenters etc) have a significantly higher anxiety score (p-value 0.017 < 0.05) comparing to the employees. No other pairs are statistically significant.

Duration of marriage: A p-value of 0.701 (>0.05) indicates that the difference in mean scores of husbands with respect to the duration of marriage is not statistically significant at 5% level. **Infertility factor:** A p-value of 0.964 indicates that the mean scores with respect to infertility factors are not statistically different at 5% level.

Religion: Since the p-value is 0.132 (>0.05), it is concluded that the differences in mean scores are not statistically significant at 5% level.

Correlation Analysis Between Anxiety And Depression:

In this study males show a significant positive correlation between Sinha Anxiety scale score and BDI scores (0.495 p<0.001) and vice versa.

Discussion

Socio Demographic Data

This study was undertaken to understand the Level of Anxiety and Depression if any, among men of couples attending an infertility clinic in Kerala. The Socio demographic Data from this study shows that majority of husbands are in the age group 30-40 (73.1%). Education wise, majority (63.6%) of the husbands have education up to the high school level. Religion wise majority (83.4%) of the participants belong to the Hindu religion followed by Muslims (15%) and Christians. Occupation wise survey shows that 50.6% of participants are engaged in elementary occupation (Manual Laborer, Drivers, Carpenters, Masons). Self employed and professional men are 23.7%. 25.7% are employees in private or government institutions. Majority couples have married life of 3-5 years. The female factor infertility is predominant (35.2%), the male factor-28.1%, the combined male and female factor 18.2%. In 18.6% of the couples the cause is unexplained (Unexplained infertility). Deshpande and Gupta 2019^[9] in their study reported the incidence as Female factor-46.68%, Male Factor-33.33%, Combined-10.83% and Unexplained 9.16%. Pressures from society, uncertainty of the result of treatment and its long duration, and the unknown reasons for infertility can lead to anxiety and depression^[10].

Anxiety

Age wise analysis doesn't show any relationship between age and anxiety. But a group wise comparison showed differences between 20-30 and 40-50 age groups with anxiety. The group 20-30 years shows more anxiety. Educational levels influence the level of anxiety. Lower educational levels result in higher levels of anxiety. These

findings are in agreement with Budh et al., 2017^[11]. Who showed that, Men with lower level of education and lower level of occupation were found to have higher levels of anxiety. Occupation wise (Economic activity) men's level of anxiety is not found to be related to their occupation. But, in-depth analysis between groups' shows a correlation with Men with elementary occupation showing higher anxiety than employed individual. Duration of married life does not seem to be related to their anxiety levels. Maroufizadeh et al., 2018^[12] showed a correlation with anxiety and duration of infertility in both partners which is in variance with this present study. Omani-Samani et al., 2018^[13] in their study showed that higher anxiety was found to be associated with lower educational levels and with increasing duration of married life. The first finding is in agreement with the current study but the second, is not. Yang et al., 2017^[14] has shown in their study that differences in the socio demographic variables did not show any relation to the psychological problems. This is in variance with the present study. However they showed that duration of infertility more than 2 years was associated with the risk of developing anxiety. Anxiety scores showed no co relation with duration of infertility according to a study by Hegyi et al., 2019^[15]. Infertility factors and religion in the current study do not affect the level of anxiety.

According to Peterson et al., 2007^[8] men's sexual performance may be related to the presence/ absence of anxiety. Anxiety may hamper arousal causing initial difficulties in sexual performance. Identity crisis is threat to both men and women with infertility. The man's identity crisis may be more related to his ideas of masculinity than his need for fatherhood.

Depression

Studies have shown that men experience depression as commonly as women in infertility^[7]. However infertility related pressures (e.g., Wife's insistence on "coitus by Calendar" related to the "Ovulation period") could result in decreased sexual performance in men leading to depression. Depression levels in the current study-In Men 69.6% minimal, 15.8% mild, 9% moderate and 5.5% severe. Depression was found to be highest in the age group-20-30. In a study by Vashkar et al., 2017^[16] 43% males were found depressed with their infertile condition. The socio demographic features of the sample in their study were almost similar to the current study. Age, education status, economic activity (occupation) and Duration of married life in the present study do not show any correlation with the level of Depression in the Male. Drosdzol & Skrzypulec, 2009^[7] in their study reported that in male infertility, depressive symptoms were related to duration of infertility with a time-frame of 3-6 years. Infertility factor (Male, Female, Combined and unexplained) and religion shows no influence on the level of depression in the Male partners of the infertile couples. Kazandi et al., 2011^[17] in their study showed that in men none of the socio demographic factors showed any correlation with depression. Hegyi et al., 2019^[15] found that when men report for treatment, they show mild depression and anxiety. There were significant correlations between Depression and the duration of infertility which is in variance with the current study.

Pattnaik et al., 2016^[18] in study on association between Depression and Male Infertility concluded that men also suffer from Depression when they are diagnosed with Infertility. Also they found that younger the age more was the level of depression in men with infertility. In the present study Age did not show any correlation with Depression. There is a finding in the current study which shows that when anxiety is on the rise depression also goes up correspondingly and vice versa. According to Masoumi et al., 2013^[19] there is an increase in the prevalence of depression from 44% in early 2000s to 50% in the second half. This should be taken seriously by clinicians and mental health professionals and the couples should be given special attention particularly by psychologists. In a Meta-Analysis Study these authors reported that 95% women and 95% of men had depression. Fisher et al., 2010^[6] questioned the idea that parenthood more important to women than men. They showed that parenthood is a strong issue for men also. Daniluk and Tench 2007^[20] found that men and women showed no difference in the level of psychological problems, which means that for men also it is difficult to adjust to the problem of infertility.

Conclusion

This study shows that among infertile couples, The Male partner do suffer from Anxiety and Depression. Men in age group 20 - 30 years shows more anxiety, But Depression does not show any such co relation. Education level influences the level of Anxiety but not Depression. Duration of married life, Cause of infertility or Religion does not influence the level of anxiety or Depression among Men in this study. Levels of Anxiety and levels of Depression show a positive correlation.

Future Implications

Clinicians and Mental Health Professionals should give due consideration to the Psycho social problems of the Male Partners of Infertile couples undergoing treatment

Conflict Of Interest- None

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