The International Journal of Indian Psychology
ISSN 2348-5396 (e) | ISSN: 2349-3429 (p)
Volume 5, Issue 1, DIP: 18.01.062/20170501
DOI: 10.25215/0501.062
http://www.ijip.in | October-December, 2017

The International Journal of INDIAN PSYCHOLOGY

Original Research Paper

Fertility Related Quality of Life in Primary Infertile Couples: A Comparative Study from Eastern India

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ABSTRACT

Fertility is considered as a marital responsibility in most the communities and a kind of social respectability for couples. The societal and parental pressures for propagation of the family name can also place a psychological burden on the infertile couple and may significantly affect quality of life. The present study aimed to investigate the gender differences in fertility related quality of life in primary infertility. 30 couples with primary infertility were recruited for the study after a written informed consent. Hindi version of FertiQoL was applied to all participants. Males had significantly better emotional, relational, social and global quality of life (QoL) as compared to females. Tolerability to infertility related problems was significantly better in females compared to males. This study found that primary infertility has extensive negative repercussions on the QOL of women as compared to males.

Keywords: *Primary Infertility, Gender Differences, Quality Of Life*

Infertility is often perceived as a mortifying condition and affects the couples life. Infertility is defined as "the failure to achieve clinical pregnancy after twelve months of regular unprotected sexual intercourse". Narrowing down, primary infertile couples are those who have not conceived till date and secondary infertile couples are those who previously have been able to get pregnant at least once, but now are unable. Fertility is considered as a marital responsibility in most the communities and a kind of social respectability for couples. The societal and parental pressures for propagation of the family name can also place a psychological burden on the infertile couple (Zegers-Hochschild et al., 2009). It is considered as a crisis that may affect various biological, psychological, economic, ethical and cultural aspects of an individual or couples (van den Akker, 2005).The couples with infertility often feel stigmatized, ostracized and shameful thereby affecting quality of life (QoL).Quality of life is defined by the World Health Organization (WHO) as ''individuals' perceptions of their position in life in the context of culture and value systems in which they live'' (World health Organization, 1995). Since infertility has been known to adversely affect

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Received: November 29, 2017; Revision Received: December 01, 2017; Accepted: December 05, 2017

the mental health and well-being of infertile couples, the assessment of QoL has become as important as the treatment. Quality of life evaluation allows the understanding of the impact of health conditions or interventions on the patient from a wider perspective; not only in terms of morbidity and mortality, but also the emotional symptoms.

If it is assumed that the experience of infertility is different for women and men, the next question arises whether women and men cope differently and have different quality of life. (Jordan and Revenson, 1999) The literature suggests that infertility is more stressful for women, although most studies have not included men in the study. Also, the blame of infertility is often put on female despite the fact that the infertility may be due to male or combined factors. Women are usually the sole sufferers in the context of infertility and the type of treatment they are undergoing. Despite a vast body of literature, there are relatively sparse literature on quality of life in infertile couples. Moreover, studies have employed various nonspecific forms of measurement of QoL such as the World Health Organization Quality of Life form (WHO-BREF) and the Health Survey Short Form (SF-36) for the assessment of QoL whereas only few studies have used fertility-specific QoL assessment in infertile couples (Boivin 2011; Aarts et al., 2011). FertiQoL tool is an international instrument to measure QoL in people experiencing infertility. It has been found to be a reliable measure of the impact of infertility on QoL (Boivin, 2011). To the best of our knowledge, however, no previous study has evaluated the gender differences of different socio-demographic and clinical aspects of infertility and fertility-specific quality of life.

The aim of the study was to assess the gender differences in fertility related quality of life in primary infertile couples. The aim was also to assess the relationship between socio-demographic and clinical characteristic with the fertility related quality of life.

METHODOLOGY

The study was a hospital based cross sectional study conducted in Ranchi Jharkhand in hospitals and private nursing homes dedicated for the treatment of infertility. The study was approved by the Ranchi University's ethics committee. 30 couples (30 males and 30 females) after fulfilling the inclusion and exclusion criteria were recruited for the study. The inclusion criteria for the selection of cases included couples with a diagnosis of primary infertility (either male/ female/ combined) who are unable to conceive within two years of exposure to pregnancy; those aged between 18-45 years with no psychiatric comorbidity; with at least primary level of education. A detailed interview was done to assess the details of infertility which included the cause, duration, treatment and cost of treatment of infertility.

Instruments

Subjects were assessed for quality of life by using the Hindi version of fertility quality of life questionnaire (FERTIQoL). This scale was developed by Boivin, Takefman, &Braverman. (2008).FertiQoL comprises two modules: the Core-FertiQoL module and the (optional) treatment-module. The latter module assesses current thoughts and feelings directly related to

fertility treatment. The Core-FertiQoL module contains 24 items and 4 domains that includes emotional, mind-body, relational, social, environment, tolerability, total quality of life scores. This is a reliable and valid tool and psychometric analyses showed that Cronbach's α was high across these domains (range 0.72–0.92). Convergent validity indicated that a significant negative correlation between relational and anxiety (-0.29) and mind-body to depression (-0.71).

Procedure

30 couples diagnosed with primary infertility; with male, female or combined factors related infertility, was recruited for the study. They were informed about the purpose of the study. Informed consent was taken from both the partners. The selected couples were evaluated for socio-demographic and clinical variables. All subjects were asked to respond to Fertility Quality of Life Questionnaire (FertiQoL) to see the gender differences in quality of life. Data were analyzed by using appropriate statistical tests.

RESULTS

Table 1. Socio-Demographic and clinical characteristics of primary infertile couples

Variables (n=60)		**Mean±SD/ n (n %)**	**t**	**P**
Age	Male (n=15)	31.53±3.62	3.47	0.002**
	Female (n=15)	26.66±4.04		
Education (in years)	Male	13.73±3.12	0.35	0.73
	Female	13.33±3.13		
Socio-economic status	Low SES	06 (20%)		
	Middle SES	18 (60%)		
	High SES	06 (20%)		
Religion	Hindu	22 (73.3%)		
	Muslim	04 (13.3%)		
	Christian	04 (13.3%)		
	Others	0 (0)		
Domicile	Rural	0 (0)		
	Semi urban	26 (86.7%)		
	Urban	04 (13.3%)		
Family type	Nuclear	08 (26.7%)		
	Joint	22 (73.3%)		
Employment	Employed	20 (66.7%)		
	Unemployed	0 (0)		
	Housewife	10 (33.3%)		
Marital duration (in years)		3.25±1.68		
Duration of infertility (in years)		1.58±1.75		
Diagnosis of infertility		Idiopathic	08 (26.7%)	

Variables (n=60)	Mean±SD/ n (n %)	t	P
	Structural abnormality	12 (40%)	
	Hormonal imbalance	06 (20%)	
	Infective cause	04 (13.3%)	
Cause of infertility	Female cause	20 (73.3%)	
	Male cause	00 (0)	
	Combined	02 (6.7%)	

**p<0.001

Table 1 shows the clinical characteristics of primary infertile couples. Mean duration of infertility was 1.58±1.75 years. Family history of infertility was only reported in 6.7% of females with infertility. Structural abnormality was reported as most frequent cause of infertility (40%) which was followed by hormonal imbalance (20%) and infective (13.3%). Female cause of infertility was noted in 73.3%, whereas combined and unknown causes were reported in 6.7% and 20% respectively. There was no plan for adoption in 14 couples (93.3%) and only one couple was planning for adoption.

Table 2. Comparison of fertility related quality of life between male and female genders with primary infertility

Variables (n=60)		Mean	SD	t	p
Emotional QoL	Female	11.56	5.25	-3.39	.001**
	Male	13.95	4.70		
Mind-Body QoL	Female	12.58	6.05	-0.87	.386
	Male	13.21	4.00		
Relational QoL	Female	13.79	5.91	-2.02	.045*
	Male	15.40	5.37		
Social QoL	Female	13.28	6.08	-2.48	.014*
	Male	15.29	5.35		
Environmental QoL	Female	12.50	5.13	-1.90	.059
	Male	13.80	4.52		
Tolerability	Female	11.26	3.85	2.87	.005**
	Male	9.62	4.42		
Global QoL	Female	73.33	26.44	-3.55	.<0.001***
	Male	85.54	22.05		

*p<0.05; **p<0.01; ***p<0.001

Table 2.illustrates various fertility related quality of life in infertile couples. Males had significantly better emotional, relational, social and global QoL (t=3.39, p=0.001; t= 2.01, p= 0.04; t=2.48, p= 0.01*; t=3.94, p<0.001***) as compared to females. Tolerability to

infertility related problems was significantly better in females compared to males (t=2.89, p=0.005**).

Table 3. Linear discriminant functional analysis to predict group membership (factors in males and females) based on predictor variables

Variables	Wilks Lambda	p	Correct Classification of Original grouped cases (%)	Group membership prediction (%)	
				Female	Male
FERTIQOL Emotional	.913	.037*	66%	56%	76%
FERTIQOL Mind Body	.953	.129			
FERTIQOL Relational	.934	.071			
FERTIQOL Social	.889	.018*			
FERTIQOL Environmental	.949	.113			
FERTIQOL Tolerability	.854	.006**			
FERTIQOL Total	.846	.005**			

Table 3 shows that a linear discriminant function analysis that accurately classified 66% of the original 50 samples (56% of females and 76% of males) on the basis of emotional, social, tolerability and total fertility of life.

DISCUSSION

The study provides empirical evidence from eastern part of India concerning the fertility related quality of life in primary infertile couples. Current clinical practice tends to approach in a more 'person centered' fashion. Thereby, evaluating quality of life would be a clinically useful to understand the complex phenomena of infertility and its effects on the life. Several studies have reported that fertility related QOL is worse among women than men (Fekkes et al., 2003; El-Messidi et al., 2004;Monga et al., 2004). Our study found similar trends in quality of life scores and females had a poor fertility related quality of life from their male counterpart. Infertility-related decrements in QoL in females on the domains of emotional QoL indicates their impact and succeptibility towards emotional turmoil and their 'proneness' to emotional disorders like mood and anxiety disorders which may further have a negative impact on infertility (Aarts et al., 2011).

Moreover, emotional distress has been taken as a factor contributing to infertility and it is one of the reasons that make couples drop out from the treatment of infertility prematurely (Smeenk et al., 2004). Males were shown to have a higher score in emotional domains than females indicating that infertile women in India may experience greater emotional stress and

have a poorer physical health status. In terms of relational quality of life, females perceived poorer quality of life. Such findings may be expected as the women are commonly prejudiced and stigmatized in the family to being "infertile" despite the fact that the infertility may be due to solely male or combined factors. Also, women had poorer quality of life in social domains that could be explained on the basis of various social aspects like lack of social inclusion, increased social expectation and lack of social support. It is thought that the infertility treatment itself is stressful, different treatment modalities may result in different treatment tolerability (Hsu et al., 2013). Although women had poorer social, emotional and relational QoL, they were better in terms of tolerability. This means that females are better in terms of tolerating criticisms and can hold back to their expectations about bearing child and are better compliant to treatment as compared to males.

Linear discriminant analysis was able to accurately classify 66% of males and females of the original 50 samples based on the various domains of quality of life. They are mainly done on the basis of emotional, social, tolerability and total fertility related quality of life. The above measures had a sensitivity of 56% and specificity of 76% in correctly classifying the males and females with primary infertility. Hence, QoL would be a better tool in discriminating males and females with primary infertility. Earlier Karabulut et al., (2013) found that prolonged duration of infertility and desire for psychological support had a negative impact on total QoL scores.

LIMITATIONS AND CONCLUSION

The data were obtained solely on the response of the subjects attending to the infertility clinic for treatment, which may have inherent bias. The other main limitation is the small number of patients (n = 60). However, this was the first study in India to score QoL in infertile women using the specific and innovative FertiQoL. Furthermore the study did not use other scales which could have provided an indirect or direct link with respect to fertility problems, dyadic adjustment, coping and its effects on QoL. This study found that infertility has extensive negative repercussions on the QOL of women. The main approach of the research was the psychochological makeup of males and females with primary infertility with emphasis on the treatment perspective of infertility. The study also explored the potential discriminating factors between males and females with reference to the various domains of QOL. Future studies may overcome by using larger samples, using other measures of infertility targeting coping, adjustment and fertility related stress.

Acknowledgments

The author appreciates all those who participated in the study and helped to facilitate the research process. Also the author acknowledges the gynecologists who supported in the data collection.

Conflict of Interests: The author declared no conflict of interests.

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How to cite this article: Bose S, & Roy B (2017). Fertility Related Quality of Life in Primary Infertile Couples: A Comparative Study from Eastern India. *International Journal of Indian Psychology*, Vol. 5, (1), DIP: 18.01.062/20170501, DOI: 10.25215/0501.062