



Fertility-Related Quality of Life Amongst Married Infertile Females of Lahore

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ABSTRACT

Introduction: In today's world of science and medicine, assessing ones' quality of life has become a norm. It provides baseline information for future planning in order to elevate quality of life of individuals and communities.

Aims & Objectives: To assess the quality of life of infertile women and identify factors influencing it.

Place and duration of study: Data was collected from Lahore General Hospital and Services Institute of Medical Sciences, Lahore during 2019.

Material & Methods: A cross-sectional study was conducted on 260 married, infertile females attending infertility clinics of two tertiary care hospitals of Lahore. 36-items FertiQoL, an Urdu validated version was used to assess the quality of life of females with infertility. It had six subscales and three total scores. Data was analyzed through SPSS version 22.

Results: Mean age of females was found to be 30 ± 5.23 years and 85.8% were not working women. Average duration of infertility was 6.7 years. 61.5% of females presented with primary infertility. 70.4% reported positive attitude of their husband towards this infertility while 56.2% of the participants reported positive attitude of their in-laws as well. 30.8% of the females rated their health as poor. 31.2% reported to be dissatisfied with their overall quality of life. In FertiQoL, 'Emotional' subscale showed mean 67 ± 14 SD, 'Mind-body' subscale mean 69 ± 14 SD, 'Relational' subscale mean 55 ± 14.7 SD, 'Social' subscale mean 66.2 ± 14.5 SD, 'Treatment Environment' mean 70 ± 17.5 SD and 'treatment tolerability' showed mean of 73 ± 17.2 SD. 'Total scaled core score' showed mean of 64.5 ± 12 SD, 'total scaled treatment score' mean of 69.3 ± 14 SD and 'total scored FertiQoL score' showed mean of 66 ± 12 SD. Significant association between family income and mind body subscale; duration of marriage and treatment tolerability; time till infertility diagnosis and treatment environment was found. While overall FertiQoL score and Family Income was found to be significantly associated.

Conclusion: Overall quality of life of infertile females is not compromised as was thought of except for its association with family income. Sub scales of mind-body, treatment tolerability and treatment environment were found to be associated with family income, duration of marriage and time till infertility diagnosis respectively. Recognition of factors associated with poor quality of life will help in planning strategies to overcome them during infertility treatment.

Key words: Fertility, Infertility, Quality of Life, FertiQoL

INTRODUCTION

Infertility by definition is failure to conceive after 1 year of unprotected intercourse amongst heterosexual couples.¹ It is used synonymously with terms such as sterility, childlessness and sub-fertility. It can be devastating for those couples who want to have children and can affect both genders equally.² As definition of infertility lacks clarity and uniformity, a systematic review was done in 2011 on defining demographic and epidemiological

aspects of infertility.³ In a systematic review, 277 demographic and reproductive health surveys data showed infertility prevalence to be highest in South Asia, Sub-Saharan Africa, North Africa/Middle East, Central/Eastern Europe and Central Asia.⁴ Higher prevalence of sexual dysfunction which includes decreased sexual desire, orgasm and satisfaction was found to be 9.5 folds higher in secondary infertile women as compared to primary infertile.⁵

World Health Organization (WHO) defines quality of life (QoL) as an 'individuals' perceptions of their

position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concern'.⁶ Infertility influences quality of life of couples especially females. Infertility-related perceptions and responses are huge and they influence QoL of couples in different ways.⁷ Polycystic Ovarian Syndrome (PCOS) with growing incidence is one of the leading causes of infertility now. A significant amount of studies on PCOs and other causes of infertility, showed concerns pointing towards infertility and its' associated behavioral and quality of life issues in our societies.^{8,9} Infertility related stress, anxiety, depression, psychological and emotional issues are influencing and determining factors of quality of life of couples.¹⁰⁻¹³ Patient-reported outcome measures were used to assess infertility-related quality of life in Turkish, Hungarian, Tunisian, Iranian and Taiwanese couples.¹⁴⁻²¹ The Impact of Infertility on the psychological well-being, marital relationships, sexual relationships, and quality of life of Couples was assessed in a systematic review of literature and found to be influenced by infertility.²² A comparison between infertile and fertile couples about Quality of Life, sexual satisfaction and marital satisfaction showed difference.²³ A systematic review in 2013 was done on questionnaires measuring quality of life in infertile couples.²⁴ Cross-cultural differences were found in fertility specific quality of life in German, Hungarian and Jordanian couples attending a fertility center.²⁵ A study done in Pakistan in 2011 reported psychological consequences of infertility to be huge.²⁶

Multiple quality of life assessment tools were developed and validated in different languages over last few decades but a tool comprehensively addressing QoL in infertile couples was still needed.^{27,28} European Society of Human Reproduction and Embryology (ESHRE) and the American Society of Reproductive Medicine (ASRM) jointly did efforts to create the fertility quality of life (FertiQoL) instrument to measure QoL in couples with fertility problems. FertiQoL used same protocol as was used for the development of WHOQOL measure.⁶ FertiQoL is a questionnaire internationally developed to measure fertility-specific quality of life. It is considered to be a reliable tool and measures impact of fertility problems and their effect on QoL. In total it consists of 36 items and has been translated into 20 different languages.²⁹ Limited literature is published from Pakistan so there is a need to generate evidence on quality of life of infertile females.^{30,31,32} The objective of this study was to assess the quality of

life of infertile females and identify the factors influencing it.

MATERIAL AND METHODS

A cross-sectional study was conducted in infertility clinics of two tertiary care teaching hospitals of Lahore. Administrative consent along with ethical clearance from Departmental Ethical Committee was obtained. Total 260 participants (married, infertile females) from 2 centers of Lahore (Lahore General Hospital and Services Institute of Medical Sciences) were included in the study. Sample size was calculated taking expected proportion of quality of life as 0.5, with 0.05 precision and 95% confidence level. Females coming for infertility treatment were consecutively selected till the desired sample size was reached in both hospitals. Verbal informed consent was obtained from each participant in presence of witness. FertiQoL, which consists of 36 items that assess core (24 items) and treatment-related Quality of Life (QoL) (10 items) and overall life and physical health (2 items) was used.²⁹ The items in the FertiQoL survey were rated on a scale of 0-4, a higher score means more favorable QoL. It was translated in multiple languages and is available on (<http://www.fertiqol.org/>). Forms were kept anonymous and their data privacy and confidentiality was maintained by the researchers.

Statistical analysis:

Statistical analysis was done on SPSS version 22.0. Chi-square, T-test and ANOVA were applied to identify association.

RESULTS

The mean age of the participants was found to be 30 years which shows that it is the average best-fitted value for the whole sample with a ± 5.23 standard deviation (SD). Duration of infertility of females had mean of 6.7 ± 5.02 SD. Total family income had mean of 25853.8 with ± 25564.24 standard deviation and total family members had mean of 4.47 ± 2.63 SD. Results showed that out of 260 females, 106 (40.8%) had cousin marriages and majority of them (223, 85.8%) were housewives. Husband's occupation showed that most of them 132 (50.8%) were doing jobs. Husband's education revealed that 59 (22.7%) were illiterate, 30 (11.5%) had attained education till primary level, 90 (34.6%) had attained education till matriculation, 35 (13.5%) had done intermediate, 39 (15.0%) did graduation and only 7 (2.7%) had attained higher education. Most of the women i.e, 160 (61.5%) had primary type of

infertility. 77 (29.6%) of the females reported negative attitude of their husband while negative attitude of in-laws was reported by 114 (43.8%) of the respondents. 80 (30.8%) rated their health as poor and 81 (31.2%) reported to be dissatisfied with their quality of life (Table-1).

		Frequency (N=260)	Percent %
Cousin marriage	Yes	106	40.8%
	No	154	59.2%
Working women	Yes	37	14.2%
	No	223	85.8%
Husband occupation	Job	132	50.8%
	Business	46	17.7%
	Laborer	78	30.0%
	Others	3	1.2%
	Unemployed	1	0.4%
Husband education	Illiterate	59	22.7
	Primary	30	11.5
	Matric	90	34.6
	Intermediate	35	13.5
	Bachelors	39	15.0
	Higher education	7	2.7
Infertility type	Primary	160	61.5%
	Secondary	100	38.5%
Husband attitude	Positive	183	70.4%
	Negative	77	29.6%
In-laws attitude	Positive	146	56.2%
	Negative	114	43.8%
How would you rate your health?	Very poor	20	7.7%
	Poor	80	30.8%
	Neither good neither bad	72	27.7%
	Good	70	26.9%
	Very good	18	6.9%
Are you satisfied with your quality of life?	Very dissatisfied	2	0.8%
	Dissatisfied	81	31.2%
	Neither satisfied neither dissatisfied	59	22.7%
	Satisfied	107	41.2%
	Very satisfied	11	4.2%

Table-1: Socio-demographic characteristics of married infertile females of Lahore

Range along with mean and SD were calculated for total FertiQoL and its subscales. Emotional subscale showed a range of 37-95 with mean \pm SD of 67 \pm 14, Mind-body showed a range of 37-100 with mean \pm SD of 69 \pm 14, Relational subscale revealed a range of 20-87 with mean \pm SD of 55 \pm 14.7, Social subscale showed a range of 29-95 with mean \pm SD of 66.2 \pm 14.5, Environment revealed a range of 29-92 with mean \pm SD of 70 \pm 17.5, Tolerability revealed a range of 25-100 with mean \pm SD of 73 \pm 17.2. Total scaled core score had range of 38.5-91 with mean \pm SD of 64.5 \pm 12, Total scaled

treatment score had range of 37.5-95 with mean \pm SD of 69.3 \pm 14 and Total scored FertiQoL score had range of 41-91 with mean \pm SD of 66 \pm 12 (Table-2). Variables and subscales showed a significant association between family income and mind-body subscale, duration of marriage and treatment tolerability, time till infertility diagnosis and treatment environment (Table-5). With FertiQoL as dependent variable and age and family income as independent variables inferential analysis was performed. Level of significance was set at <0.05. T-test was found to be significant (0.021) for FertiQoL and Family Income (Table-3).

Test of variance (ANOVA) was applied for age, duration of marriage, family income and number of family members and was found to be significant only for family income (p-value= 0.019) (Table-4).

Subscales & Total FertiQoL	Range (1-100)	Mean \pm SD
Emotional	37-95	67 \pm 14
Mind-body	37-100	69 \pm 14
Relational	20-87	55 \pm 14.7
Social	29-95	66.2 \pm 14.5
Treatment Environment	29-92	70 \pm 17.5
Treatment Tolerability	25-100	73 \pm 17.2
*Total Scaled Core Score	38.5-91	64.5 \pm 12
**Total Scaled Treatment Score	37.5-95	69.3 \pm 14
***Total scaled FertiQoLscore	41-91	66 \pm 12

Table-2: FertiQoL and the subscales in married infertile females of Lahore

*total scaled core score= emotional+ mind-body+ relational+ social

**total scaled treatment score= treatment environment+ treatment tolerability

Factors	Categories of factors	Mean	T-test for equality of means	
			t- statistic	p-value
Age (years)	< 25	65.26	0.268	0.789
	> 25.1	65.81		
Family income (rupees)	<25000	64.81	-2.322	0.021
	>25001	68.45		

Table-3: T-test for age and family income

Variables	t-test (ANOVA)	p-value
Age	-1.320	0.188
Duration of marriage	0.22	0.983
Family Income	2.354	0.019
Family Members	1.083	0.280

Table-4: Test of Variance (ANOVA) for age, duration of marriage, family income and number of family members

Variables	Emotional				P value	Mind-body				P value	Relational				P value	Social				P value	Treatment Environment				P value	Treatment Tolerability				P value	Total FertiQoL				P value					
	P	A	G	E		P	A	G	E		P	A	G	E		P	A	G	E		P	A	G	E		P	A	G	E		P	A	G	E						
Duration of marriage (years)	1-10	0	35	132	52	0.75	0	24	139	56	0.40	2	94	104	19	0.71	0	35	125	59	0.44	0	51	91	77	0.56	1	31	97	90	0.00	0	26	134	59	0.627				
	11-20	0	8	17	8		0	4	18	11		0	18	14	1		0	9	15	9		0	6	18	9		0	3	18	12		0	3	18	12		0	6	18	9
	21-30	0	2	4	2		0	1	7	0		0	3	5	0		0	2	5	1		0	3	3	2		1	0	5	2		0	2	5	1		0	2	5	1
Family Income (rupees)	1-25000	0	34	109	37	0.15	0	22	124	34	0.00	2	82	83	13	0.69	0	32	107	41	0.31	0	48	71	61	0.08	1	27	87	65	0.18	0	25	113	42	0.211				
	26000-250000	0	11	44	25		0	7	40	33		0	33	40	7		0	14	38	28		0	12	41	27		1	7	33	39		0	9	44	27		0	9	44	27
Time till infertility Diagnosis (years)	1-8	0	39	136	54	0.49	0	23	146	60	0.46	2	101	107	19	0.62	0	39	132	58	0.31	0	56	95	78	0.03	2	30	106	91	0.53	0	30	139	60	0.618				
	9-16	0	6	13	8		0	5	15	7		0	13	13	1		0	7	12	8		0	4	17	6		0	3	14	10		0	3	14	10		0	4	16	7
	17-24	0	0	3	0		0	0	3	0		0	0	3	0		0	0	1	2		0	0	0	3		0	0	0	3		0	0	0	3		0	1	2	3
Husband's Attitude	Positive	0	32	112	39	0.32	0	18	123	42	0.10	1	88	81	13	0.26	0	30	106	47	0.52	0	47	80	56	0.15	2	23	83	75	0.75	0	24	117	42	0.117				
	Negative	0	13	41	23		0	11	41	25		1	27	42	7		0	16	39	22		0	13	32	32		0	11	37	29		0	10	40	27		0	10	40	27

Table-5: Association of socio-demographic variables with sub-scales & total FertiQoL score

DISCUSSION

Quality of life related to infertility and factors influencing it were identified in current research. The results of this study showed mean age of mothers at thirty years while majority was housewives. Average duration of infertility was 6.7 years. So on average they were in early marriage phase, staying at home and facing infertility issue for a significant period of time. Most of the women had primary type of infertility. These findings are close to a study findings done in Karachi in 2016.³³ The reason being females belonging to same socioeconomic class and an urban setting where there is better awareness and families are open-minded.

Reproduction is an essential human desire and infertility can manifest itself as stress, anxiety, depression, low self-esteem and declined sexual satisfaction. In our study majority of them rated their health as poor because of infertility and most of them were dissatisfied with their quality of life. In a systematic review, infertility was found to affect couples showing infertility's negative effect on sexual relationship and psychological well-being of couples, but the effect on quality of life and marital relationships was not found.²² In our study, total FertiQoL measured inconclusive effect on quality of life but subscales showed a variable response.

Test of variance (ANOVA) was applied for age, duration of marriage, family income and number of family members. It was found to be significant only for family income (p-value= 0.019). Low income couples and less than 10 years of married life were found to face lower social subscale score in FertiQoL in a recent Turkish study.¹⁵ In our study, majority females reported positive attitude of their husband and in-laws towards their infertility issue. This was contradictory to findings from researches

done in developing countries in previous decades but similar to latest research on infertility associated behaviors.³⁴

A study from Karachi reported a lower mean for all subscales of FertiQoL as compared to our findings.³³ Our study's total FertiQoL score mean 66 was higher than this. Majority (30.8%) of the women included in our study rated their health as poor. 31.2% were dissatisfied with their quality of life and relational subscale which refers to fertility-specific issues experienced within the couple relationship had mean±SD of 55±14.7. In Pakistan second marriage is considered if a woman does not bear child in early years of marriage this stress negatively effects their relationship with husband and his family and also effects physical and mental well-being of herself. Treatment tolerability which effectively measures physical and mental well-being and disruption of daily routine due to infertility treatment was found to be significant in this study. Treatment environment scale which assesses the positive environment provided by medical staff during infertility treatment showed a positive association with time till infertility. Results of another study showed that the score of subscales was higher in women with secondary type of infertility meaning a better quality of life. Duration of infertility was also found to be an important factor adversely affecting the quality of life. Higher education status of females was found to be associated with better QoL.²⁴

It has been shown that lower income, worsened spousal relationship, infertility related perceptions, pressuring oneself or spouse due to infertility, and strong desire for children are significantly associated with a poor quality of life.⁷ Our study also showed that family income adversely effects total fertiQoL score but other factors did not show a conclusive influence.

Self-esteem scores were lower in the couples with longer infertility duration. Women are found to be more affected by infertility as compared to men and twelve percent of the women seeking infertility treatment had poor quality of life. Reason for this may be the natural desire of females to bear children. Women reported about more depressive symptoms and poorer quality of life than men. Both in men and women, the higher depression level correlated with lower level of quality of life. Moreover, the presence of more depressive symptoms in women was related to men's poorer quality of life. Women are considered weak psychologically so these findings support this assumption.¹⁰⁻¹³

Infertile couples have to face a wide range of psychological influences so there arises the need for psychological support and counseling of infertile couples.³⁴

This was a cross-sectional study focusing on females due to convenience of their presence in infertility clinics as compared to men. A couple based approach may be better for future studies so both can give an insight into quality of life and its subscales. This study provides an comprehensive evaluation of fertility related quality of life in different aspects of infertile women.

CONCLUSION

It is concluded that Quality of Life in married infertile women is compromised and is influenced by low family income on the whole but Sub scales of mind-body, treatment tolerability and treatment environment are associated with family income, duration of marriage and time till infertility diagnosis respectively. These factors can be addressed to improve quality of life in these subscales/dimensions/ Measures such as counseling or psychotherapy need to be incorporated in the conventional treatment so as to improve Quality of Life of infertile couples.

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