

Quality of Life among Infertile Women Attending an Infertility Treatment Center, Kathmandu

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ABSTRACT

Background: The problem of infertility is an increasing issue worldwide, among married reproductive age couples, particularly women. Infertility can affect every aspect of quality of life among infertile women. This study aimed to assess the quality of life of infertile women attending an infertility treatment center.

Methods: A cross-sectional study of 385 infertile women age 25-50 years attending an infertility treatment center was carried out from 8th July 2018 to 4th January 2019. Data were collected using the Short Form Health Survey (Rand SF-36), containing 36 questions by interview technique and analyzed using descriptive and inferential statistics.

Results: The higher proportion (63.38%) of primary infertility was involved in this study compared to secondary infertility without baby (24.93%) and with the baby (11.69%). More than half (54.5%) of infertile women had low-level quality of life whereas 45.5% of them had a high level of quality of life. The mean scores of quality of life subscales were not significantly different between primary and secondary infertility (p -value >0.05). There was no statistically significant association between socio-demographic variables and quality of life of primary and secondary infertility (p -value >0.05). There was a statistically significant difference between the duration of infertility and quality of life of primary and secondary infertility with baby (p -value 0.020), and between the reason of infertility and quality of life of secondary infertility without a baby (p -value 0.010).

Conclusions: A high proportion of infertile women had low-level quality of life. Therefore, it is necessary to provide them information, education, and counseling regarding infertility.

Keywords: Infertility treatment center; infertile women; quality of life

INTRODUCTION

Individuals who have children not only enjoy but also have a valuable memory of them.¹ Infertility has become one of the important issues and can affect every aspect of the quality of life (QoL) of infertile women.² The physical and mental dimensions of QoL were low and poor in infertile women.^{3,4} Evaluation of QoL of infertile women helps health personnel to choose the right treatment. Improvement of infertile women's QoL can create happy families and a stable society.⁵ Infertility is a global health issue, affecting 10-15% of couples worldwide.⁵⁻⁸ It also is a health issue in Nepal, affecting 12% of couples.⁷⁻⁹ Women have limited access to resources, due to the existing social structure, strong patriarchal norms and practices, few opportunities, and mobility constraints due to which they cannot take necessary decisions regarding the infertility treatment. Women may develop

feelings of hopelessness, anger, shame, and guilt toward partners, parents, and relatives. Eventually, this leads to isolation from the family and society, and create lower standards of QoL in women.¹⁰ There are limited publications related to infertility in Nepal. This study aimed to assess the QoL of infertile women attending an infertility treatment center.

METHODS

A descriptive cross-sectional study was carried out from 8th July 2018 to 4th January 2019. The study was conducted at the infertility treatment center, Creator's IVF Nepal where 50-80 patients come for infertility treatment daily. The sample size was calculated taking 50% of prevalence with a 95% confidence interval using formula $(n) = z^2pq/d^2$, resulting in an estimated sample size of 384. However, during the study 385 respondents

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were enrolled. Ethical approval was obtained from the Institutional Review Committee of the Nepalese Army Institute of Health Sciences (IRC-NAIHS #245/2018). Formal permission was taken from the center and each respondent before data collection. A non-probably consecutive sampling method was used to select samples with meeting inclusion criteria, married women with 25-50 years, and women diagnosed with primary and secondary infertility. The researcher herself collected data through face to face interviews using a semi-structured interview schedule in a separate room by maintaining privacy with 5-12 respondents per day by giving 20-30 minutes to each respondent.

The semi-structured interview schedule had consisted of three parts; socio-demographic variables, information related to infertility, and The Short Form Health Survey (Rand SF-36) related to QoL. The Rand SF-36 is a self-completion scale developed by Rand Corporation to assess QoL. It contains 36 items in 8 subscales.¹¹ The validity and reliability of SF-36 had been assessed previously in the English language with a ranging of 0.68-0.93 Cronbach's Alpha.¹² Validated English interview schedule was translated into the Nepali version by Nepali linguist and English linguist allowed to back translate into English version to see its original meaning. Pretesting of the Nepali version interview schedule was done among 10% of the sample with similar characteristics.

Edited and coded data were entered in Microsoft Excel. It was analyzed using SPSS version 17. Data was analyzed using descriptive statistics like frequency, percentage, mean, standard deviation. Association between two variables was analyzed by Chi-square and Fisher's exact test. P-value < 0.05 was considered significant. The mean score of overall QoL were 39.08±10.87. Less than the mean score was categorized as low QoL, and more than and equal to mean score was categorized as high QoL.

RESULTS

Table 1 presents that the mean age of secondary infertility with baby (35±5.3) was greater than primary infertility (31.2 ±4.77) and secondary infertility without baby (33.48±5.28). Almost all primary infertility (91.8%), secondary infertility with baby (95.6%) and without baby (100%) lived in urban areas. The majority (65.6%) of secondary infertility without baby had bachelor and above education. The higher proportion (53.1%) of secondary infertility without baby was service holder than primary infertility (44.7%). A similar proportion of primary infertility (59%) and secondary infertility without baby (59.4%) belonged to a joint family.

Table 1. Socio-Demographic Variables of Primary and Secondary Infertile Women.

Variables	Primary Infertility (n=244)		Secondary Infertility (n=141)			
	n	%	With Baby (n=45)		Without Baby (n=96)	
	n	%	n	%	n	%
Age in Year						
≤30	111	45.5	09	20.0	30	31.3
31- 40	123	50.4	31	68.9	58	60.4
≥41	10	4.1	05	11.1	08	08.3
Mean (SD)	31.2	4.77	35	5.3	33.48	5.28
Address						
Rural	20	8.2	02	4.4	00	00
Urban	224	91.8	43	95.6	96	100
Educational Status						
Up to Secondary school	51	20.9	17	37.8	14	14.6
Higher Secondary School	61	25.0	07	15.6	19	19.8
Bachelor Degree and Above	132	54.1	21	46.7	63	65.6
Occupation						
Service Holder	109	44.7	14	31.1	51	53.1
Home Manager	92	37.7	21	46.7	25	26.1
Others (Business, Students, Artist etc)	43	17.6	10	22.2	20	20.8
Type of Family						
Nuclear	100	41.0	24	53.3	39	40.6
Joint	144	59.0	21	46.7	57	59.4

Table 2. Infertility related Variables of Primary and Secondary Infertile Women (n= 385).

Variables	Primary Infertility (n=244)		Secondary Infertility (n=141)			
	n	%	Without Baby (n=96)		With Baby (n=45)	
	n	%	n	%	n	%
Duration of Infertility in Year						
≤ 2.0	107	43.9	60	62.5	23	51.1
2.1 - 4.0	65	26.6	21	21.9	12	26.7
≥ 4.1	72	29.5	15	15.6	10	22.2
Reason of Infertility						
Male Factors	42	17.2	6	6.3	3	6.7

Female Factors	113	46.3	70	72.9	32	71.1
Unexplained	81	33.2	19	19.8	10	22.2
Both(Male & Female)	08	3.3	01	1.0	00	00

Table 2 depicts that nearly two-thirds (62.5%) of secondary infertility without baby, more than one-third (51.1%) of secondary infertility with baby, and one-third (43.9%) of primary infertility had ≤ 2 years infertility duration. The reason for infertility was the female factors in one-third (46.3%) of primary infertility, two-thirds (72.9%) of secondary infertility without the baby, and two-thirds (71.1%) of secondary infertility with the baby.

Table 3 provides that mean scores of QoL subscales were not significantly different between primary and secondary infertility. Primary infertility had higher mean scores on physical component summary (32.82±14.66), physical functioning (21.91±18.35) and role limitations due to physical problems (39.75±36.47) compared to secondary infertility with and without baby. Secondary infertility without baby (20.52±21.49) had a higher mean

score on bodily pain compared to primary and secondary infertility with baby. Secondary infertility with baby (53.33±12.48) and without a baby (53.28±12.99) had a higher mean score on general health compared to primary infertility. Secondary infertility with the baby had a higher mean score on mental component summary (39.13±13.73), mental health (36.98±15.59), vitality (39.44±14.89), role limitations due to emotional problems (59.26±40.13) and health change (48.33±22.23) compared to primary and secondary infertility without the baby. The mean score of social functioning was higher in primary infertility (26.54±20.92) than secondary infertility with and without baby.

Table 4 presents that less than half (45.5%) of all infertile women had high QoL whereas just above half (54.5%) of those had low QoL. The majority (60.4%) of secondary infertility without baby had low QoL whereas low proportion (39.6%) of those had high QoL. Just above half (53.3%) of secondary infertility with baby had high QoL while less than half (46.7%) of those had low QoL. Less than half (46.3%) of primary infertility had high QoL whereas more than half (53.7%) of those had low QoL.

Table 3. Comparison of Mean Score of Quality of Life Subscales between Primary and Secondary Infertility.

Variables	Primary Infertility (n=244)		Secondary Infertility (n=141)				p-value
	Mean	SD	With Baby (n=45)		Without Baby (n=96)		
Physical Component Summary	32.82	14.66	32.6	14.57	31.7	14.88	0.482
Bodily Pain	18.85	19.76	18.67	20.85	20.52	21.49	0.803
General Health	50.78	13.56	53.33	12.48	53.28	12.99	0.089
Physical Functioning	21.91	18.35	20.78	19.42	21.51	19.17	0.619
Role Limitations due to Physical Problems	39.75	36.47	37.78	33.12	31.51	35.59	0.092
Mental Component Summary	37.65	15.69	39.1	13.73	35.4	16.12	0.467
Social Functioning	26.54	20.92	20.83	18.27	25.65	20.71	0.278
Mental Health/Emotional well	35.07	13.97	36.98	15.59	36.04	15.08	0.631
Vitality /Energy	38.44	16.66	39.44	14.89	36.77	15.96	0.602
Role Limitations due to Emotional Problems	50.55	41.84	59.26	40.13	43.06	42.42	0.648
Health Change	47.13	21.6	48.3	22.23	47.9	22.9	0.699
Overall QoL	39.2	11.07	40	9.95	38.3	10.82	

Table 4. Level of Quality of life of Primary and Secondary Infertile Women.

Variables	Primary Infertility (n=244)		Secondary Infertility		Infertile Women (n=385)
	n (%)		With Baby (n=45)	Without Baby (n=96)	
Quality of Life	Low	131(53.7)	21(46.7)	58(60.4)	210(54.5)
	High	113(46.3)	24(53.3)	38(39.6)	175(45.5)

Table 5. Associations between Socio-Demographic Variables and Level of Quality of Life of Primary and Secondary Infertility.

Variables	Level of Quality of Life			
	Primary Infertility(n=244)		Secondary Infertility(n=141)	
	Low (n=131)	High (n=113)	Low (n=79)	High (n=62)
	n (%)	n (%)	n (%)	n (%)
Age in Year				
≤ 30	54(41.2)	57(50.4)	21(26.6)	18(29.1)
31- 40	73(55.7)	50(44.2)	48(60.8)	41(66.1)
≥41	04(03.1)	06(05.4)	10(12.6)	03(04.8)
p-value	0.176		0.281	
Address				
Rural	08(6.1)	12(10.6)	02(2.5)	00(00)
Urban	123(93.9)	101(89.4)	77(97.5)	62(100)
p-value	0.200		0.504 ^F	
Education				
up to Higher Secondary	59(45.1)	53(46.9)	31(39.2)	26(41.9)
Bachelor and Above	72(54.9)	60(53.1)	48(60.8)	36(58.1)
p-value	0.771		0.746	
Occupation				
Service Holder	58(44.3)	51(45.1)	34(43.1)	31(50.0)

Home Manager	51((39.9)	41(36.3)	27(34.2)	19((30.6)
Others	22(16.8)	21(18.6)	18(22.7)	12(19.4)
p-value	0.890		0.708	
Type of Family				
Nuclear	50(38.2)	50((44.2)	32(40.5)	31(50)
Joint	81(61.8)	63(55.8)	47(59.5)	31(50)
p-value	0.336		0.260	

F= Fisher's Exact Test

Table 5 depicts that there was no statistically significant association between socio-demographic variables and QoL of primary and secondary infertility (p-value >0.05). Half (50.4%) of primary infertility with ≤ 30 years of age and 66.1% secondary infertility with 31-40 years of age had high QoL compared to those with ≥ 40 years of age. More than two-thirds (89.4%) of primary infertility and all (100%) of secondary infertility residences in urban had high QoL compared to those residences in rural. More than half (58.1%) of secondary infertility and primary infertility (53.1%) with bachelor and above education had high QoL compared to those with up to higher secondary education. Half (50%) of secondary infertility and less than half (45.1%) of primary infertility with service holders had high QoL compared to those with other occupations. The same proportion (50%) of secondary infertility with joint and nuclear families had high QoL. A higher proportion (55.8%) of primary infertility with a joint family had high QoL than primary infertility with a nuclear family.

Table 6. Differences in Quality of Life based on Infertility Duration and Reason of Infertility among Primary and Secondary Infertility.

Variables	Primary Infertility (n=244)		Secondary Infertility(n=141)			
	Mean	SD	Without Baby(n=96)		With Baby(n=45)	
	Mean	SD	Mean	SD	Mean	SD
Duration of infertility in Year						
≤ 2.0	37.65	11.64	38.17	10.87	38.45	11.83
2.1 - 4.0	38.30	10.59	38.86	11.43	41.48	8.08
≥4.1	42.31	10.11	38.24	10.47	41.93	7.02
p-value	0.020	-	0.840	-	0.020	-
Reason of Infertility						
Male Factors	39.52	11.16	44.40	7.72	41.53	10.06
Female Factors	38.88	11.66	39.32	11.4	39.85	9.2
Unexplained	39.25	10.52	32.93	7.47	40.19	13
Both (Male & Female)	41.57	8.92	35.42	-	-	-
p-value	0.920	-	0.010	-	0.840	-

Table 6 provides that there was a statistically significant difference between infertility duration and QoL among primary and secondary infertility with baby (p-value 0.020). Primary infertility (42.31±10.11) and secondary infertility with baby (41.93±7.02) with ≥4.1years infertility duration had significantly high QoL compared to secondary infertility without baby. There was also a statistically significant difference between the reason for infertility and QoL of secondary infertility without a baby (p-value 0.010). Secondary infertility without baby (44.40±7.72) with male factor as a reason for infertility had significantly high QoL compared to primary and secondary infertility with baby.

DISCUSSION

In this infertility treatment center based study assessing QoL of infertile women; it was found that more proportion (63.4%) of primary infertility was involved compared to secondary infertility. This finding is consistent with studies done in different places of Nepal (74.7%),⁶ (71.42%),¹¹ (65.8%),¹² and Turkey (65.3%),¹⁵ (80%),¹⁶ and China (55.9%).¹⁷ In this study, a higher proportion (62.5%) of secondary infertility without baby had ≤ 2 years infertility duration. This finding is consistent with the study done in China (62.4%)¹⁷ and Iran (60.6%).¹⁸ In the present study, the female factor as a reason for infertility was higher and similar proportion in secondary infertility with baby (71.1%) and without a baby (72.9%). This finding is consistent with studies done in different places of Iran (76.5%),² (77.3%).¹⁸ In this study, more than two-thirds (53.3%) of secondary infertility with baby had high QoL. This finding is consistent with the study done in Iran (52.6%).¹⁹ In the current study, less than half (45.5%) of all infertile and primary infertile women (46.3%) had a high QoL. This finding is consistent with studies done in Iran (48.3%),²⁰ Haryana (43%),²¹ and Iran (49.3%).²²

In this study, the mean scores of QoL subscales were not significantly different between primary and secondary infertility. The primary and secondary infertility with and without baby had the highest mean scores in QoL subscale general health. This finding is consistent with studies done in different places of Iran (54.37±12.43),⁵ (58.85±17.67).¹⁹ But, the mean scores of role limitations due to emotional problems of secondary infertility with baby of this study is consistent with the study done in Iran (56.96±38.98).¹⁹

In the existing study, there was no statistically significant association between socio-demographic variables and QoL of primary and secondary infertility (p-value >0.05).

Secondary infertility with 31-40 years of age of this study had high-level QoL. This finding is consistent with Iranian infertile women with 31-35 years of age.²³ But this finding is not consistent with infertile women of Turkey¹⁵ with 20-25 age and infertile women of Iran,²⁴ with ≤ 35 age had high QoL. In the present study, secondary infertility lived in urban had a high QoL. This finding is consistent with the study done in Iran.²⁵ In this study, secondary infertility with bachelor and above education had high QoL. This finding is consistent with studies done in Turkey,¹⁵ Iran,²² and Yazd.²³ But, this finding is not consistent with the study done in Iran presented that infertile women with primary education had high QoL.²⁴ Secondary infertility with service holders of this study had a high QoL. This finding is consistent with the study done in Turkey,¹⁵ Iran,²² and Khorramabad.²³ In this study, primary infertility with a joint family had a high QoL. The finding is not consistent with the study done in Turkey presented that infertile women with nuclear family had high QoL.¹⁵

In the present study, primary and secondary infertility with baby with ≥4.1years infertility duration had significantly high QoL (p-value 0.020). This finding is consistent with the study done in Hamada (p-value 0.019).²⁵ In this study, secondary infertility without baby with male factor as the reason for infertility had significantly high QoL (p-value 0.010). This finding is consistent with studies done in Iran among infertile women (p-value 0.006)⁴ and couples (p-value 0.036).¹⁸

CONCLUSIONS

A high proportion of infertile women had low-level QoL. But, a high proportion of secondary infertile women with baby had high-level QoL. They had a high QoL on subscales general health, role limitations due to emotional problems and health change, and low QoL on physical function, bodily pain, role limitations due to physical problems, social functioning, mental health, and vitality. The infertility duration and reason of infertility influenced the QoL of infertile women. But age, residence, education, occupation, and family type do not influence the QoL of infertile women.

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