

Quality of Life of Infertile Men and Women

Milda Naginevičiūtė¹, Ugnė Misiukaitė², Aurelija Blaževičienė¹

¹Lithuanian University of Health Sciences, Faculty of Nursing, Department of Nursing, Lithuania;

²The Hospital of Lithuanian University of Health Sciences, Department of Obstetrics and Gynecology, Lithuania

Keywords: FertiQoL, infertility, quality of life, men, women.

Summary. The aim of this study was to assess quality of life of infertile men and women in terms of the differences according to gender.

Methods. A descriptive, cross-sectional study design was applied. Health-related quality of life was measured by the Fertility Quality of Life Tool (FertiQoL). Participants were asked to rate how frequently or how well the particular statements reflect their feelings and thoughts. The study population consisted of men (38%) and women (62%) who attended the Reproductive Medicine Center of the University Hospital in Lithuania. In total, 162 respondents participated in the study.

Results. Significant differences in the answers of men and women about their quality of life were found. Analysis of the data revealed that men had better emotional quality of life than women ($P = 0.001$). Physical health and behavior of men were significantly less affected by fertility problems compared with women ($P < 0.001$). Fertility treatment and its quality had a greater impact on women's quality of life than on men's ($P = 0.009$). Mood swings due to infertility between hope and despair were more common in women ($P = 0.008$) than in men. Women were also more likely to feel drained or worn out due to infertility issues ($P < 0.001$).

Conclusions. The comparison of the quality of life between infertile men and women revealed that men's quality of life was rated higher than women's in all assessed areas. Negative emotions arising because of infertility were the most important part of the infertility-related deterioration in the quality of life for both men and women.

Introduction

Infertility remains a neglected area in sexual and reproductive health, yet its consequences are staggering. Infertility is estimated to impact about 10%–25% (estimates range from 48 to 180 million) of couples of the reproductive age worldwide (1). Today, across Europe, more than 25 million citizens are affected by infertility. Infertility is becoming more and more common, especially since many couples are waiting to have children later in life (2). At present, in Lithuania, there are about 50 thousand infertile couples. The percentage of men and women that encounter fertility problems is nearly the same. Female infertility constitutes 20%–35% of cases, male infertility accounts for 20%–30%, infertility of both partners accounts for 25%–40% of cases, and unexplained infertility is 10%–20% (3, 4).

The process of infertility diagnostics and treatment affects all aspects of a personal life, in particular, intimacy, sexuality, the relationship of the couple and its quality of life (5). Men and women who face infertility have a higher level of stress and a lower quality of life than men and women who can have children (6).

Basic instruments to assess health-related quality of life are the globally approved questionnaires that can be used for assessment of various populations and different states of health (7). The basic problem in relation to all instruments is that they can be used in multiple situations and in the case of various diseases; however, accuracy of such instruments might be insufficient for the analysis of some particular situations, e.g., fertility tests (8). There is a new FertiQoL (Fertility Quality of Life) questionnaire that is employed to assess influence and effects of the fertility problem on various aspects of daily life (9).

Infertility is a unique medical condition because it is related to a couple rather than a single person (10). Infertility can cause depression, anxiety, social isolation, and sexual dysfunction (11). The difficulties to conceive naturally can cause feelings of shame, guilt, and low self-esteem. Further such feelings can lead to depression, anxiety, suffering, and poor quality of life (12). Infertility is associated with mental health, but the effects of this condition on well-being are different for men and women (13). There are known gender differences in fertility-related quality of life among couples experiencing infertility (1, 14–16). In general, women have higher perceived stress and a lower quality of life during infertility compared with men experiencing infertility (17, 18). Publications demonstrate that

Correspondence to Milda Naginevičiūtė, Department of Nursing, Lithuanian University of Health Sciences, Eivenių 4, Kaunas, LT-50161, Lithuania.
E-mail: milda.nagineviciute@lsmuni.lt

unintentionally childless men are likely to experience significant anxiety, mood disturbances, or depression with some studies indicating depression in infertile men is as common as in infertile women (12, 19, 20). Because of possible gender differences, it is important to focus on particular aspects of QoL in each group and find the best individual means to help those people to improve their quality of life.

The aim of the study was to assess the quality of life of infertile men and women.

Methods

Study Design. A descriptive, cross-sectional survey design was applied. The study was conducted in November 2019 through February 2020 at the Reproductive Medicine Center of the University Hospital in Lithuania.

Study Sample. The purposive sampling was applied. The inclusion criteria were as follows: 1) men and women being unable to have children with their current partner, 2) those who attended the Reproductive Medicine Center, and 3) a couple with a male, female or combined infertility factor. In total, 162 respondents participated in the survey. There were 101 women (62%) and 61 men (38%). The response rate was 100%.

Instrument. Health-related quality of life was measured using Fertility Quality of Life tool (FertiQoL) (21). FertiQoL is an instrument to measure quality of life (QoL) in individuals with fertility problems. This tool was patterned after the World Health Organization QoL tool. Two main components compose the FertiQoL tool: the Core FertiQoL component and the optional Treatment component. The Core component consists of 24 items that measure the impact of fertility problems on four subscales: emotional, mind-body, relational, and social QoL. The Treatment component consists of 10 items that measure the quality of life during treatment on two subscales: treatment environment and treatment tolerability. In total, the FertiQoL components cover all 34 items. A higher score on all subscales and total scores indicate a greater QoL (22, 23).

The participants were asked to rate how frequently or how well the particular statement reflects their feelings and thoughts. The Likert-type response format consists of 5 choices (0–4) where higher scores indicate better fertility-specific quality of life. Scores on the response scale are reversed, summed, and scaled to range from 0 to 100. Higher scores on the subscales and total scores indicate better quality of life (24). Patients' demographic characteristics and fertility-related medical data were also collected (e.g., age, education, income per month, duration of infertility, existence of a child from a previous or current relationship). Individuals who responded that they had pregnancies with their current partner

in the past were asked about the outcome of that pregnancy.

Ethical Considerations. The study protocol was approved by the *Committee on Bioethics* at the *Lithuanian University of Health Sciences* (No. BEC-AK(B)-25, as of 16/10/2019).

Statistical Data Analysis. The data were analyzed using the Statistical Package for Social Sciences (IBM SPSS Statistics) version 26.0. Socio-demographic characteristics were analyzed by descriptive statistics. The Student *t* test was used to compare the means between two groups. Attitudes about the quality of life according to gender were analyzed using the Chi-square criterion. The *Z* paired difference test was used to determine whether answers of men and women differed significantly. The significance was defined by a *P* value of 0.05.

Results

In total, 162 respondents answered the questionnaire, with 101 women (62%) and 61 men (38%) participating in the study. An analysis of the socio-demographic and infertility-related data showed that the majority of men and women had a university degree. Half of the men (47.5%) stated that their income exceeded € 1000, while 59.4% of women earned between € 500 and € 1000. When assessing the duration of infertility, the results were distributed approximately evenly between men and women (Table 1).

The study was focused on differences of quality of life between infertile men and women. The data analysis showed that men featured a better emotional quality of life compared with women ($P = 0.001$). Whereas the average score of the mind-body subscale of men was higher than in the case of women, which shows that men's physical health and behavior was statistically less affected by the issue of disordered fertility than the one of women ($P < 0.001$). Moreover, the average score of the treatment tolerability subscale of women was lower than the one of men ($P = 0.009$).

The significant difference existed in the Core FertiQoL component covering the quality of life in terms of mind-body, emotional, relational and social, where the score of women was lower compared with that of men ($P = 0.001$). The differences were in the results of the Total FertiQoL component covering all subscales between women and men: men assessed their Total FertiQoL better than women ($P = 0.002$) (Table 2).

The majority of men (86.9%) and women (54.5%) answered that their fertility disorders affected weariness and tiredness just a bit or even not at all. Thus, women were more likely to complain of exhaustion due to infertility problems than men ($P < 0.001$).

Table 1. Socio-demographic characteristics of respondents

Characteristics	Men	Women	Both (men and women)
	n (%)		
Age group			
20 to 29	8 (13.1)	33 (32.7)	41 (25.3)
30 to 39	44 (72.1)	64 (63.3)	108 (66.7)
40 to 49	9 (14.8)	4 (4.0)	13 (8.0)
Level of education			
High school	12 (19.7)	12 (11.9)	24 (14.8)
Professional school	14 (23.0)	18 (17.8)	32 (19.8)
University of applied science	12 (19.7)	22 (21.8)	34 (21.0)
University	23 (37.7)	49 (48.5)	72 (44.4)
Income per month (EUR)			
500	6 (9.9)	19 (18.8)	25 (15.4)
500 to 1000	26 (42.6)	60 (59.4)	86 (53.1)
1000 and more	29 (47.5)	22 (21.8)	51 (31.5)
Duration of infertility (years)			
1 to 3	34 (55.7)	54 (53.5)	88 (54.3)
4 to 8	20 (32.8)	35 (34.7)	55 (34.0)
9 and more	7 (11.5)	12 (11.9)	19 (11.7)
Pregnancy with this partner			
Yes	17 (27.9)	30 (29.7)	47 (29.0)
No	44 (72.1)	71 (70.3)	115 (71.0)
Pregnancy outcome			
Childbirth	9 (52.9)	12 (40.0)	21 (44.6)
Ectopic pregnancy	4 (23.5)	5 (16.7)	9 (19.1)
Failed intrauterine pregnancy	2 (11.8)	6 (20.0)	8 (17.0)
Miscarriage	2 (11.8)	5 (16.7)	7 (14.9)
Inducted abortion for medical reasons	–	2 (6.6)	2 (4.4)

Table 2. Fertility quality of life according to gender

FertiQoL subscales	Women	Men	P*
	M (SD)		
Emotional	58.25 (18.65)	68.57 (19.18)	0.001
Mind-body	69.07 (20.20)	81.80 (18.61)	< 0.001
Relational	77.76 (14.48)	81.58 (12.82)	0.160
Social	67.66 (16.62)	72.28 (18.12)	0.117
Treatment environment	72.08 (18.89)	73.64 (16.65)	0.874
Treatment tolerability	66.90 (17.68)	74.85 (18.51)	0.009
Core FertiQoL	68.19 (13.81)	76.06 (14.85)	0.001
Treatment FertiQoL	69.75 (13.69)	73.27 (12.54)	0.114
Total FertiQoL	68.66 (11.32)	75.22 (13.06)	0.002

* *t* tests

When asked about feelings of jealousy and resentment about infertility, the majority of men (80.4%) and women (61.4%) answered that such feelings never arose or occurred infrequently. Thus, according to the results, women were more often affected by envy and discontent due to their infertility compared with men ($P = 0.035$).

Distribution of the responses in regard of grief and loss was uneven. According to the results, women felt grief and loss in relation to their infertility more often compared with men ($P = 0.005$). Distribution of the answers in regard of mood shifts showed that most of women (41.6%) and men (65.6%) either did not experience this at all or experienced it seldom. Also, 24.8% of women defined their mood shifts as 'always' or 'very often' relevant compared with 9.8% of men. The infertility-caused mood shifts from hope to despair were more typical to women ($P = 0.008$) than men.

The results revealed that men tended to be less down and depressed about their infertility issues compared with women ($P = 0.005$). The distribution of answers concerning weariness caused by fertility disorders showed that women tended to be down and depressed about their infertility more often than men ($P < 0.001$). In addition, men tended to rate their health slightly better than women (Table 3).

Discussion

There is the evidence that infertility and treatment of infertility can cause social, emotional and psychological suffering by impairing quality of life of infertile individuals. Therefore, studies of quality of life are highly important in order to find out how human life is affected by infertility and its outcomes (24, 25). Being aware of various negative physical, psychological, and social consequences of infertility, one can identify changes in quality of life and help the people plan and get effective treatment (26).

This study aimed to assess the quality of life of infertile respondents, both men and women. Comparison of quality of life of infertile men and women showed that it was better in the case of men in all aspects studied. This finding was rather congruent to Hsu et al.'s (2013) study where scores in men were higher than in women on the majority of subscales except for the relationship subscale, where scores of men were lower (23). Similar findings were also reported in a study from Taiwan when quality of life of the infertile male respondents was assessed better than that of women on all subscales; the highest scores were on the relational subscale and the lowest scores were on the emotional subscale (26). The relational subscale demonstrated one of the highest scores for both genders in our study, too.

Although the score of quality of life of infertile men and women may differ in relation to country

and culture, Keramat et al. (2014) has found the highest scores of men in the mind-body subscale and the highest scores of women in the social subscale of the Core FertiQoL component (26). Overall, the evidence and results of our study confirm that quality of life of infertile men is, most frequently, assessed better than the one of women and that quality of life of men is less affected by infertility.

It was determined that the quality of life of older respondents was affected least by infertility. The women with higher earnings, with 1–3-year duration of infertility and with history of previous pregnancies were affected less. The study of Goker et al. (2018) has compared quality of life of infertile men and women and found that, like in our study, quality of life was better in the case of the women over 30 years of age, with higher earnings and with shorter history of infertility (27). However, Maroufizadeh et al. (2017) have analyzed quality of life of infertile women where it slightly differed among age groups but was assessed the best among the women up to 35 years of age. Moreover, quality of life was the least affected by infertility in the case of the women with the longest history of infertility and the ones with primary infertility (25).

The age was also important in the assessment of the quality of life of male respondents where younger men demonstrated a significantly poorer quality of life in terms of treatment environment and social life compared with the older ones. The quality of life of infertile men was the least affected for those with the longest history of infertility, the highest earnings and with the female partner with previous pregnancies. The results of Goker et al. (2018) have reported the opposite findings to what we found: quality of life was better in the case of men with up to 5-year history of infertility (27). In addition, the education was a factor of differences in the quality of life perception among infertile men of our study: the worst quality of life was reported by men with a higher university education.

Consequently, the provision of comprehensive infertility treatment services for individuals and couples requires the attention, understanding and emotional support from health care staff. It is observed that the emotional stability of an infertile couple is positively affected by the active involvement of both partners in treatment and treatment-related decisions, compassion and understanding, and trust-building staff behavior along with timely individual and couple-specific specialized psychological support (4, 26, 28). Therefore, it is very important that the infertility consultations take place with the participation of both partners in order to discuss and set the diagnostic and treatment plan together (4). Moreover, effective psychological and social support is highly important in terms of pro-

Table 3. Attitudes of infertile men and women about quality of life according to gender

Question	Gender	
	Men (n = 61)	Women (n = 101)
	n (%)	
Do you feel drained or worn out because of fertility problems?		
Completely / A great deal	3 (4.9)**	26 (25.7)
Moderately	5 (8.2)**	20 (19.8)
A little / Not at all	53 (86.9)**	55 (54.5)
<i>P</i> *	< 0.001	
Do your fertility problems cause feelings of jealousy and resentment?		
Always / Very often	6 (9.8)	15 (14.9)
Quite often	6 (9.8)**	24 (23.8)
Seldom / Never	49 (80.4)**	62 (61.4)
<i>P</i> *	0.035	
Do you experience grief and/or feelings of loss about not being able to have a child (or more children)?		
Always / Very often	6 (9.8)**	29 (29.0)
Quite often	19 (31.2)	34 (34.0)
Seldom / Never	36 (59.0)**	37 (37.0)
<i>P</i> *	0.005	
Do you fluctuate between hope and despair because of fertility problems?		
Always / Very often	6 (9.8)**	25 (24.8)
Quite often	15 (24.6)	34 (33.7)
Seldom / Never	40 (65.6)**	42 (41.6)
<i>P</i>	0.008	
Do you feel sad and depressed about your fertility problems?		
An extreme amount / Very much	12 (19.7)**	43 (42.6)
A moderate amount	13 (21.3)	22 (21.8)
A little / Not at all	36 (59.0)**	36 (35.6)
<i>P</i> *	0.005	
Are you bothered by fatigue because of fertility problems?		
An extreme amount / Very much	3 (4.9)**	30 (29.7)
A moderate amount	13 (21.3)	23 (22.8)
A little / Not at all	45 (73.8)**	48 (47.5)
<i>P</i> *	< 0.001	
How complicated is dealing with the procedure and/or administration of medication for your infertility treatment(s)?		
An extreme amount / Very much	3 (5.4)	10 (10.2)
A moderate amount	11 (19.6)**	36 (36.7)
A little / Not at all	42 (75.0)**	52 (53.1)
<i>P</i> *	0.027	
Are you bothered by the physical side effects of fertility medications and treatment?		
An extreme amount / Very much	9 (15.8)**	32 (32.7)
A moderate amount	10 (17.5)	20 (20.4)
A little / Not at all	38 (66.7)**	46 (46.9)
<i>P</i> *	0.037	

*Chi square (χ^2);** $P < 0.05$ compared with women (z test)

tection and improvement of quality of life and well-being of infertile couples (25).

This study is limited to one fertility center in the country and the non-representative sample size that was collected only in a few months.

Conclusions

The relational and treatment environment aspects of quality of life in the infertile men and women was rated the best. Quality of life in infertile men was higher than in women in all assessed areas.

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Received October 2021

Accepted December 2021