

EXTERNAL SHAME, COPING COMPETENCE AND SOCIAL SUPPORT AS PREDICTORS OF QUALITY OF LIFE IN INFERTILE WOMEN DURING IVF*

Milica Mitrović, Marina Hadži Pešić, & Miljana Spasić Šnele

Department of Psychology, University of Niš (Republic of Serbia)

Abstract

World health organization's statistics show that 8-12% of couples worldwide have a problem with fertility, so it is a public health problem around the world. The problem is that the percentage of infertile couples is constantly increasing. Infertility is a medical condition that represents a great challenge for mental health and can significantly affect the quality of life (QoL) of people who face this problem. The aim of this research was to investigate whether external shame, coping competence, and social support are significant predictors of QoL in infertile women during their In Vitro Fertilization (IVF). QoL was examined according to two dimensions - as a core QoL which represents the QoL across the following domains - Emotional, Mind-Body, Relational, and Social - and as the QoL determined by the different aspects of infertility treatment. This study involved 151 women who were undergoing IVF at the time of testing. The following instruments were used: Fertility quality of life tool (FertiQoL) - in this study we used two of three total scores: The Core FertiQoL (the average fertility QoL across Emotional, Mind-Body, Relational, and Social domains) and The Treatment FertiQoL (the average QoL across treatment domains - Treatment Environment and Treatment Tolerability), the Other as Shamer Scale (OAS), the Coping Competence Questionnaire (CCQ) and the Multidimensional Scale of Perceived Social Support (MSPSS). The results of the regression analysis show that Coping competence defined as resilience to learned helplessness and depression is a significant predictor of The Core FertiQoL ($\beta = .49$, $p < .001$) and that this model explains 33% of the criterion variance ($R^2 = .33$, $F(3, 147) = 25.33$, $p < .001$). When it comes to the prediction of QoL determined by treatment characteristics, the regression model explains 11% of the criterion variance ($R^2 = .11$, $F(3, 147) = 7.37$, $p < .001$), while the significant predictors of this aspect of QoL are Coping competence ($\beta = .28$, $p = .002$) and Perceived social support ($\beta = .19$, $p = .022$). Individual coping skills in dealing with infertility are very significant for the global QoL, while in the case of the QoL associated with accessibility and quality of infertility treatment in addition to individual competencies, social resources are also important. The results may have practical implications as an important guideline in counseling and psychotherapy work with this group of clients.

Keywords: *Infertility, quality of life, external shame, coping competence, social support.*

1. Introduction

Infertility is defined as the failure to achieve pregnancy after 12 months of regular, unprotected intercourse. Around 48.5 million couple worldwide face this problem (Verkuijlen et al., 2016). Infertility is a great challenge for couples both medically and psychologically (Burns, 2007). It affects many aspects of life, primarily personal and social, but also financial, work/career and more (Newton et al., 1999). Regardless of the fact that infertility is not physically disabling, its emotional consequences are comparable to those of serious chronic diseases, including cancer, heart disease, and HIV (Domar et al., 1993). Some authors emphasize the experience of losing control over one's own life as one of the most difficult consequences of infertility (Cousineau & Domar, 2007). As a stressful event, infertility causes a whole range of negative emotions such as surprise, sadness, anger, anxiety, depression, helplessness, and guilt (Menning, 1980). When it comes to negative emotions, the inevitable topic for these couples is the feeling of shame, which is a very powerful emotion related to self-evaluation. There is external and internal shame. External shame is related to the social environment and the person's beliefs that others evaluate him/her in a negative way, while internal shame concerns our internal negative evaluations of our own abilities and traits (Gilbert, 1998). The results of the research by Galhardo et al.

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(2011) show that infertile couples show a higher degree of both external and internal shame as well as self-judgment compared to fertile couples and couples with an infertility diagnosis who are applying for adoption.

Psychological adjustment to the IVF is determined, as with other important life events, by both of the two groups of factors – risk and protective factors (Rockliff et al. 2014). The most frequently emphasized protective factors in the case of infertility are social support (Martins et al., 2011; Mitrović et al., 2021), problem-focused coping (Peterson et al. 2006; Mitrović et al., 2022), positive family/marital function (e.g. Mitrović et al., 2021). Research shows that social support is associated with lower levels of infertility-related stress, as well as lower levels of negative emotions during IVF, while it positively contributes to positive emotions, and this effect on positive emotions proved to be specific to the IVF group of women compared to the group of women who do not have a problem with fertility (Martins et al., 2011; Mitrović et al., 2021).

Individual assessment of the situation and the person's personal resources to cope with the situation determines which coping strategies will be activated (Lazarus & Folkman, 1987). The experience of controlling the situation takes a central position when it comes to the effectiveness of coping (Folkman, 2011). Uncontrollable stressful situations will cause a higher level of stress compared to stressful situations that can be controlled to some degree, whereas infertility can be defined as a stressor that is difficult to control (Mitrović et al., 2022). Research shows that men and women cope differently with infertility (e.g. Peterson et al., 2006). When considering coping strategies and infertility, it is important to note that in situations where it is difficult to control the stressor emotion-focused coping can be more effective than problem focused coping strategies (Sorgen & Manne, 2002). However, Peterson et al. (2006) report a negative association of infertility stress with planful problem-solving and seeking social support in both men and women.

The level of stress caused by this problem is illustrated by findings that show that a high percentage of women rate the problem of infertility as the worst event in their life (e.g. Burns, 2007). It is not surprising then that infertility has the potential to cause psychological problems and negatively affect quality of life (QoL). Research shows that infertility is associated with a decrease in QoL (Chachamovich et al., 2007; Droszol & Skrzypulec, 2008). It has also been established that infertility affects the QoL of women more than men (e.g. Zurlo et al., 2018). When investigating the factors that contribute to the reduction of women's QoL, Maroufizadeh et al. (2017) showed that women with high levels of anxiety and depression, with unknown cause of infertility and failure of previous round of IVF treatment show worse QoL.

Measuring the QoL of infertile couples is important because of the identification of those aspects of fertility problems that are related to QoL, because of the need to improve the QoL of this group of patients. Another reason is the need for improvement of research in health service evaluation and in this context the use of a standard measurement tool (Saxena et al., 2001, as cited in Boivin et al., 2011). For this purpose, a group of experts developed the Fertility Quality of Life Questionnaire (FertiQoL), which is specific to infertility and aims to assess the QoL of men and women who face this problem. The instrument has been shown to have satisfactory reliability and validity (Boivin et al., 2011).

2. Objectives

The aim of this research was to investigate whether external shame, coping competence, and social support are significant predictors of QoL in infertile women during their IVF. QoL was examined based on two dimensions - as a core QoL which represents the QoL across the following domains – Emotional, Mind-Body, Relational, and Social – and as the QoL determined by the different aspects of infertility treatment.

3. Methods

3.1. Sample

The study involved 151 women, aged 23 to 48 ($M = 35.6$, $SD = 5.1$), who were undergoing IVF treatment at the time of testing. The average duration of infertility treatment for the group of women undergoing the IVF procedure is 5.1 years ($SD = 3.2$). As for the reason for starting the IVF treatment, 15.2% of participants' state male infertility, 29.8% female infertility, 16.6% mentioned both male and female infertility and 38.4% state that there is no medical reason or that it is unknown. For 37.7% of participants this was the first IVF treatment, for 25.2% second, for 20.5% third, for 6.0% fourth, and 10.6% of participants reported that this is their fifth or more IVF treatment. The research was approved by the Ethics Committee of the Department of Psychology of the Faculty of Philosophy in Niš. Before

participation in the study, all of the respondents were informed about the goals of the research, how the data will be used, and their rights, as well as other information that is needed for valid consent.

3.2. Instruments

The Others as Shamer Scale (OAS; Goss et al., 1994). These 18 items scale measures external shame (global judgments of how people think others view them). Respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences described in items such as “I feel other people see me as not quite good enough” or “I think that other people look down on me”. Higher scores on this scale reveal high external shame. The reliability of the scale in this sample is $\alpha = 0.92$.

The Coping Competence Questionnaire (CCQ; Schroder & Ollis, 2013) is a 12 items scale (e.g., “When I fail at something, I tend to give up”; “Failures can shake my self-confidence for a long time”) which is a brief measure of resilience against helplessness and depression. Respondents use 6-point Likert scales (1 = *very uncharacteristic of me* to 6 = *very characteristic of me*). Higher scores indicate resilience to learned helplessness (i.e., coping competence) and low scores indicate a propensity towards helplessness in stressful situations. The reliability of the questionnaire in this sample is $\alpha = 0.92$.

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) is intended to assess perceived social support. It consists of 12 items divided into three subscales: family support, friend support, and significant other support, but the total score on the scale is also used. The respondent gives answers on a seven-point Likert scale expressing the level of agreement with an item. In this study, we used only the total score on the scale. The reliability of the scale in this sample is $\alpha = 0.93$.

The fertility quality of life questionnaire (FertiQoL; Boivin et al., 2011) is intended to assess QoL in men and women experiencing fertility problems. First two items capture an overall evaluation of physical QoL and satisfaction with QoL. The remaining 34 are intended to assess personal and interpersonal quality of life (“Core FertiQoL”) and treatment quality of life (“Treatment FertiQoL”). Core FertiQoL includes the following domains: Emotional, Mind-Body, Relational, and Social. Treatment FertiQoL is determined by two treatment domains: Treatment Environment and Treatment Tolerability. In this study we used two of three total scores: The Core FertiQoL (the average fertility QoL across Emotional, Mind-Body, Relational, and Social domains) and The Treatment FertiQoL (the average QoL across treatment domains – Treatment Environment and Treatment Tolerability). The reliability of the Core FertiQoL in this sample is $\alpha = 0.83$, and of the Treatment FertiQoL α is 0.72.

4. Results

Descriptive statistics of variables were presented in Table 1, and then results of correlation (Table 2) and regression analysis (Table 3) were given afterwards.

Table 1. Descriptive statistics of the of measured variables.

Variable	N	Min	Max	M	SD	Sk	Ku
External shame	151	1.00	4.00	2.02	0.61	0.89	0.59
Coping competence	151	1.17	5.83	4.10	0.99	-0.29	-0.46
Percived social support	151	1.67	7.00	5.50	1.18	-0.86	0.40
Core FertiQoL	151	20.83	79.17	48.51	12.03	0.10	-0.56
Treatment FertiQoL	151	12.50	75.00	48.61	11.41	0.06	0.20

Tabel 2. Correlation between variables.

	External shame	Coping competence	Percived social support	Core FertiQoL	Treatment FertiQoL
Coping competence	-.517**	1			
Percived social support	-.267**	.212**	1		
Core FertiQoL	-.404**	.569**	.165**	1	
Treatment FertiQoL	-.179*	.314**	.241**	.437**	1

**Correlation is significant at the .01 level *Correlation is significant at the .05 level

Table 3. Multiple regression analysis: external shame, coping competence and perceived social support as predictors of Core FertiQoL and Treatment FertiQoL (Enter procedure).

Predictors	Core FertiQoL			Treatment FertiQoL		
	β	<i>p</i>	Model summary	β	<i>p</i>	Model summary
External shame	-.145	.070	<i>R</i> = .584	.017	.854	<i>R</i> = .362
Coping competence	.489	.000	<i>R</i> ² = .327	.186	.022	<i>R</i> ² = .113
Perceived social support	.022	.753	<i>F</i> (3, 147) = 25.33 <i>p</i> = .000	.283	.002	<i>F</i> (3, 147) = 7.37 <i>p</i> = .000

As can be seen in Table 3, both models are statistically significant. External shame, coping competence and perceived social support explain 33% of the variance of the criterion - Core FertiQoL, while coping competence i.e., resilience against helplessness and depression stands out as a significant predictor of personal and interpersonal QoL. When it comes to Treatment FertiQoL as a criterion, the model explains 11% of the variance of this criterion. Within this model, Resilience against helplessness and depression and perceived social support stand out as statistically significant predictors.

5. Discussion and conclusion

In this research, we examined the possibility of predicting QoL, more precisely, the possibility of predicting personal and interpersonal QoL and QoL determined by treatment characteristics based on the following predictors – level of external shame, coping competence, and social support in women during IVF. Coping competence, which implies resilience to learned helplessness in a stressful situation, proved to be a significant predictor of both Core FertiQoL and Treatment FertiQoL. Coping competence represents the capacity to effectively deal with negative life events or failure in terms of a reduced likelihood of helplessness and fast recovery from any occurring helplessness symptoms. Coping competence is a protective factor in the development of helplessness-based depression (Schroder & Ollis, 2013). It has already been mentioned that individual assessment of the situation and the personal resources to cope with the situation determine which coping strategies will be activated (Lazarus & Folkman, 1987). In this sense, the association between coping competence and coping strategies can be understood. Dysfunctional coping styles probably mediate, at least in part, the effects of coping competence on depression. This would mean that people who are prone to develop learned helplessness will most likely engage less in problem-solving or emotion-stabilizing coping strategies, and will therefore more often engage in dysfunctional coping. Instead of showing flexibility in the use of coping strategies, these individuals will react to different stressors with the same dysfunctional coping strategies and thereby increase the likelihood of depression (Schroder, 2012, as cited in Schroder & Ollis, 2012). It has already been pointed out there is a connection between depression and other psychological problems and reduced QoL in infertile couples especially women (Chachamovich et al., 2007; Drosdzol & Skrzypulec, 2008; Zurlo et al., 2018), as well as a connection between coping strategies and psychological health in infertile men and women (Zurlo et al., 2018), so we can say that the results obtained in this research are in line with previous findings. Future research could investigate the mediating role of coping strategies in the relationship between coping competence, i.e. resilience against helplessness and QoL.

In addition to coping competence, social support was shown to be a significant predictor of QoL associated with treatment and patients' assessment of treatment characteristics. The results of this research are consistent with the results of previous research that show that social support is a protective factor when it comes to mental health and QoL of infertile couples (Martins et al., 2011; Mitrović et al., 2021). It is rather surprising that social support contributes to the prediction of QoL determined by treatment characteristics, but not personal and interpersonal QoL (Core FertiQoL). We assume that in stressful situations, social support is important in those aspects of the situation that do not depend on us (in this case, the treatment and the characteristics of the treatment) and that are more difficult to control than those aspects of the situation that are to some degree under our control. It is necessary to test such conclusions on a larger sample that also includes men, with an examination of the relationship among the variables that were predictors in this research. Examining these relationships would contribute to the understanding of the interaction of risk and protective factors in a situation that can greatly affect mental health and QoL.

The results of this research could be used to inform guidelines for mental health professionals who work with infertility couples in terms of strengthening those factors that have a protective role and that contribute to the preservation of mental health and, therefore, the QoL.

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