

# Effect of infertility causes related to gender differences on Women's distress levels among patients utilizing a Turkish university hospital

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## Abstract

**Purpose** – This study aimed to examine the effect of causes of infertility related to gender differences on the distress level of women who were treated for infertility.

**Design/methodology/approach** – This is a cross-sectional, descriptive study. The sample consisted of 314 women who were treated for infertility between September 2016 and June 2017. Data were collected as “Sociodemographic Characteristics Form” and “Infertility Distress Scale.”

**Findings** – A statistically significant difference was found between the mean distress scores of the women for whom the reason for infertility was related to a female factor, and of the women for whom this reason was related to a male factor.

**Research limitations/implications** – The situation should be determined with quantitative studies, and the reason for the differences should be determined with qualitative studies.

**Practical implications** – Infertility nurses should develop a care plan that ensures that couples understand their feelings, and which enhances their mutual respect and partnership.

**Social implications** – The study highlights the importance of cultural awareness in the care of infertile couples.

**Originality/value** – The authors highlight some important aspects about the gender difference on women's distress level.

**Keywords** Infertility, Gender difference, Distress, Turkey

**Paper type** Research paper

## Introduction

Infertility and treatment for infertility affect women biologically, psychologically and socially [1]. Furthermore, infertility and treatment for infertility can become potential crises [2]. Studies indicate that infertility causes emotional problems, stress [3], feelings of loneliness [4], depression, anxiety [5], loss of control, feelings of stigmatization [6], as well as a lower quality

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of life [6]. These multifaceted effects caused by infertility often increase with the treatment process [3].

When women cannot become pregnant, they experience more pregnancy-related pressure and problems than males do [7]. Even if the cause of infertility is related to a male factor, it is women who are made to experience complicated treatments and procedures. Various studies have reported that infertility affects women more than it affects men [8].

Infertility and gender are two terms that cannot be dealt with separately. Men who seek help for infertility report a lower quality of life, lower sexual satisfaction, more feelings of sexual failure and less enjoyment from sexual activity. In addition, male infertility is often not just an issue for men but could be psychologically distressing for their partners as well, prompting couples to seek medical services for infertility. In contrast, males in some populations may have little or no concern about being infertile or may even seek infertility [9].

Cultural responses to infertility vary by societies and cultures. The social pressure created by infertility can be better understood when evaluated in consideration of gender roles within the relevant society. The main reason for experiencing sorrow because of the inability to have children is due to social pressure. Infertility is a serious issue for Western couples. However, Western couples place more importance on personal happiness, satisfaction, spousal relationships and love [10].

The literature indicates that infertility affects women more than it affects men [7]. Even if the reason for infertility is related to a male factor, many societies place the blame on women [11]. Although more than half of the causes of infertility are related to a male factor, male infertility is accepted as a “hidden” reproductive issue [12]. Consequently, many women are wrongly labeled as infertile, when, in fact, some women state that the cause of infertility arises from the expectation that they protect and support their infertile husbands [13].

A study by Tuzer *et al.* [14] indicated that various areas of marital harmony are affected by the anxiety and depressive symptoms of males when infertility is related to a male factor. A study by Karaca and Unsal [15] reported that the female infertility factor affects stress scores. Teskereci and Oncel [16] found that infertile women have a lower quality of life than infertile men.

Infertility is a difficult disorder to manage. A multidisciplinary team approach is required to reduce the psychological effects of infertility [17]. Infertility nurses have roles in medicine, counseling, psychological support, advocating for patients’ rights, management and research. To effectively fulfill these roles, they should consider the personal experiences of every patient. They should ensure that other healthcare staff inform couples about the emotions and moods that may cause them to fall behind in treatment. Nurses must also generate a detailed plan with accurate documentation and must communicate well to enhance the quality of patient care. Because nurses are the healthcare practitioners who spend the most time with infertile individuals, they play a significant role in treating infertility which affects women’s mental health [18].

Distress is defined as a displeasing mood in which individuals and the environment affect one another. Individuals perceive environmental stimulants as a threat, and comparisons are made between the reality of their characteristics and the expectations regarding their characteristics [19]. According to the literature, there are different outcomes regarding the relationship between distress and infertility treatment results. Certain studies indicate that distress does not have a significant effect on the success of in vitro fertilization (IVF) treatment [20], but some studies report that distress has a significant effect on the success of IVF treatment [21].

Pasch *et al.* [22] suggest that the most important point to consider in reducing distress levels in the effective treatment of infertility is to prepare the patients for the treatment

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process, including preparation for possible negative results, and help couples cope with these results effectively.

In addition, the literature reports that the nursing care provided to infertile women in accordance with Watson's Theory of Human Caring reduces women's distress levels [23, 24]. Consequently, awareness of the distress experienced during the infertility treatment process helps women adapt to the process and enhances the possibility of success. Thus, it is important to objectively evaluate distress levels in order to achieve successful treatment for infertility. Studies have compared how women and men are affected by infertility, but no study was available comparing women's distress levels in terms of whether the infertility was related to the female or the male factor. There is, therefore, a scientific gap regarding the differing causes for infertility and the level of distress based on infertility causes based on gender. This study aimed to examine the effect of causes of infertility related to gender differences on the distress level of women treated for infertility.

#### *Research question*

Women whose cause of infertility is related to a female factor have higher distress levels than women whose cause of infertility is related to a male factor.

### **Materials and methods**

#### *Design*

This was a cross-sectional study.

#### *Participants and settings*

This study was conducted at an infertility clinic of a university hospital operating in eastern Turkey between September 2016 and June 2017. The population consisted of 1,000 women who applied to the infertility polyclinic at that time and were treated for infertility. Power analyses were performed using G-Power software version 3.1 [25]. Based on the mean scores and standard deviations from the scales calculated from the sample, post hoc and influence quantity were measured using a t-test. Following the results obtained from the study, post hoc was measured as 80%,  $\alpha = 0.05$ , and influence quantity was measured as 0.52 in the calculation based on the mean score from the acceptance of Infertility Distress Scale, thus resulting in a sample size of 278. To enhance the reliability of the study, 314 infertile women who were contacted at the time of the study and met the inclusion criteria constituted the final sample total.

The inclusion criteria were the following: (1) experiencing primary infertility which has been treated for at least six months, (2) female or male factor as etiology, (3) age ranging from 18 to 50, (4) ability to speak, read and write in Turkish, (5) having no psychiatric diagnoses and (6) willingness to take part in the research.

Altogether, 31 infertile women disagreed to participate in the study, 7 women used antidepressants, 75 women had secondary infertility and had both female and male factor and 103 of them could not speak, read and write in Turkish. This study was designed in accordance with the STROBE checklist: cross-sectional studies guide.

#### *Data collection*

Infertile women are psychologically very sensitive. They shared their private details during the interviews. Even if the cause of infertility was related to a male factor, women wanted to hide this to protect their husbands. Thus, data collection was performed on a day when women felt comfortable, and no procedure was performed. Data collection was performed in a

private room at the clinic prepared for infertile patients, and the women completed their forms in this room. The forms took 5-10 minutes to complete.

### **Instruments**

#### *Personal information form*

This form included ten questions about women's sociodemographic characteristics, such as age, education, occupational status, social insurance, income, cause of infertility, infertility diagnosis and treatment.

#### *Infertility distress scale*

This scale was developed by Akyuz *et al.* [26] to determine the psychological exposure caused by infertility and the treatment process among Turkish women. The scale consisted of 21 items, 16 positive and 5 negative statements. The lowest and highest scores to be obtained from the scale were 21 and 84, respectively. A high score from the scale indicated high levels of exposure to infertility. In the original study, Cronbach's alpha was 0.93, while it was 0.88 in the present study [26].

#### *Data analyses*

Descriptive statistics were used to analyze the sociodemographic data. The data were examined to see whether there was a difference among the women regarding their personal characteristics and infertility-related characteristics. To this end, Kolmogorov-Smirnov and Shapiro-Wilk W-tests were performed to check whether the data displayed a normal distribution. Since the data did not show a normal distribution ( $p > 0.05$ ), the Mann-Whitney *U* Test, a nonparametric test, was used to determine the women's distress level measured according to the male or female factor. The  $p$  values  $\leq 0.05$  were statistically significant.

#### *Ethical considerations*

Written permission was obtained from the Ethics Committee for Noninvasive Clinical Practices (No: 2016/229). In addition, written institutional permission and the participants' written consent were obtained.

### **Results**

The results of the study conducted to determine the effects of the gender-based cause of infertility on the distress levels of the women who were treated for infertility are presented in the tables below.

The mean age of the participants was 30.6. Of these, 29.7% were elementary school graduates, 69.6% did not work, 53.7% had an income equal to their expenditures and 78% had social security. The mean infertility diagnosis duration was 6.1 years, and the mean treatment duration was 4.2 years. Male factor infertility was present in 50.2% of the women (Table 1).

The mean distress score was 42.8 for the women whose cause of infertility was related to a male factor, and 50.37 for the women whose cause of infertility was related to a female factor. There was a significant difference between the mean distress scores of the women whose cause of infertility was related to a female factor and women whose cause of infertility was related to a male factor. This difference is statistically significant ( $p < 0.05$ ), Table 2.

Sociodemographic characteristics	<i>n</i>	%	<i>M</i> (SD)	Range (in years)
<i>Age (years)</i>				
19–25	76	24.3	30.6 (±6.6)	19–48
26–35	164	52.4		
≥36	73	23.3		
<i>Education</i>				
Literate	86	27.5		
Elementary school	93	29.7		
Secondary school	48	15.3		
High school	42	13.4		
University and higher	44	14.1		
<i>Work activity</i>				
Working	95	30.4		
Not working	218	69.6		
<i>Income (TL)</i>				
Income is lower than expenditures	110	35.1		
Income is equal to expenditures	168	53.7		
Income is higher than expenditures	35	11.2		
<i>Social security</i>				
Yes	244	78.0		
No	69	22.0		
<i>Residence</i>				
City	231	73.8		
District, town, village	82	26.2		
<i>Infertility-related characteristics</i>				
<i>Cause of infertility</i>				
Male factor	156	49.8		
Female factor	157	50.2		
<i>Time since diagnosis (years)</i>				
Under 3	54	17.3	6.1 (±4.4)	1–24
3–6	153	48.9		
Over 6	106	33.9		
<i>Duration of treatment (years)</i>				
Under 3	129	41.2	4.2 (±3.6)	0.5–22
3–6	122	39.0		
Over 6	62	19.8		
<i>Previous ART</i>				
<i>COH</i>				
Administered	234	74.8		
Not administered	79	25.2		
<i>IUI</i>				
Administered	199	63.6		
Not administered	114	36.4		
<i>IVF</i>				
Administered	233	74.4		
Not administered	80	25.6		

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**Table 1.**  
Sociodemographic and  
infertility  
characteristics of study  
participants (*N* = 314)

**Discussion**

Women experience more stress and negative emotions related to infertility compared to men. The physical health of infertile women is worse than that of males, and their self-esteem is lower. Anxiety, depression, distress and stigmatization are more common among women [8]. The reason for these symptoms may be understood better if the social pressure created by infertility is evaluated within the cultural structure of the society. This study found that women provided positive answers to questions about their husbands in the infertility distress scale. For example, they gave positive answers to the following statements: *I can easily talk about infertility issue with my husband; I think my husband is blaming me; I think my husband does not love me as much as he used to; Our relationship has gotten worse; and My husband pays much more attention to me.* In other words, women do not blame themselves or are not blamed by their husbands due to infertility. They are supported by their husbands. The literature compilation that compared infertility-related differences between the genders and was conducted by Ying *et al.* [8] reported that spousal support is quite effective in coping with infertility and relieving distress. The outcomes of this study are in accordance with the findings of this compilation. Thus, if infertility is related to a male factor, women’s distress levels are reduced, and they experience less stress during the treatment period.

Taskereci and Oncel [16] detected that infertile women have a lower quality of life than infertile men. A study by Tuzer *et al.* [14] indicated that various areas of marital harmony were affected by the anxiety and depressive symptoms of males when infertility was related to a male factor. A study by Karaca and Unsal [15] reported that the female infertility factor affected stress scores. This study found that women whose cause of infertility was related to a female factor experienced higher distress levels than women whose cause of infertility was related to a male factor, which is in accordance with the literature. If we are to evaluate the outcomes of this study from a different aspect, women’s distress levels are lowered if the infertility is related to a male factor. Turkey is a country where the majority of the population is Muslim. Islam allows men to marry up to four women. Thus, infertile women are concerned about losing their husbands or seeing their husbands marry other women [13].

A study by Rutstein and Shah [27] revealed that the divorce rate was 10.7% among women who could not have children. In Turkey, where this study was conducted, the divorce rate among women of reproductive age was 3.3% [28]. The reason for this low divorce rate in Turkey is thought to be related to males who prefer to marry another woman rather than divorcing their wives. Consequently, women are concerned about losing their husbands and seeing them marry another woman when infertility is related to a female factor.

This study suggests that the distress levels of women whose infertility is related to a female factor is high.

**Conclusions**

The outcomes of this study will shed light on future studies. Studies with mixed methods are needed to understand the experiences regarding the differences between infertility causes and genders. The situation should be determined with quantitative studies, and the cause of

**Table 2.**  
Effect of infertility causes related to gender differences on women’s distress levels

	Cause of infertility				Mann–Whitney <i>U</i>	<i>Z</i>	<i>p</i>
	Male factor		Female factor				
	Mean (SD)	Mean rank	Mean (SD)	Mean rank	7756.5	-5.61	0.000
Distress level of infertile women	42.8 (12.3)	185.7	50.37 (11.3)	128.4			

differences should be determined with qualitative studies. Including two research methodologies in the same study may be sufficient to obtain a detailed picture of the infertility-related experiences concerning gender differences.

We have tried to highlight how men and women applying to the clinic for infertility perceive their distress and responses to infertility, looking for any gender differences in this process. The outcome of this study suggests that women whose cause of infertility is related to a female factor have higher distress levels during the treatment process than women whose cause is related to a male factor. Understanding the experiences of infertile women from a gender-related perspective in the treatment process may provide an opportunity for infertility nurses to develop a specialized treatment plan. Couples should be evaluated together during the infertility treatment, thus enabling the participation of men in the treatment process. The participation of men in the treatment process will help them to build empathy and strengthen their spousal relations. Women who receive support from their husbands will have lower stress levels. Infertility nurses should develop a care plan ensuring that couples understand each other's feelings that would enhance their mutual respect and partnership.

### *Limitation*

The strength of this study is its attention to the relationship between the cause of infertility and gender differences. However, this study has several limitations. The first one is its small sample of infertile women. Concerning high prevalence of infertility, future studies should survey a larger sample of people with diverse characteristics. The study did not include men in the research; therefore, future research should investigate infertility causes and genders among men with infertility problems and compare the results with those of women.

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