



ORIGINAL RESEARCH

Difficulties Experienced by Turkish Infertile Couples and Coping Strategies

Zümrüt Bilgin^{1*}  and Tuğba Yılmaz Esencan² 

¹Department of Midwifery, Faculty of Health Sciences, Marmara University, Istanbul, Turkey

²Department of Midwifery, Faculty of Health Sciences, Üsküdar University, Istanbul, Turkey

*Corresponding author: Zümrüt Bilgin, Lecturer, PhD, RN, Department of Midwifery, Faculty of Health Sciences, Marmara University, Basibuyuk District, Basibuyuk Street, Number:9, Maltepe-Istanbul, Turkey, Tel: +90-216-777-57-00; 05378334545



Abstract

Background: Couples experience various difficulties during the infertility process. Identifying challenges is important for coping approaches and solving problems. This study aimed to determine the difficulties experienced by infertile couples and their coping strategies.

Methods: This descriptive study was conducted in the infertility center of a state hospital in Istanbul between 3 June 2019 and 20 April 2020 with the participation of 319 couples. The data were collected using an Introductory Information Form and the Scale for Coping with Infertility Stress.

Results: In the study, 19.7% of the women and 36.7% of their spouses were aged thirty-five and over. Compared to secondary infertile women, primary infertile women were found to have more difficulty in obtaining leave from the workplace ($p = 0.018$). A significant relationship was found between the couples' infertility duration ($p = 0.008$), perception of income ($p = 0.000$) and difficulty in meeting treatment costs ($p = 0.001$), and their mean score on the Scale for Coping with Infertility Stress. Couples considered traditional treatment as the coping behavior at the highest rate.

Conclusions: While the years of infertility, income perception, and the way treatment expenses are covered are effective in the difficulties experienced by the couples, the rate of traditional treatment thought is high.

Keywords

Infertility, Couples' experiences, Difficulty experienced, Coping strategies

Introduction

Infertility is a multidimensional problem that affects couples of reproductive age. Couples experience difficulties at various levels during the infertility treatment process. When couples cannot cope with difficulties, they are more likely to interrupt or leave treatment [1].

Infertility is classified as primary and secondary infertility [2,3]. It is stated that the rates of primary and secondary infertility are doubled due to the delay of conception by couples. Infertility rates vary depending on the time on the population and country level, and it is stated that 8-12% of couples are infertile worldwide [4]. While this rate is 3.5% to 16.7% in developed countries, it varies between 6.9% and 9.3% in underdeveloped countries [2]. It was stated that the infertility rate is 15% in the United States, 15% in Europe, 27% in East Africa and 17% in Central Asia [5]. The prevalence of infertility in sub-Saharan Africa was reported as 9% in Gambia, 11.8% in Ghana and 20-30% in Nigeria [6]. In Turkey, this rate varies between 10% and 20% [7]. According to the 2018 data of the Turkey Demographic and Health Survey (TNSA), 4% of married women between the ages of 15 and 49 were unable to have children, and 12% had secondary infertility problems [8]. In a systematic review study, it was stated that 1.9% of women between the ages of 20 and 44 had primary and 10.5% had secondary infertility problems [9].

Studies show that infertility causes emotional

problems such as stress and anxiety [1,10]. In this process, most infertile couples experience many psychosocial and economic difficulties on various levels. It was stated that couples often have difficulties in coping with stress and difficulties and developing strategies [11,12]. The stress levels, socio-economic status and previous treatment experiences of couples affect their coping strategies. In a study conducted in Turkey, it was stated that 84% of women and 85% of men had difficulties in meeting their treatment expenses. In the same study, it was found that the most important reason for the women's stress was financial difficulty by 16.4% [12]. It was reported that couples with low socioeconomic status are more likely to encounter financial obstacles in this process [11,13,14]. The degree of difficulties perceived affect the course of the treatment process.

Evaluating the difficulties experienced by infertile couples and developing coping strategies are among the most important responsibilities of nurses and midwives. This study aimed to determine the difficulties experienced by infertile Turkish couples and their coping strategies.

Research questions:

- Is there a relationship between the difficulties experienced by couples and their type of infertility?
- Is there a relationship between the difficulties experienced by the couples and infertility stress and coping scale scores?

Materials and Methods

Participants and procedures

This study was planned and conducted as a descriptive study. The study was carried out between 3 June 2019 and 20 April 2020 in a state hospital providing infertility treatment services in Istanbul. The population of the study consisted of those who presented to the infertility polyclinic of the specified hospital, and the sample consisted of 319 couples. A priori power analysis was performed with the G*Power 3.1 statistical program to determine the required sample size of the study. The sample size was calculated according to the double-tailed hypothesis method with an effect size of $d = 0.2$, a significance level of $\alpha = 0.05$ and the power of the test as $1 - \beta = 0.90$. While the required sample size was determined as 265 people as a result of the power analysis, considering potential data loss (10%) in the study, 319 couples were interviewed, and the data of 319 couples were found suitable for analysis. Post hoc power analysis was performed at the end of the study, and the effect size was found as $d = 0.2$ at $\alpha = 0.05$, and the power of the study was calculated as $1 - \beta = 0.94$.

Inclusion criteria

Couples (women and their spouses) who presented

to the infertility outpatient clinic during the data collection period, were between the ages of 18 and 45, could speak and write in Turkish and were diagnosed with infertility were included in the study. The participants were informed about the purpose of the study and the confidentiality of their personal data. The data were gathered via face-to-face interviews with the participants.

Measurements

The data of the study were collected by using a Introductory Information Form and the Scale for Coping with Infertility Stress (The COMPI Coping Strategy Scales).

Introductory information form

This form was developed reviewing the relevant literature [2,4,15]. The form consisted of three parts. The first part of the form included questions on the sociodemographic characteristics of the couples, the second part included questions on their obstetric characteristics, and the third part included questions on the difficulties experienced by the couples and solution-oriented questions (32 questions in total).

Scale for coping with infertility stress

This scale, which was applied in this study to evaluate the coping statuses of the infertile couples with the stress they experienced, was developed by Schmidt (2006) in 1996. The Turkish validity and reliability study of the scale was performed by Şahin Yılmaz and Yeşiltepe Oskay (2009). The Scale for Coping with Infertility Stress is a scale consisting of 19 items and four dimensions that can be applied to both women and men. These 4 dimensions are the active-avoidance coping method, active-confronting coping method, passive-avoidance coping method and meaning-based coping method dimensions [15]. In this study, the scale items were applied only to the women. For the women included in this study, the Cronbach's alpha internal consistency coefficient was 0.68 for the first factor, 0.76 for the second factor, 0.46 for the third factor and 0.59 for the fourth factor.

Ethic

Ethical approval (Decision No: 40, Date: 17.04.2019), institutional permission and the consent of the participants were obtained for the study. The article complied with the principles of research and publication ethics.

Data analysis

After the data were collected, all collected forms were checked for completeness, inconsistency, and accuracy. The data were analyzed using the Statistical Package for the Social Sciences 21 (SPSS 21) demo program. The normality of the distribution of the data

was evaluated before the analysis. Since the data were not normally distributed, the non-parametric Mann-Whitney U and Kruskal-Wallis analyses were performed. Additionally, descriptive statistics and Chi-squared analysis were utilized in the analyses. The level of statistical significance was taken as $p < 0.05$ in all analyses.

Results

Characteristics of couples: The data of 319 couples were analyzed in the study. The mean age of the women participating in the study was 29.9 ± 5.2 (min-max: 20-46), the mean age of their spouses was 33.2 ± 5.6 (min-max: 21-50), the mean duration of their marriages was 5.1 ± 3 years, The mean of 7 (min-max: 1-26 years) infertile years was 3.2 ± 3.1 (min-max: 1-25 years), and the mean body mass index (BMI) of the women was 25.5 ± 4.9 . Among the participants, 19.7% of the women and 36.7% of their spouses were at the age of thirty-five

Table 1: Socio-demographic characteristics of the couples (n = 319).

Characteristics of couples	n	%
Woman's age (years)		
18-24	50	15.7
25-34	206	64.6
≥ 35	63	19.7
Spouse's age (years)		
18-24	7	2.2
25-34	195	61.1
≥ 35	117	36.7
Woman's education status		
Primary education	93	29.2
High school	87	27.3
University	139	43.6
Family type		
Nuclear family	262	82.1
Extended family	57	17.9
Perception of family income		
Income < Expense	53	16.6
Income = Expense	196	61.4
Income > Expense	70	21.9
Coverage of treatment expenses		
Family budget	47	14.7
SSI	103	32.3
Family budget + SSI	169	53.0
Woman's smoking status		
No	255	79.9
Yes	64	20.1
Spouse's smoking status		
No	144	45.1
Yes	175	54.9

SSI: Social Security Institution

and over, and 20.1% of the women and 54.9% of their spouses were smokers (Table 1).

In the study, 11.3% of the women had two or more pregnancies, 2.5% had abortions 1-3 times. It was determined that 44.8% of them did not know the cause of their infertility, 18.2% had infertility problems for more than five years.

In the study a statistically significant relationship was found between the difficulty of the woman in getting a leave permission from the workplace and the primary and secondary infertility rates (respectively: 25.2%; 13.3%) ($p = 0.018$; Table 2).

When the difficulties experienced by the couples were compared in terms of primary infertility and secondary infertility types: Difficulty in obtaining leave from work (respectively: 42.2%; 36.3%), couples having difficulties in hospital procedures (respectively: 33.5%; 28.3%), couples having difficulty in meeting treatment expenses (respectively: 33.5%; 38.9%), couples having difficulties in obtaining drugs (respectively: 26.2%; 25.7%), women having difficulty in self-injection (respectively: 12%) No statistically significant difference was found between the rates of women having difficulty in coping with stress (49%; 41.6%) and infertility types ($p > 0.05$, Table 2).

In the study, those with infertility between one and five years were (44.32; $p = 0.000$), of those whose income is higher than their expenses (48.40; $p = 0.000$), (46.10; $p = 0.001$) of those who cover their treatment expenses from both family and SSI (46.04; $p = 0.014$) of spouses who had difficulty in taking leave from work, (46.66; $p = 0.000$) of women who have difficulties in coping with stress, of the couples who had difficulties in the diagnosis-treatment process (46.23; $p = 0.027$), the mean scores of the scale for coping with infertility stress were found to be higher and statistically significant (Table 3).

In this study, 21.6% of the couples who faced difficulties changed their infertility center, 28.2% tried traditional treatment options, 18.8% went abroad for treatment, 3.1% benefited from donor germ cells, 20.7% preferred adopting, 7.5% of the women received help for the injection, and 31% of the women considered seeking psychological help.

A statistically significant relationship was found between the women's statuses of thinking of seeking psychological help and their mean scores on the Scale for Coping with Infertility Stress ($p = 0.000$). There was no significant relationship between the couples' statuses of willingness to change their infertility center, try traditional treatment options, go abroad for treatment, benefit from donor cells or adopt, get help for injections and their mean scale scores ($p > 0.05$; Table 4).

There was a negative and weak significant correlation

Table 2: Comparison of the difficulties experienced by the couples with the type of infertility.

Difficulties	Primary infertility (n = 206)		Secondary infertility (n = 113)		Total (n = 319)		Chi-Square-p value χ^2 ve p
	n	%	n	%	n	%	
Women's difficulty in taking leave from work							
No	154	74.8	98	86.7	252	79.0	5.599
Yes	52	25.2	15	13.3	67	21.0	0.018
Spouse's difficulty in taking time off from work							
No	119	57.8	72	63.7	191	59.9	1.075
Yes	87	42.2	41	36.3	128	40.1	0.300
Having difficulty in hospital procedures of couples							
No	137	66.5	81	71.7	218	68.3	0.904
Yes	69	33.5	32	28.3	101	31.7	0.342
Difficulty of couples in meeting treatment expenses							
No	137	66.5	69	61.1	206	64.6	0.945
Yes	69	33.5	44	38.9	113	35.4	0.331
Difficulty of couples in obtaining medicines							
No	152	73.8	84	74.3	236	74.0	0.011
Yes	54	26.2	29	25.7	83	26.0	0.915
Giving difficulty to injection herself of woman							
No	180	87.4	105	92.9	285	89.3	1.807
Yes	26	12.6	8	7.1	34	10.7	0.179
Women's difficulties in coping with stress							
No	105	51.0	66	58.4	171	53.6	1.622
Yes	101	49.0	47	41.6	148	46.4	0.203

*(χ^2): Chi-Square, p < 0.05 significant

Table 3: Comparison of some variables of the couples with the scale mean (n = 319).

Variables	The COMPI Coping Strategy Scales			
	n	Mean	Average Rank	χ^2/Z^* p-value
Couples' infertility year				
1-5	272	44.32	165.72	2.665
≥ 5	47	45.08	126.91	0.008
Perception of family income				
Income less than expenses	53	42.54	136.54	16.831
Income equals the expense	196	43.79	152.63	0.000
Income higher than expenses	70	48.40	198.39	
Coverage of treatment expenses				
Family budget	47	44.97	163.10	14.974
SSI	103	41.94	131.82	0.001
Family budget + SSI	169	46.10	176.31	
Spouse's difficulty in taking time off from work				
No	191	43.62	149.57	2.469
Yes	128	46.04	175.56	0.014
Women's difficulties in coping with stress				
No	171	42.80	140.77	4.006
Yes	148	46.66	182.22	0.000
Difficulty of couples in the diagnosis/treatment process				
No	228	43.94	152.79	2.210
Yes	91	46.23	178.05	0.027

* χ^2 : Kruskal-Wallis testi, Z: Mann-Whitney U test, p < 0.05

**SSI: Social security institution

***ISCS: Infertility Stress Coping Scale

Table 4: Comparison of the couples' strategies for difficulties with the scale mean ($n = 319$).

Couples' Opinions	Infertility Stress Coping Scale				
	n	%	Mean	Average Rank	Z' p-value
The thought of couples to change the infertility center					
No	250	78.4	44.15	156.02	1.469
Yes	69	21.6	46.20	174.43	0.142
Couples traditional treatment thought					
No	229	71.8	44.10	154.28	1.767
Yes	90	28.2	45.83	174.55	0.077
The thought of couples to go abroad for treatment					
No	259	81.2	44.59	160.17	0.067
Yes	60	18.8	44.60	159.28	0.947
The idea of couples to benefit from donor cells					
No	309	96.9	44.60	160.11	0.120
Yes	10	3.1	44.40	156.55	0.904
Couples' adoption thought					
No	253	79.3	44.10	155.40	1.745
Yes	66	20.7	46.46	177.64	0.081
Woman's thought of getting help for injection					
No	295	92.5	44.62	160.04	0.028
Yes	24	7.5	44.29	159.50	0.978
Women's thought of seeking psychological help					
No	220	69.0	43.20	144.93	4.355
Yes	99	31.0	47.68	193.50	0.000

*Z: Mann-Whitney U test, $p < 0.05$.

Table 5: Correlation of the scale total and dimensions of some variables of the couples.

Variables	Scale and Sub-Dimensions of the COMPI Coping with Infertility Stress					
	Statistics and p Value	Scale total	Active-avoidance	Active-confronting	Passive-avoidance	Meaning-based
Marriage duration	r	-0.01	-0.06	-0.05	0.01	0.03
	p	0.760	0.236	0.331	0.842	0.560
infertility years	r	-0.04	-0.03	-0.07	-0.01	-0.03
	p	0.392	0.534	0.162	0.790	0.558
IVF trial	r	-0.14**	-0.17**	-0.03	-0.15**	-0.01
	p	0.009	0.002	0.552	0.005	0.827

r: Spearman Correlation Coefficient $p < 0.05$

between the couple's IVF trial statuses and their mean scores in the overall the Scale for Coping with Infertility Stress and the active-avoidance ($r = -0.17$) and passive-avoidance ($r = -0.15$) dimensions of the scale (Table 5).

There was no significant relationship between the marriage duration ($r = -0.01$) and infertility years of the couples ($r = -0.04$) and their mean scores in the overall the Scale for Coping with Infertility Stress and the dimension of the scale (Table 5).

Discussion

The results of this study, which was conducted to determine the difficulties experienced by infertile Turkish

couples and their coping strategies, are discussed with reference to the relevant literature. It was determined that the women in this study with primary infertility had more difficulty in obtaining permission for leave from the workplace than those with secondary infertility (Table 2). Since more tests are requested in primary infertility, women present to health institutions more. It was stated that women who have difficulty in getting permission for leave from the workplace regarding their infertility problem experience more stress [16,17]. Financial and psychological reasons may increase the tendency of couples to quit treatment. This finding, which was related to an increase in the tendency of

couples to quit treatment, was similar to those reported in the literature. Women should be supported more in terms of their right to leave work when necessary.

In the study, those with infertility duration between one and five years, those whose income is higher than their expenses, those who cover their treatment expenses from both the family and SSI, spouses who have difficulty in taking leave from work, women who have difficulties in coping with stress, couples who have difficulties in the diagnosis-treatment process, the mean scores of the scale for coping with infertility stress were found to be higher and significant (Table 3). Although infertility is a stressful event for both men and women, it has been observed that women experience higher levels of stress than their partners [18,19]. It has been reported that 20% of infertile women experience high levels of psychological stress [20]. Researchers have found that the difficulties experienced by couples during the diagnosis-treatment process may affect their perception of stress and their coping approaches [16,21]. Çelik and Kırca (2018) determined that the duration of marriage, the duration of infertility and the way of covering the treatment costs affect the stress levels of women, while they also reported the stress levels of women with a marriage duration of 6 years or more, a treatment period of 3-5 years and a previous IVF treatment were higher than those of other women [10]. Karaca and Ünsal (2015) stated that women with infertility problems for 11 years or longer have higher stress levels. Depending on the duration of infertility and the number of *in vitro* fertilization attempts, the condition of meeting the expenses of treatment by couples may cause an increase in their stress levels. Additionally, the feeling and perception of losing the ability to reproduce may be effective in the perception of high stress in women [22]. This result may be interpreted as that the problems experienced by couples may negatively affect their approaches to coping with infertility stress.

In this study, it was determined that 28.2% of the couples thought of using traditional treatment options, 3.1% thought of benefiting from donor germ cells and 20.7% thought of adoption (Table 3). Couples with infertility problems have a number of options, such as accepting childlessness, becoming a foster parent, adopting and using traditional and complementary-alternative methods [23]. In the literature, it has been revealed that the majority of couples do not consider an alternative method other than medical treatment, and 56% of them consider seeking medical help [16,17]. It was stated that the rate of using traditional and complementary medicine was 44% in Jordan, 41% in Lebanon and 91% in the US [24]. One of the common and non-medical response options to infertility is adoption. Although more than 40% of women (fertile or infertile) considered adoption, only half of these

women reported taking steps towards adoption [23,25]. Altıntop and Kesgin (2018) reported that the number of couples who want to adopt and become a foster family is low [16]. A previous study revealed that those who have received infertility treatment before are more likely to adopt [25]. It has also been shown that couples' hope of having a biological child and barriers to adoption affect their adoption-related status [26]. The finding that the rates of thinking about the aforementioned options among the participants of this study were lower than those reported by other studies may have occurred due to the fact that complementary medicine is not common in Turkey and that couples do not have the legal right to benefit from donor germ cells.

This study, the mean score of the women who had the thought of seeking psychological help was found the scale to be high and significant (Table 4). It has been reported that women need psychological help during the infertility process because they experience more stress, anxiety and depression than men [27,28]. It has been shown that the problem of fertility and the process affect especially the emotional state of women more, and women need more help after accepting the problem [27,29]. In studies and meta-analyses, it has been discovered that, as the duration of infertility increases, the psychological effects of it increase because the duration of the treatment process increases [17,30]. In a previous study, women diagnosed with infertility were found to experience more stress than those who were not diagnosed with infertility [17]. While it was reported in another study that psychological problems make it difficult to comply with the treatment and negatively affect the treatment results [1]. According to Wu, et al. increased age and long infertility duration increase the risk of depression [30]. Omoaregba, et al. stated that the frequency of possible psychological problems was significantly higher in the infertile group compared to the fertile groups, and they argued that coping skills should be used to alleviate psychological problems [31]. It has been reported that support given to infertile couples is effective in reducing their psychological symptoms, increasing their ability to cope with stress and increasing their pregnancy rates [1,32]. Increasing evidence has shown that greater attention should be paid to the psychological effects of infertility to increase the chances of fertility [27]. Since infertility causes more stress in women, these results were interpreted as that women show psychological help-seeking behaviors more frequently.

A significant correlation was found between the couples' previous IVF status and their mean scores in the total scale and the active-avoidance and passive-avoidance dimensions of the scale (Table 5). Active avoidance and passive-avoidance are the most frequently used emotional responses in coping with problems, and in active-avoidance, the person stays

away from any situation that evokes childbearing failure, while in passive avoidance, the person waits and hopes for change. It has also been suggested that active avoidance is associated more with internal and interpersonal distress [33]. Peterson, et al. (2006) stated that, while the typical coping mechanism of men is distancing and self-control, women prefer professional support, social support and taking responsibility. It was shown that active avoidance among coping behaviors may be a predictor of high stress caused by fertility problems [34]. It has been reported that women with low education levels used passive coping methods. Different researchers have found that, as the marriage and infertility periods of infertile couples get longer, negative thoughts develop, stress levels increase, hopes for pregnancy decrease, and infertility stress coping behaviors are negatively affected [17,27]. Eroğlu and Temiz (2020) found that stress increases as the use of active-avoidance, active confronting and passive-avoidance coping methods, which are dimensions of the scale, increases in infertile women. The finding of this study was compatible with that reported by Eroğlu and Temiz [34]. Knowing the coping methods used by infertile couples is important in terms of supporting effective coping methods and planning interventions to abandon ineffective coping methods.

Conclusion

As a result of this study, it was determined that primary infertile women had more difficulty in obtaining leave from the workplace than secondary infertile women. Those whose infertility period is between one and five years, women who have difficulties in coping with stress, the mean scores of the coping with infertility stress scale were found to be higher for the couples who had difficulties in the diagnosis-treatment process. As a result, it is recommended that infertile couples be counseled to develop strategies to cope with difficulties.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Funding

In this study has not received financial support from any institution.

References

- Hajela S, Prasad S, Kumaran A, Kumar Y (2016) Stress and infertility: A review. *Int J Reprod Contracept Obstet Gynecol* 5: 940-943.
- Stevenson EL, Hershberger PE, Bergh PA (2016) Evidence-based care for couples with infertility. *JOGNN* 4: 100-110.
- World Health Organization (WHO) (2020) Infertility definitions and terminology.
- World Health Organization (WHO) (2016) Infertility definitions and terminology.
- Datta J, Palmer MJ, Tanton C, Gibson LJ, Jones KG, et al. (2016) Prevalence of infertility and help seeking among 15000 women and men. *Hum Reprod* 31: 2108-2118.
- Katole A, Saoji AV (2019) Prevalence of primary infertility and its associated risk factors in urban population of central India: A community-based cross-sectional study. *Indian J Community Med* 44: 337-341.
- Taşkın M İ, Usta A, Cüce C, Adalı E, Arslan M (2016) İnfertil kadınlarda anksiyete, depresyon ve ilişkili faktörler. *Eur J Health Sci* 2: 79-84.
- Türkiye Nüfus ve Sağlık Araştırması (TNSA) (2018) Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü 2018 Raporu.
- Mascarenhas MN, Flaxman SR, Boerma T, Vanderpoel S, Stevens GA (2012) National, regional, and global trends in infertility prevalence since 1990: A systematic analysis of 277 health surveys. *PLoS Med* 9: e1001356.
- Sis Çelik A, Kırca N (2018) Primer infertil kadınların infertiliteye bağlı yaşadıkları stres düzeyleri ve etkileyen bazı faktörlerin belirlenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi* 21: 104-114.
- Bell AV (2009) It's way out of my league: Low-income women's experiences of medicalized infertility. *Gender & Society* 23: 688-709.
- Yanikkerem E, Kavlak O, Sevil Ü (2008) İnfertil çiftlerin yaşadıkları sorunlar ve hemşirelik yaklaşımı. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi* 11: 112-121.
- Singh D (2018) Psychiatric morbidity in infertile women undergoing treatment at an IVF centre. *International Journal of Contemporary Medical Research* 5: 1-5.
- Yılmaz B, Şahin N (2020) İnfertilite stresi ile bireysel baş etme yöntemleri: bir sistematik derleme. *CBU-SBED* 7: 84-95.
- Şahin Yılmaz T, Yeşiltepe Oskay Ü (2016) The copenhagen multi-centre psychosocial infertility (COMPI) fertility problem stress and coping strategy scales: a psychometric validation study in Turkish Infertile Couples. *Int J Caring Sci* 9: 452-462.
- Altıntop İ, Kesgin B (2018) İnfertilite tedavisi gören çiftlerin kaygı, psikolojik dayanıklılık düzeyleri ile başa çıkma stratejileri. *Uluslararası Sosyal Araştırmalar Dergisi* 11: 756-768.
- Boivin J, Griffiths E, Venetis CA (2011) Emotional distress in infertile women and failure of assisted reproductive technologies: meta-analysis of prospective psychosocial studies. *BMJ* 342: d223.
- Awtani M, Mathur K, Shah S, Banker M (2017) Infertility stress in couples undergoing intrauterine insemination and in vitro fertilization treatments. *J Hum Reprod Sci* 10: 221-225.
- Öztürk R, Bloom TL, Li Y, Bullock LFC (2021) Stress, stigma, violence experiences and social support of US infertile women. *J Reprod Infant Psychol* 39: 205-217.
- Gibson FL, Ungerer JA, Tennant CC, Saunders DM (2000) Parental adjustment and attitudes to parenting after in vitro fertilization. *Fertil Steril* 73: 565-574.
- Benyamini Y, Gozlan M, Kokia E (2009) Women's and men's perception of infertility and their associations with psychological adjustment: A dyadic approach. *Br. J. Health Psychol* 14: 1-16.
- Karaca A, Ünsal G (2015) Psychosocial problems and

- coping strategies among turkish women with infertility. *Asian Nurs Res* 9: 243-250.
23. Fledderjohann J (2021) Self-reported fertility impairments and help-seeking strategies among young women in Malawi. *Global Public Health* 1-18.
24. Soyıç Y, Özkan Süzer F (2020) İnfertilitede kullanılan geleneksel ve tamamlayıcı tıp uygulamaları. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi* 3: 169-175.
25. Park NK, Wonch Hill P (2014) Is adoption an option? The role of importance of motherhood and fertility help-seeking in considering adoption. *JFI* 35: 601-626.
26. Slauson-Blevins KS, Park NK (2016) Deciding not to adopt: The role of normative family ideologies in adoption consideration. *Adopt Q* 19: 237-260.
27. Greil AL, Slauson-Blevins KS, Tiemeyer S, McQuillan J, Shreffler KM (2016) A new way to estimate the potential unmet need for infertility services among women in the United States. *J Womens Health* 25: 133-138.
28. Ramezanzadeh F, Aghssa M, Abedinia N, Zayeri F, Khanafshar N, et al. (2004) A survey of relationship between anxiety, depression and duration of infertility. *BMC Womens Health* 4: 1-7.
29. Luk BH, Loke A (2015) The impact of infertility on the psychological well-being, marital relationships, sexual relationships, and quality of life of couples: A systematic review. *J Sex Marital Ther* 41: 610-625.
30. Wu G, Yin T, Yang J, Xu W, Zou Y, et al. (2014) Depression and coping strategies of Chinese women undergoing in-vitro fertilization. *Eur J Obstet Gynecol Reprod Biol* 183: 155-158.
31. Omoaregba JO, James BO, Lawani AO, Morakinyo O, Olotu OS (2011) Psychosocial characteristics of female infertility in a tertiary health institution in Nigeria. *Ann Afr Med* 10: 19-24.
32. Tahereh Delpasand T, Ahadi H, Jomehri F (2015) Effects of stress management training on perceived stress in infertile women undergoing IVF in infertility treatment center in shiraz 2014. *Indian Journal of Fundamental and Applied Life Sciences* 5: 2985-2993.
33. Aflakseir A, Zarei M (2013) Association between coping strategies and infertility stress among a group of women with fertility problem in Shiraz, Iran. *J Reprod Infertil* 14: 202-206.
34. Eroğlu N, Temiz G (2020) İnfertilite tedavisi gören hastalarda eğitimin stres ve stresle başa çıkma durumlarına etkisi. *Cukurova Medical Journal* 245: 1309-1317.