Clinical and Experimental Health Sciences

Is the Stigma Experienced by Infertile Women Related to Being Affected by Infertility and the Level of Self-Efficacy?

Didem Kaya[1], Rabia Atilla[2], Ahmet Emin Mutlu[3]

[1] Nuh Naci Yazgan University, Faculty of Health Sciences, Department of Nursing, Kayseri, Türkiye.
[2] Niğde Ömer Halisdemir University, Zübeyde Hanım Faculty of Health Science, Department of Nursing, Niğde, Türkiye.
[3] Huma Gynecology and Obstetrics Hospital, Gynecology and Obstetrics Clinic, IVF Center, Kayseri, Türkiye.

Correspondence Author: Didem Kaya
E-mail: didemkaya86@gmail.com

Received: 11.10.2023 **Accepted:** 14.12.2024

ABSTRACT

Objective: This study was conducted to determine the relationship between the stigma experienced by infertile women, and the level of infertility distress and self-efficacy with the affecting factors.

Methods: This descriptive study carried out 352 infertile women diagnosed with primary infertility. Data were collected with the Personal Information Form, the Infertility Distress Scale (IDS), the Infertility Stigma Scale (ISS), and the Infertility Self-Efficacy Scale–Short Form (TISE-SF).

Results: he total IDS, ISS, and TISE-SF mean scores of the women included in the study were found to be 43.62±12.00, 64.24±27.40 and 19.70±5.69, respectively. While there was a high positive correlation between total IDS and ISS mean scores, there was a moderate negative correlation between total TISE-S, IDS, and ISS mean scores ($p<.001$). Variables such as women's income and working status, the infertility treatment process and its number, and social support factors affected infertility distress, stigma, and self-efficacy ($p<.05$).

Conclusions: It was concluded that infertility stigma and distress decreased with the increase in self-efficacy perception in primary infertile women, and distress increased with the increase in the level of stigma.

Keywords: Infertility, stigma, affect, self-efficacy

1. INTRODUCTION

Infertility is a male or female reproductive system disease in which pregnancy can't be able to get despite regular and unprotected sexual intercourse for 12 months or more (1). While the prevalence of infertility in countries varies between 6.7% and 49.91%, this rate is 8.1% in Turkey (2-8). In recent years, the prevalence of infertility has tended to decrease in high-income countries, while tending to increase in middle-income and low-income countries, including our country (9).

Infertility is a community health problem that negatively affects couples especially women, biologically, physically, and psychosocially. Besides, the treatment methods applied for infertility can cause difficulty for the couples psychologically, cause stress and anxiety, and cause a crisis in marital relations by negatively affecting them financially (10). One of the social challenges caused by infertility is stigma. It has been observed that infertile women feel inadequate or incomplete because they are unable to fulfill the role of motherhood assigned to women by society, and they face stigma because they are unable to conceive (11).

Stigma causes infertile individuals to be humiliated, shamed, and discriminated from social life (12-14) and one out of every five infertile women is exposed to physical or psychological violence (15). Furthermore, self-stigmatization of infertile individuals as a result of the behaviors of others leads to feelings of failure and guilt, a decrease in self-esteem and self-efficacy (12-14,16), an increase in stress and psychological distress, and social isolation (11).

Nowadays, infertility treatment options have increased with technological developments. However, the treatment process can exacerbate the multidimensional effect of infertility, and individual self-efficacy becomes important for process management (10,16). Self-efficacy in infertility is defined as individuals' belief in their competencies and abilities and giving more positive emotional and behavioral responses during the infertility diagnosis and treatment process (16). Studies have shown that the self-efficacy levels of infertile women range from low to moderate (17,18) and that a decrease in self-efficacy has a negative effect on depression, anxiety, fertility behaviors during infertility treatment, and marital adjustment (18). In addition, it is reported that the increase in self-efficacy of women during the infertility treatment process increases fertility adjustment (16) and coping (19) but it has no effect on pregnancy (20). Nursing interventions applied to women during the infertility treatment process were found to be effective in reducing stigma and increasing self-efficacy

DOI: 10.33808/clinexphealthsci.1374680

(21). Therefore, it is important to determine the relationship between stigma, which is expected to negatively affect the infertility process and infertility distress and self-efficacy.

Health professionals working in the infertility clinic have the responsibility to communicate with infertile couples, make observations, and develop an infertility counseling education program for the problems they detect during this crisis, which is very difficult to cope with (10). It is possible to ensure that effective coping mechanisms are developed, self-efficacy is increased and the individual's well-being is maintained by identifying the individual's infertility distress and the psychosocial problems they experience (10,11,21).

This study was conducted to determine the relationship between stigma experienced by infertile women, and the level of infertility distress and self-efficacy with the affecting factors.

2. METHODS

This cross-sectional study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Nuh Naci Yazgan University under protocol number 2022/9187. Written informed consent was obtained from all subjects included in the study.

2.1. Design and participants

This cross-sectional study was conducted between 1 July-31 October 2022 in the IVF center of a private hospital. The population of the research consists of women who applied to the IVF center of a private hospital for IVF treatment. The sample size of the study was calculated with the sample selection formula for which the universe is known. The number of women who applied to the IVF center with the diagnosis of primary infertility in 2021 was 2630, and when the 95% confidence interval was considered as α= 0.05, it was found that the sample size should be 335. Considering that there may be data loss, it was determined that 352 women should be included in the sampling. In the posthoc analysis performed at the end of the study, the power of the sample size of .30 was found to be 99%. The criteria for inclusion in the study are as follows: being diagnosed with primary infertility, having no children, no chronic disease, being literate, no communication problem, and volunteering to participate in the study. Women using any psychiatric medication will be excluded from the study. The purpose of the study was explained to the women who came to the infertility and assisted reproductive techniques clinic to have a baby and met the inclusion criteria. After obtaining the consent of the women to participate in the study, the data collection tools prepared with the google form were sent to their phone numbers.

2.2. Data collection

Data were collected with the Personal Information Form, the Infertility Distress Scale (IDS), the Infertility Stigma Scale (ISS) and the Infertility Self-Efficacy Scale–Short Form (TISE-SF).

2.2.1. Personal Information Form: This form is prepared to determine the sociodemographic and obstetric characteristics of primary infertile women and consists of 13 questions.

2.2.2. Infertility Distress Scale (IDS): Infertility Distress Scale (IDS), developed by Akyuz et al. (22) in 2008. The scale consists of 21 items that determine the level of psychological effects caused by infertility and the treatment process in Turkish women. The scores that can be obtained from the scale vary from 21-84. High scores indicate high infertility distress. Cronbach's alpha value for the scale was found to be .89 (22). In the current study, the Cronbach's alpha value was .90.

2.2.3. Infertility Stigma Scale (ISS): The Turkish reliability and validity study of the scale that was developed in 2014 by Fu et al. was conducted in 2019 by Capık et al (23). The scale scores range between 27 and 135. As the score increases, the stigma felt by women increases. Cronbach's alpha was found to be .93 by Capık et al (23) and .95 in this study.

2.2.4. The Infertility Self-Efficacy Scale–Short Form (TISE-SF): The TISE-SF was developed by Cousineau et al. in 2006 to measure an infertile woman's perception of self-efficacy in terms of cognitive, emotional, and behavioral coping skills related to infertility. The scale consists of 16 items. A 10-item short form of the scale was created by Cousineau et al. in 2006. The Turkish reliability and validity of the scale were made by Arslan Ozkan et al. (24) in 2014. The Turkish adaptation of TISE-SF consists of 8 items. The total score that is possible to obtain on the scale ranges from 8 to 32. The higher scores indicate a greater degree of infertility self-efficacy. The Cronbach's alpha of the original form is .78 (24). In the current study, Cronbach's alpha was .82.

2.3. Data analysis

Statistical analyses were performed using SPSS for Windows version 28.0 (IBM, SPSS Statistics 20). Descriptive statistics in the study were number (n), percentage (%), mean and standard deviation (SD). Normality was evaluated with skewness and kurtosis. The data were normally distributed in the IDS (skewness: .540, kurtosis: – .105), ISS (skewness: .559, kurtosis: – .664), TISE-SF (skewness: .222, kurtosis: – .701). Since the data were normally distributed, an independent sample t-test was used for two independent groups, and an ANOVA was used for comparisons with more than two groups. In order to determine which group was different from the others, Tukey tests were used for those who provided the homogeneous assumption and Tamhane's tests for those who did not. The Pearson correlation coefficient was used to determine the relationship, and the results were evaluated at the 95% confidence interval, at $p<.05$ significance level.

2.4. Ethical considerations

Before the study, ethics committee approval (23.06.2022, 2022/9187) from Nuh Naci Yazgan University Ethics Committee and institution permission were obtained from the institution where the study was to be conducted. After the purpose of

the study was explained to the primary infertile women who applied to the IVF center of the hospital, written and verbal consents were obtained from those who agreed to participate in the study and they were asked to fill out the questionnaires. In accordance with the Declaration of Helsinki, informed consent was obtained from all the participants.

3. RESULTS

The mean ages of the women participating in the study were 32.27±6.38 years. The mean marriage duration of the couples was 7.03±4.72 years and the mean of the infertility treatment process was 3.74±3.59 years. While 29.3% of the couples received infertility treatment for the first time, 60.8% received infertility treatment between 2-5 times (Table 1).

Table 1. *Descriptive characteristics of the participants*

Characteristics		n: 352
		n (%)
Women's education level	Primary school	39 (11.1)
	Secondary school	62 (17.6)
	High school	92 (26.1)
	University	159 (45.2)
Spouse's education level	Primary school	28 (8.0)
	Secondary school	76 (21.6)
	High school	116 (33.0)
	University	132 (37.5)
Income	Income more than expenses	67 (19.0)
	Equal income and expenses	258 (73.3)
	Income less than expenses	27 (7.7)
Women's working status	Employed	117 (33.2)
	Unemployed	235 (66.8)
Spouse's working status	Employed	321 (91.2)
	Unemployed	31 (8.8)
Duration of treatment (years)	<1	51 (14.5)
	1-5	222 (63.1)
	6-11	61 (17.3)
	12-17	18 (5.1)
Number of treatments	1	103 (29.3)
	2-5	214 (60.8)
	6-9	26 (7.4)
	10-14	9 (2.6)
Person(s) receiving support	Unsupported	70 (19.9)
	Spouse	194 (55.1)
	Family	64 (18.2)
	Doctor/nurse	24 (6.8)
		Mean±SD
Women mean age year		32.27±6.38
The mean age of spouse year		36.17±19.51
Average year of marriage		7.03±4.72
Average duration of treatment year		3.74±3.59
Average number of treatments		2.24±2.47

The total IDS, ISS, and TISE-SF mean scores of the women included in the study were found to be 43.62±12.00, 64.24±27.40, 19.70±5.69, respectively. The mean scores of women's ISS self-devaluation, social withdrawal, public stigma, and family stigma sub-scales were 17.22±9.01, 14.94±6.05, 20.96±10.17, and 11.09±6.10, respectively (Table 2).

Table 2. *The total ISS, IDS and TISE-SF mean scores of infertile women (n=352)*

Scales / Scales' sub-dimensions	Scales' total and sub-scales averages		
	Min – Max	X±SD	Cronbach α
ISS total score	27-135	64.24±27.40	.95
Self-devaluation	7-35	17.22±9.01	
Social withdrawal	5-25	14.94±6.05	
Public stigma	9-45	20.96±10.17	
Family stigma	6-30	11.09±6.10	
IDS total score	22-82	43.62±12.00	.90
TISE-SF total score	8-32	19.70±5.69	.82

ISS: Infertility Stigma Scale, IDS: Infertility Distress Scale, TISE-SF: The Infertility Self-Efficacy Scale–Short Form

A significant positive correlation was found between the total IDS and the total ISS mean scores (r= .76, p<.001). Women with high infertility stigma also experienced increased infertility distress. A negative, moderate, and statistically significant relationship was found between the total TISE-SF mean scores and both the total IDS (r= – .42, p<.001) and ISS (r= – .31, p<.001) mean scores. It was determined that women with high self-efficacy experienced less infertility distress and less stigma (Table 3).

Table 3. *Correlation between the mean scores of the IDS, ISS and TISE-SF of infertile women (Pearson correlation test) (n=352)*

Scales		1	2	3
1. IDS	**r**	1.000	.767	-.429
	p		.000*	.000*
2. ISS	**r**	.767	1.000	-.319
	p	.000*		.000*
3. TISE-SF	**r**	-.429	-.319	1.000
	p	.000*	.000*	

p<.001. ISS: Infertility Stigma Scale, IDS: Infertility Distress Scale, TISE-SF: The Infertility Self-Efficacy Scale–Short Form*

The total IDS mean scores of low-income women are higher than other income levels (F= 8.30, p<.001) and the total TISE-SF mean scores are lower than other income levels (F= 4.88, p<.01) (Table 4). The TISE-SF mean scores of women who were unemployed were found to be higher than those of employed women (t= – 2.17, p<.05) (Table 4). A statistically significant correlation was found between the infertility treatment process and the total mean scores of all scales. The total IDS (F= 9.72, p<.001) and ISS mean scores (F= 13.574, p<.001) of women undergoing infertility treatment for less than one year are lower than other years of treatment; the total TISE-SF mean scores were found to be higher than the group treated for 6-11 years (F= 3.43, p<.01) (Table 4). The total IDS (F= 9.63, p<.001) and ISS mean scores (F= 15.987, p<.001) of women undergoing infertility treatment for the first time were found to be lower than the other groups. Women undergoing infertility treatment for the first time and undergoing treatment for 2-5 times had higher total TISE-SF mean scores than women undergoing infertility treatment for 10-14 times (F= 7.10, p<.001) (Table 4). The total IDS mean scores of women who did not receive support during the infertility treatment process and who received support from

***Table 4**. A comparison of IDS, ISS, TISE-SF mean scores with infertile women's descriptive characteristics (n=352)*

Characteristics	n	IDS X±SD	IDS F, t, p	ISS X±SD	ISS F, t, p	TISE-SF X±SD	TISE-SF F, t, p
Women's education level							
Primary school	39	44.79±13.11	F: 0.505	62.54±31.10	F: .294	17.69±5.59	F: 1.872
Secondary school	62	42.73±12.94	p: .679	61.85±28.34	p: .830	20.15±5.72	p: .134
High school	92	42.76±11.67		64.71±28.09		19.83±5.40	
University	159	44.17±11.59		65.31±25.82		19.95±5.82	
Spouse's education level							
Primary school	28	46.89±10.78	F: 1.141	64.18±25.49	F: .049	18.00±5.31	F: 1.478
Secondary school	76	44.30±13.21	p: .333	64.33±29.80	p: .986	19.16±5.69	p: .220
High school	116	42.46±12.31		63.50±28.64		20.25±5.90	
University	132	43.55±11.21		64.84±25.48		19.89±5.55	
Income							
Income more than expenses[a]	67	41.64±11,52	F: 8.304	60.60±24.40	F: 2.431	20.37±5.42	F: 4.888
Equal income and expenses[b]	258	43.23±11,53	p<.001*	64.13±27.12	p: .089	19.86±5.63	p: .008*
Income less than expenses[c]	27	52.22±14,37		74.30±34.85		16.52±6.13	
Post hoc		a,b>c				a,b>c	
Women's working status							
Employed	117	44.99±11.40	t: 1.518	66.21±27.08	t: .955	18.77±5.30	t: – 2.179
Unemployed	235	42.93±12.26	p: .130	63.25±27.57	p: .340	20.17±5.83	p: .03*
Duration of treatment (years)							
<1[a]	51	36.90±10.16	F: 9.722	47.27±20.05	F: 13.574	21.75±5.98	F: 3.436
1-5[b]	222	43.77±11.39	p: .000*	64.91±26.35	p: .000*	19.64±5.61	p: .017*
6-11[c]	61	47.23±13.73		72.30±29.22		18.36±5.03	
12-17[d]	18	48.44±10.62		76.67±31.88		19.22±6.72	
Post hoc		b,c,d>a		b,c,d>a		a>c	
Number of treatments							
1[a]	103	38.84±11.66	F: 9.631	50.46±22.99	F: 15.987	20.99±6.50	F: 7.106
2-5[b]	214	45.01±11.18	p: .000*	68.20±26.07	p: .000*	19.51±5.16	p: .001*
6-9[c]	26	48.35±13.82		79.42±30.75		18.08±5.43	
10-14[d]	9	51.33±13.43		83.89±33.26		14.22±4.08	
Post hoc		b,c,d>a		b,c,d>a		a,b>d	
Person(s) receiving support							
Unsupported[a]	70	46.10±14.99	F: 7.271	62.79±31.26	F: 1.354	19.34±6.40	F: 0.534
Spouse[b]	194	41.05±10.35	p<.001*	62.45±26.22	p: .257	19.91±5.41	p: .659
Family[c]	64	47.77±12.01		69.47±25.85		19.91±5.88	
Doctor/nurse[d]	24	46.08±10.11		68.92±28.22		18.54±5.41	
Post hoc		a,c>b					

**p<.05, F: Anova test, t: independent sample t test. ISS: Infertility Stigma Scale, IDS: Infertility Distress Scale, TISE-SF: The Infertility Self-Efficacy Scale–Short Form*

their families were found to be higher than those who received support from their spouses (F= 7.27, p<.001) (Table 4).

4. DISCUSSION

The results of this study, which evaluated the relationship between infertility distress and self-efficacy levels in Turkish infertile women of infertility stigma, were discussed in the literature. Especially in societies with a patriarchal cultural structure, women are expected to give birth to children in order to become adult women and gain status, and when they cannot have children, they are thought to be unable to perform in terms of gender (25). In studies in Turkey where the same scale was used, it was determined that infertile women experienced moderate stigmatization and were most affected by social and social stigma (26,27). The results of study are similar with previous research, and the moderate level of stigma experienced by infertile women is influenced by social stigma.

In the current study, infertile women reported that they felt moderate self-devaluation and social stigma, and low family stigma. In a systematic review of women from different countries and cultures, it was identified that infertile individuals experience stigma due to social gender roles and internalize it. Infertile women described themselves as "half women" or "incomplete women" because they couldn't fulfill the motherhood and fertility roles that society assigned to them (11). Infertile women living in the United States reported that they experienced a high level of stigma, were insulted by their family and friends, and were judged for their treatment decisions, this situation made them feel inadequate and increased their stress levels significantly (15).

In Jordan, infertile women said being called “dry bough” and “dead tree” by their spouses, families, neighbors, and friends (12). In the study of Zhao et al. (28), it was determined that Chinese infertile women experienced stigmatization by both their family members and their friends and women around them. In Turkey, infertile women are said to be exposed to social isolation by their friends and relatives, blamed, pitied and talked behind their backs (29). Infertile couples may be vulnerable to the negative effects of their perceived stigma (30). Our study results are similar to the results of the studies in the literature. Like the infertile women in other studies, the infertile women in our study were subjected to stigmatization by their social environment and families and felt worthless.

Although there are individual differences in the responses to infertility distress, problems such as stress, marital adjustment problems and sexual dysfunctions may occur during the diagnosis and treatment process (10) and these make the daily life of the woman difficult (12). In the study of Wang et al. (31) it was determined that women receiving infertility treatment experienced anxiety, depression and their sleep quality was negatively affected. In this study, it was determined that women were moderately affected by infertility. Similar to our study, in different studies, it was determined that infertile women were moderately affected by infertility (22,32).

Individual self-efficacy is critical in reducing the multidimensional influence in the infertility diagnosis and treatment process, as well as in using coping mechanisms (10,16). Parwez and Banaras (19) reported that infertile women with high self-efficacy used adaptive coping strategies. In this study, it was found that the self-efficacy perceptions of infertile women were moderate. Similarly, Durgun Ozan and Duman (16) found the self-efficacy of infertile women to be moderate and reported that an increase in the level of self-efficacy also increased compliance with infertility treatment.

In this study, it was determined that the distress of infertile women who experienced stigma was also high ($r= .76$, $p<.001$). It has been found that there is a strong relationship between stigma and anxiety, depression, and psychological problems in women undergoing infertility treatment in Japan (33). In other studies in the literature, it has been observed that stigma causes psychosocial problems by negatively affecting the psychology of infertile couples (14,26-28,30,34). The results of the studies point out the importance of coping skills with the effects of stigma in order to prevent infertility distress and to be able to spend the difficult treatment processes comfortably.

In this study, it was found that women with high self-efficacy had decreased infertility distress ($r= – .42$, $p<.001$) and experienced less stigma ($r= – .31$, $p<.001$). Similarly, Jafari et al. (35) study found that infertile women with high self-efficacy were less affected by infertility. In the study of Zhao et al. (28), it was determined that women with high psychological resilience had lower levels of distress. As women’s self-efficacy levels and psychological resilience levels increase, they can use effective coping methods with the negative effects of infertility and treatment processes, seek social support, and avoid situations that will make them feel bad. (28)

In the current study, the level of infertility stigma and distress was found to be lower in women undergoing infertility treatment for less than a year and undergoing treatment for the first time ($p<.05$) (Table 4). The reason for this may be that the women and relatives around them have high hopes regarding the treatment process they are just beginning, and that they are exposed to less social and internal pressure regarding the role of fertility and motherhood. In our study, it was found that the level of being affected by infertility increased in women who defined low-income levels and did not receive support during treatment, and the level of self-efficacy decreased ($p<.05$) (Table 4). Similarly, in the study of Wang et al. (31), it was determined that infertile women with high-income levels showed less distress and avoidance behavior. The high cost of infertility treatment processes has a financial impact on couples with low-income levels. In addition, it is thought that the coping behaviors of women increase and their negative effects decrease thanks to the support they receive from both their spouses and their social environment during the difficult treatment process.

5. CONCLUSION

In this study, it was determined that women experienced moderate stigma, and infertility distress and self-efficacy levels were moderate. The increase in infertility stigma also increased infertility distress. It was determined that women with high self-efficacy had less infertility distress and less stigma. According to these results, since all stages of infertility treatment processes are female body-oriented, the levels of infertility stigma, distress and self-efficacy should be determined by multidimensional evaluation before starting the treatment. It is recommended to provide appropriate support and counseling services for the identified risk factors and to support infertile women to strengthen their coping skills. On the other hand, it is important to include infertile men in the studies to be planned.

Acknowledgements: *Thank you to all the participants who participated in this research.*
Funding: *The authors declare that this study had received no financial support.*
Conflict of interests: *No potential conflict of interest was reported by the authors.*
Ethics Committee Approval: *This study was approved by Ethics Committee of Nuh Naci Yazgan University (Approval date: 23.06.2022; Number: 2022/9187)*
Peer-review: *Externally peer-reviewed.*
Author Contributions:
Research idea: DK, RA
Design of the study: DK, RA, AEM
Acquisition of data for the study: AEM
Analysis of data for the study: DK
Interpretation of data for the study: DK, RA
Drafting the manuscript: DK, RA

Revising it critically for important intellectual content: DK, RA, AEM
Final approval of the version to be published: DK, RA, AEM

REFERENCES

[1] World Health Organization (WHO). Infertility. Accessed [24 November 2022] Updated [22 May 2024] https://www.who.int/news-room/fact-sheets/detail/infertility

[2] Centers for Disease Control and Prevention. (CDC). Key Statistics from the National Survey of Family Growth – I Listing. Available from: https://www.cdc.gov/nchs/nsfg/key_statistics/i.htm#infertility (07.02.2022).

[3] Abebe MS, Afework M, Abaynew Y. Primary and secondary infertility in Africa: systematic review with meta-analysis. Fertility Research and Practice 2020;6(1):1-11. DOI: 10.1186/s40738.020.00090-3.

[4] Katole A, Saoji AV. Prevalence of primary infertility and its associated risk factors in urban population of central India: A community-based cross-sectional study. Indian Journal of Community Medicine 2019;44(4):337-341. DOI: 10.4103/ijcm.IJCM_7_19

[5] Sarac M, Koc I. Prevalence and risk factors of infertility in Turkey: evidence from demographic and health surveys, 1993-2013. Journal of Biosocial Science 2018;50(4):472-490. DOI: 10.1017/S002.193.2017000244

[6] Zhou Z, Zheng D, Wu H, Li R, Xu S, Kang Y, Cao Y, Chen X, Zhu Y, Xu S, Chen Z-J, Mol BW, Qiao J. Epidemiology of infertility in China: A population-based study. BJOG. 2018;125(4):432-441. DOI: 10.1111/1471-0528.14966.

[7] Datta J, Palmer MJ, Tanton C, Gibson LJ, Jones KG, Macdowall W, Glasier A, Sonnenberg P, Field N, Mercer CH, Johnson AM, Wellings K. Prevalence of infertility and help-seeking among 15 000 women and men. Human Reproduction 2016;31(9):2108-2118. DOI: 10.1093/humrep/dew123.

[8] Saei Ghare Naz M, Ozgoli G, Sayehmiri K. Prevalence of infertility in Iran: A systematic review and meta-analysis. Urology Journal 2020;17(4):338-345. DOI: 10.22037/uj.v0i0.5610.

[9] Borumandnia N, Alavi Majd H, Khadembashi N, Alaii H. Worldwide trend analysis of primary and secondary infertility rates over past decades: A cross-sectional study. Int J Reprod BioMed. 2022;20(1):37-46. DOI: 10.18502/ijrm.v20i1.10407.

[10] Ozdemir E, Kaplan S. Infertility and nursing approach. Turkish Journal of Health Sciences and Research 2021;4(1):79-89. DOI: 10.51536/tusbad.836168

[11] Fırat BO, Hotun NS. Infertility and stigmatization within the context of gender roles: a systematic review. Ordu University Journal of Nursing Studies 2022;5(1):93-103. DOI:10.38108/ouhcd.933034.

[12] Daibes MA, Safadi RR, Athamneh T, Anees IF, Constantino RE. Half a woman, half a man; that is how they make me feel: A qualitative study of rural Jordanian women's experience of infertility. Culture, Health & Sexuality 2018;20(5):516-530. DOI: 10.1080/13691.058.2017.1359672

[13] Ergin RN, Polat A, Kars B, Oztekin D, Sofuoglu K, Calıskan E. Social stigma and familial attitudes related to infertility. Turkish Journal of Obstetrics and Gynecology 2018;15(1):46-49. DOI: 10.4274/tjod.04307.

[14] Hanna E, Gough B. The social construction of male infertility: A qualitative questionnaire study of men with a male factor infertility diagnosis. Sociology of Health & Illness 2020;42(3):465-480. DOI: 10.1111/1467-9566.13038.

[15] Ozturk R, Bloom TL, Li Y, Bullock LFC. Stress, stigma, violence experiences and social support of US infertile women. Journal of Reproductive and Infant Psychology 2021;39(2):205-217. DOI: 10.1080/02646.838.2020.1754373.

[16] Durgun Ozan Y, Duman M. The relationship between fertility adjustment and self-efficacy of women in the period of infertility treatment. The Journal of Gynecology-Obstetrics and Neonatology 2018;15(2):43-46.

[17] Abd Al-Kareem M, Ameen W, Talib Abed M, Obaid HM, Obaid AF, Abdulrasol ZA. Measurement the self-efficacy among infertile women in al-hilla city, Iraq. Iranian Rehabilitation Journal 2022;20(1):109-116. DOI:10.32598/irj.20.1.1621.2.

[18] Faramarzi M, Pasha H, Esmailzadeh S, Kheirkhah F, Hajian-Tilaki K, Salmalian H. A survey of correlation infertility self-efficacy with behavioral health scales in infertile women. Health 2014;6(10):943-949. DOI: 10.4236/health.2014.610119

[19] Parwez S, Banaras A. Self-efficacy and coping styles of infertile women in peshawar. Pakistan Journal of Humanities & Social Sciences Research 2022;5(1):43-56. DOI: 10.37605/pjhssr.v5i1.330

[20] Mirzaasgari H, Momeni F, Pourshahbaz A, Keshavarzi F, Hatami M. The relationship between coping strategies and infertility self-efficacy with pregnancy outcomes of women undergoing in vitro fertilization: A prospective cohort study. International Journal of Reproductive Biomedicine 2022;20(7):539-548. DOI: 10.18502/ijrm.v20i7.11556

[21] Yanık D, Kavak Budak F. The effect of positive psychotherapy-based training on stigma and self-efficacy in women receiving infertility treatment. Journal of the American Psychiatric Nurses Association 2022;30(2):384-396. DOI: 10.1177/107.839.03221122801

[22] Akyuz A, Gurhan N, Bakır B. Development and validation of an infertility distress scale for Turkish women. TAF Preventive Medicine Bulletin 2008;7(6):469-476.

[23] Capık A, Aksoy M, Yılmaz E, Yılmaz F. Infertility stigma scale: A psychometric study in a Turkish sample. Perspectives in Psychiatric Care 2019;55(2):328-335. DOI: 10.1111/ppc.12360

[24] Arslan Ozkan I, Okumus H, Aytekin Lash A, Fırat MZ. Cultural validation of the Turkish Version of the Infertility Self-Efficacy Scale-Short Form (TISE-SF). Journal of Transcultural Nursing 2014;25(3):232-240. DOI: 10.1177/104.365.9613508784

[25] Gerrits T, Kroes H, Russell S, Rooij FV. Breaking the silence around infertility: A scoping review of interventions addressing infertility-related gendered stigmatisation in low – and middle-income countries. Sexual and Reproductive Health Matters 2023;31(1):2134629. DOI: 10.1080/26410.397.2022.2134629

[26] Yilmaz E, Kavak F. The effect of stigma on depression levels of Turkish women with infertility. Perspectives in Psychiatric Care 2019;55(3):378-382. DOI: 10.1111/ppc.12319.

[27] Kucukkaya M, Kılıc M. The effect of stigma on level of infertility-related psychological distress in women with infertility. African Journal of Reproductive Health 2022;26(2):13-25. DOI: 10.29063/ajrh2022/v26i2.2

[28] Zhao Q, Huangfu C, Li J, Liu H, Tang N. Psychological resilience as the mediating factor between stigma and social avoidance and distress of ınfertility patients in China: A structural equation modeling analysis. Psychology Research and Behavior Management 2022;15:391-403. DOI: 10.2147/PRBM.S354803

[29] Akarsu RH, Beji NK. Spiritual and religious issues of stigmatization women with infertility: A qualitative study.

Journal of Religion and Health 2021;60(1):256-267. DOI: 10.1007/s10943.019.00884-w.

[30] Fang M, Li G, Kang X. The role of gender and self-esteem as moderators of the relationship between stigma and psychological distress among infertile couples. Psychology Health Medicine 2021;26(10):1181-1194. DOI: 10.1080/13548.506.2020.1808233

[31] Wang L, Tang Y, Wang Y. Predictors and incidence of depression and anxiety in women undergoing infertility treatment: A cross-sectional study. PLoS ONE. 2023;18(4): e0284414. DOI: 10.1371/journal.pone.0284414

[32] Tural GN, Sis Celik A. Determination of the relationship between the levels of psychological effects of infertility and social support perceived by primary infertile women. Journal of Health Sciences and Professions 2019;6(1):91-104. DOI: 10.17681/hsp.410980

[33] Yokota R, Okuhara T, Okada H, Goto E, Sakakibara K, Kiuchi T. Association between stigma and anxiety, depression, and psychological distress among japanese women undergoing infertility treatment. Healthcare 2022;10(7):1300. DOI: 10.3390/healthcare10071300

[34] Kaya Z, Oskay U. Stigma, hopelessness and coping experiences of Turkish women with infertility. Journal of Reproductive and Infant Psychology 2020;38(5):485-496. DOI: 10.1080/02646.838.2019.1650904.

[35] Jafari H, Seraj Shirvan F, Latifnejad Roudsari R. The Relationship between self-efficacy and psychological distress among ınfertile women. Journal of Midwifery and Reproductive Health 2023;11(2):3744-3750. DOI: 10.22038/JMRH.2023.63739.1848

[36] Turkish Statistical Institute. Birth Statistics. (2021). Published [12 May 2022] Accessed [01 September 2023] https://data.tuik.gov.tr/Bulten/Index?p=Dogum-Istatistikleri-2021-45547 (Turkish)

How to cite this article: Kaya D, Atilla R, Mutlu AE. Is the Stigma Experienced by Infertile Women Related to Being Affected by Infertility and the Level of Self-Efficacy? Clin Exp Health Sci 2024; 14: 987-993. DOI: 10.33808/clinexphealthsci.1374680