Attitudes Toward Infertility and Empathy Levels of Nursing Students

Hemşirelik Öğrencilerinin İnfertiliteye Karşı Tutum ve Empati Düzeyleri

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ABSTRACT Objective: The diagnosis of infertility negatively affects the individual's integrity, individual autonomy and social bonds. Thus, the infertile individual cannot share his / her thoughts, feelings and experiences loneliness, hopelessness, anger, depression. The nurse can observe these reactions of the patient; however, understanding these reactions and revealing the cause is only possible by the empathic approach. This study was conducted to determine attitudes toward infertility and empathy levels in nursing students. **Material and Methods:** This descriptive, cross-sectional study was conducted at Bingöl University. The study sample consisted of 190 nursing students. Data collection tools included a questionnaire form, Jefferson Empathy Scale for Nursing Students and Attitude Towards Infertility Scale. **Results:** The mean age of the participants was 20.44±1.50 years, 125 (65.8%) were female, 103 (54.2%) stated that infertility cannot be treated, and 155 (82%) expressed that women should apply for treatment first if the couple cannot have a baby. Attitude mean score was 44.24±7.66 (min/max 12-60), empathy mean score was 91.51±17.44 (min/max 18-126). We identified a positive relationship between total scores for the positive attitude infertility and the empathy scales (r=.301**p<0.001). **Conclusion:** The empathy level of the students was moderate and they had a positive attitude toward infertility. Male students have more negative attitudes toward infertility and less empathy than female students

Keywords: Empathy; attitude; infertility; nursing students

ÖZET Amaç: İnfertilite tanısı bireyin kişilik bütünlüğü, bireysel özerkliği ve sosyal bağlarını olumsuz etkilemektedir. Böylece infertil birey duygu ve düşüncelerini paylaşamamakta, yalnızlık, umutsuzluk, öfke ve depresyon yaşamaktadır. Hemşire hastanın bu tepkilerini gözlemleyebilir fakat bu tepkileri anlamlandırmak ve nedenini ortaya çıkarmak empatik yaklaşımla mümkündür. Bu çalışma hemşirelik öğrencilerinin infertiliteye karşı tutum ve empati düzeylerinin belirlenmesi amacıyla yapılmıştır. **Gereç ve Yöntemler:** Tanımlayıcı-ilişkili tipteki çalışma Bingöl Üniversitesi'nde yürütülmüştür. Araştırma evrenini 190 hemşirelik öğrencisi oluşturmuştur. Araştırma verileri soru formu, Hemşirelik öğrencileri için Jefferson Empati Ölçeği ve İnfertiliteye Karşı Tutum Ölçeği ile toplanmıştır. **Bulgular:** Öğrencilerin yaş ortalaması 20,44±1,50 yıl, 125 (%65,8)'inin kız, 103(%54.2)'ü infertilitenin tedavi edilemeyeceğini, 155 (%82)'i çocuk sahibi olunamıyorsa önce kadının tedavi için başvurması gerektiğini ifade etmiştir. Ölçeklerin puan ortalamaları ise; infertiliteye karşı tutum puan ortalaması 44,24±7,66 (min/max 12-60), empati puan ortalaması 91,51±17,44 (min/maks 18-126) olarak belirlenmiştir, empati düzeyi ile infertiliteye olumlu tutum düzeyi arasında pozitif ilişki belirlenmiştir (r=,301 **p<0,001). **Sonuç:** Öğrencilerin infertiliteye karşı tutumlarının olumlu ve empati düzeyinin orta düzeydedir. Erkek öğrencilerin kız öğrencilere göre infertilite tutumlarının daha olumsuz ve empati düzeylerinin daha düşük olduğu belirlenmiştir.

Anahtar Kelimeler: Empati; tutum; infertilite hemşirelik öğrencileri

The World Health Organization (WHO) states infertility definitions as follows; not having pregnancy although the couple has been regularly having the unprotected intercourse for at least 12 months; having pregnancy history which has resulted in a live birth but then not becoming pregnant despite the unprotected intercourse for 12 months; unable to give live birth although the woman can get pregnant or the fact that the pregnancy does not last long enough to give birth to a live child.[1] Infertility is an increasingly prevalent public health problem in spite of rapidly growing assisted reproductive techniques in recent years.[2]

The reports indicate the presence of 60-80 million infertile couples worldwide practice.[3] The infertility rate is estimated to be 10-15% in Turkey.[4]

The diagnosis of infertility is not a simple gynecological syndrome and infertility is a condition that negatively affects couples in terms of biological, psychological, economic and social aspects and decreases health and quality of life.[5] In most cultures, fertility, childbearing and having children are of great value.[6,7] The studies have revealed that especially in countries having a traditional structure, infertile women are abandoned by their husbands and exposed to humiliation and violence.[8] The studies conducted in different countries have stated that infertile women are described as incomplete, ominous, useless, fruitless dry trees, as well as being humiliated, despised, seen like a man, disinherited, have no right to speak within the family, burned when they die due to the idea that they would sterilize the lands they live, not allowed to participate in important social activities and ceremonies and not allowed to touch newborn babies.[9-12]

An infertile individual tends to keep this condition as a secret in order not to be subjected to attitude and prejudices of the society and stigmatization caused by these prejudices.[2] In the studies conducted in different countries, it has been determined that internalized stigma rate in infertile women ranges from 53% to 69%. Infertile individuals perceive this situation as a severe disability and perceive themselves as worthless, imperfect and inadequate.[10-13] Prejudiced attitudes cause depression, anxiety, hopelessness, loneliness, suicidal ideas, low self-esteem, delayed treatment search and social isolation in infertile individuals.[4,14-16] In this life crisis event that is difficult to cope with infertile individuals, nurses need to be aware of attitudes toward infertility for nurses and develop empathy during communication for quality nursing care to meet effectively physiological and psychological needs of infertile individuals.[17] The diagnosis of infertility negatively affects the individual's integrity, individual autonomy and social bonds.[5] Thus, the infertile individual cannot share his/her thoughts, feelings, and experiences loneliness, hopelessness, anger, depression.[4,15,16]

The nurse can observe these reactions of the patient; however, understanding these reactions and revealing the cause are only possible by the empathic approach.[18] Dökmen (2009) proposes three stages for an individual to empathize with another person. First, the individual who will develop empathy should put him/herself in the position of the other person and take his/her perspective. In the second stage, he/she must understand properly the feelings and thoughts of that person. The last stage is the behavior of transferring the empathic understanding of the individual developing empathy to the other person.[19] Based on this definition, empathy in infertility care can be defined as understanding emotions and thoughts of infertile individuals, their lifestyle, family ties, culture and body language in the most accurate way without judging and reflecting this awareness to them through therapeutic communication.[20]

Empathy is the main component of therapeutic communication and nursing care and patient satisfaction and compliance to treatment increase.[18,21] It has been determined in the studies that the empathy levels of nursing students were in moderate or low level.[21-23] It is accepted that empathy is a skill that can be developed during nursing education and effective training methods.[22] In the literature, infertility knowledge levels of university students are insufficient.[24-26] It has been determined in the studies conducted with university students in Turkey that male students exhibited a more negative attitude toward infertility than female students and female students were more worried about being infertile.[26] It is inevitable that infertility-related knowledge, attitudes, and beliefs of nurses, who constitute a large part of the healthcare service and who are likely to provide services to infertile individuals, will affect their empathic approach, care, and counseling.[24-26]

This study was conducted to determine the attitudes and empathy levels of nursing students toward infertility. For this purpose, answers to the following questions were sought;

Research Question 1: What are the attitude toward infertility and empathy levels of nursing students?

Research Question 2: What are the variables affecting the nursing students' attitude toward infertility and empathy levels?

Research Question 3: Is there a correlation between the attitude toward infertility and empathy levels of nursing students?

MATERIAL AND METHOD

DESIGN AND SAMPLE

A cross-sectional, descriptive correlational study was conducted among nursing students at Health Sciences Faculty at Bingöl University in Turkey. The study population included a total of 245 nursing students during 2018-2019 academic term. The students who were studying during the dates of data collection, having criteria for entering the study (being a nursing student who had completed at least one semester and clinical experience). By following these criteria, 190 students participated in the study.

DATA COLLECTION INSTRUMENTS

Research tools included a questionnaire about sociodemographic characteristics Jefferson Empathy Scale for Nursing Students (JSENS) and Attitude Scale for Infertility (ATIS). Data collection took 15-20 minutes on average.

Questionnaire Form: The questionnaire consisted of 9 questions directed at determining the sociodemographic (age, gender, year of nursing education) and information for infertility (causes of infertility, infertility can be treated, if you have not children, the first wife, a doctor should be consulted).

Attitudes Towards Infertility Scale: The ATIS which was developed by Siyez, Baran, Esen, Kağnıcı, and Siyez (2018) to measure university students' attitudes towards infertility has 12 items. Of the 12, 8 are negative and 4 are positive items. The ATIS is a five-point scale ranging from 1 (totally agree) to 5 (totally disagree). While the highest score to be obtained from the scale is 60, the lowest one is 12 points. Higher scores obtained on the scale indicate positive attitudes towards infertility. In the original study, Cronbach's α reliability coefficient for the ATIS was found to be .83. In this study, Cronbach's α internal consistency coefficient for the scale was .79.

Jefferson Empathy Scale for Nursing Students: The scale was developed in 2001 at the Jefferson Medical School and consists of 45 items. It was designed based on the original scale in 2009 by Hojat and colleagues and then reduced to 20 items. Turkish validity and reliability study of the scale was conducted by Yanık and Saygılı in 2012. Turkish version consists of 18 items, and 5. and 18. items have been removed because of the load factor is low. The responses to each item are scored on a Likert scale ranging from strongly agree (7) to strongly disagree (1), with scores ranging from 18 to 126, with higher scores indicating higher empathy. The tool consists of three components-perspective-taking, compassionate care, and standing in the patient's shoes. In this study, Cronbach's α internal consistency coefficient for the scale was .72.

DATA ANALYSIS

To evaluate the data, statistical analyses were carried out using the Statistical Package for the Social Sciences (SPSS, Version 18.0 for Windows). The descriptive statistics were reported as the frequencies, means and standard deviations. The data were tested for normality using Kolmogorov-Smirnov test and for homogeneity of variance using the Levene's test before the analyses.

Mann Whitney U test was used to compare the two groups. Kruskal-Wallis followed by Dunnet's T3 posthoc test were used to compare the means of more than two independent groups. Spearman correlation coefficient was calculated to determine the relationship between the scales. Internal consistency was examined by Cronbach's alpha coefficient. The level of significance was set at $p<0.05$ and $p<0.01$.

ETHICAL CONSIDERATIONS

The Institutional Ethics Committee of Bingöl University (05.01.2019/02) approved this study before implementation. The study was conducted by following the principles of the declaration of Helsinki. Moreover, Informed consent was obtained from all individual participants included in the study.

RESULTS

CHARACTERISTICS OF THE SAMPLE

In the present study conducted to determine the attitudes and empathy levels of nursing students toward infertility, it was determined that the mean age of the students was 20.44±1.50 years, 125 (65.8%) were female, 64 (33.6)% were 2th -year students, 62 (32.8%)were 3th-year students, and 64 (33.6%)were 4th-year students, 129 (68.1%)of the students stated that genetic factors caused infertility, 39(20.3%) stated that lifestyle and 103(54.1%) advanced age caused infertility, 103 (54.2%)stated that infertility cannot be treated, and 155 (82%) expressed that woman should apply for treatment first if the couple cannot have a baby (Table 1). Statistical analysis results in Table 1 revealed that nurse gender effects on both ATIS (p=0.040) and JSENS scores (p=0.020). As the grade level of the students increased, their empathy levels also increased. It was determined that the empathy and infertility positive attitude scores of female students were higher than the male students. Also, nurse education level of students had signifi-

cant effects on JSENS score. The groups were compared with each other to determine between which groups this difference. Dunnet's T3 test was performed because the variances were not homogeneous. As a result of post-hoc analysis (1.4305*p=0.003) empathy scores of the fourth grade students were found to be higher than the other students (2th and 3thyear students).

It was found that ATIS mean score was 44.24±7.66 (min-max values: 12-60). It was determined that the students did not agree with the expressions of "women who cannot have children are defective" 91 (47.9%), "If I knew that I was infertile, I would not share that matter with my partner/spouse" 96 (50.5%), and "I will marry again if I cannot have a child from my partner/spouse" 87 (45.8%) and the students are undecided about the expressions of "I do not have any relationship with an infertile person" 91 (47.9%), and "I do not hesitate to share if I learned that I could not have children" 83 (43.7%) (Table 2). In terms of the mean scores of the scale, it was found that ATIS mean score was 44.24±7.66 (min-max values: 12-60), JSENS mean score was 91.51±17.44

			ATIS		JSENS	
Gender	**n**	**%**	**Median (min-max.)**		**Median (min-max.)**	
Female	125	65.8	45 (30-60)	*2.977	96 (49-126)	*3.159
Male	65	34.2	41 (18-60)	**p=0.040**	87 (59-118)	**p=0.020**
Nurse Education level						
2th	64	33.6	43 (12-60)	**.151	91 (48-96)	**8.532
3st	62	32.8	44 (30-48)	p=0.929	94 (59-126)	p<0.001
4st	64	33.6	44 (24-56)		104 (64-126)	***1.4305
						p=0.003
Can infertility be treated?						
Yes	87	45.8	44 (18-60)	*.569	91 (42-116)	*.816
No	103	54.2	43 (18-52)	p=0.960	92 (62-126)	p= 0.831
What caused infertility?**						
Genetic factors	129	68.1	43 (32-60)		88 (59-118)	
Lifestyle	39	20.3	44 (26-56)	** .269	91 (68-108)	** .841
Advanced age	103	54.1	44(24-60)	p=0.716	93(46-126)	p= 0.634
Age	r	p	r	p		
20.44±1.50	.540	.460	.011	.877		

TABLE 1: Descriptive statistics and comparison results of the ATIS and JSENS according to demographic characteristics of nursing students (n=190).

*Mann Whitney U, **Kruskall Wallis, r : spearman correlation coefficient ***Dunnet's T3 (post hoc)**** answer more than one.

ATIS: Attitude Scale for Infertility, JSENS: Jefferson Empathy, Scale for Nursing Students.

TABLE 2: Attitude of students towards infertility (n=190).					
Total mean score ±standard deviation 44.24±7.66	Frequency (%)				
Attitude items	Strongly Disagree n (%)	Disagree n (%)	Undecided n (%)	Agree n (%)	Strongly agree n (%)
1. Couples who can not have a child are lacking in life.	39 (20.5)	53 (27.9)	50 (26.3)	39 (20.5)	9 (4.7)
2. I would not have a relationship with an infertile person.	39 (20.5)	37 (19.5)	91 (47.9)	11 (5.8)	12 (6.3)
3. If a relationship is strong, being unable to have a child won't be a problem in this relationship.	13 (6.8)	26 (13.7)	51 (26.8)	54 (28.4)	46 (24.2)
4. If a woman is infertile, this is not a reason for her partner to leave her.	16 (8.4)	14 (7.4)	45 (23.7)	70 (36.8)	45 (23.7)
5. A woman who can not have children is faulty.	98 (51.6)	53 (27.9)	22 (11.6)	11 (5.8)	6 (3.2)
6. If I learned that my partner is infertile I would die from grief.	64 (33.7)	54 (28.4)	47 (27.4)	14 (7.4)	11 (5.8)
7. Even if I can not have a child still I might be happy in the relationship.	16 (8.4)	18 (9.5)	55 (28.9)	71 (37.4)	30 (15.8)
8. A man who can not have children is faulty.	89 (46.8)	61 (32.1)	27 (14.2)	9 (4.7)	4 (2.1)
9. If I had known I was infertile, I would not have shared it with my partner before I got married.	96 (50.5)	49 (25.8)	31 (16.3)	9 (4.7)	5 (2.6)
10. If I learn that I can not have children, I would not hesitate to share this with my friends.	24 (12.6)	26 (13.7)	83 (43.7)	36 (18.9)	21 (11.1)
11. If I was infertile I would die from grief and ask, "Why me?"	44 (23.2)	36 (18.9)	73 (38.4)	27 (14.2)	10 (5.3)
12. If I can not have a child from my partner, I will marry someone else.	87 (45.8)	44 (23.2)	39 (20.5)	13 (6.8)	7 (3.7)

(18-126). When considering these results, it can be said that the students' attitudes toward infertility were positive and their empathy levels were moderate. As seen in simple correlation coefficients in Table 3, empathy and infertile attitude scores of the students were determined to be significant at the level of p<.01, (r=.301**p<0.001). As the empathy level of the students increased, their positive attitude also increased.

DISCUSSION

In the present study conducted to determine the knowledge, attitude and empathy levels of nursing students about infertility, it was determined that a great majority of the students believed that infertility is caused by genetic factors and cannot be treated, being unable to have children for couples is mostly caused by woman and therefore woman should apply for treatment first (Table 1). According to literature, 40% of infertility cases are caused by women,

40% are caused by men and 20% are caused by both gender or unexplained reasons.[27,28] As a result of cultural and social influences, it is believed that women are more infertile than men in most societies by ignoring the problems in men (sperm shortage, low quality, etc.).[4,10-16] It is believed in Japan that woman has a role in the continuation of the lineage and infertility is caused by a woman. Infertile women are excluded more than men, assuming they are evil spirited.[8] It has been determined in Turkish society that spiritual reactions are more common in women even if the reason for not having a child is due to men, women are left by their husbands and labeled by the society.[4,16] In the present study, it was determined that the students had a lack of knowledge about the preventable factors affecting infertility other than biological factors such as age, social habits, body weight, drugs used, psychological factors and sexually transmitted diseases.

When the empathy level of the nursing students participating in the study was examined in terms of gender and year of nurse education variables, empathy level of female and 4th-year students was found to be higher than male students and other years (Table 1). The students' empathy increased as their grade level increased. This result was thought to be associated with the courses taken for increasing the knowl-

TABLE 3: Comparison of mean scores of Attitudes Towards Infertility Scale (ATIS) and Jefferson Empathy Scale for Nursing Students (JSENS).				
	Mean±SD	Min.-Max.	r	p
ATIS	44.24±7.66	12-60	.301**	p<0.001
JSENS	91.51±17.44	18-126		

**Correlation is significant at the level 0.01 level.

edge level, clinical experiences and empathy skills of the students and increasing their professional knowledge level as the grade levels of the students increased. Empathy is considered to be a skill that can be learned through education and practice. The students had moderate empathy level in the present study. It was determined in the majority of studies conducted using the Jefferson empathy scale that empathy level of nursing students was in moderate level and empathy level of the female students was higher than male students.[29-31] This was thought to be because women pay more attention to emotions, care emotional support more, have a more sensitive structure and exhibit more acceptive attitudes. Men are more systematic and pay less attention to emotions and regulate their feelings more rationally.

In the present study, it was determined that students had a positive attitude toward infertility (Table 2). When the attitudes of nursing students participating in the study toward infertility were examined in terms of gender variable, it is seen that male students have more negative attitudes toward infertility than female students (Table 1). Similarly, it was found in a study conducted by Taşcı and Özkan (2007) that male university students had more negative opinions about infertility.[32] These obtained results are better understood by considering the patriarchal structure of Turkish society.[4,16] It can be said that men give more importance to have children as a reflection of the desire of men to continue his last name and their perception of having children as a means of revealing his social power. It can be asserted that women show more positive attitude to infertile individuals since women are more conscious about emotions (understanding and managing their own and other people's feelings).[32,33] Although the students' attitude toward infertility was positive, it was remarkable that there were social pressure and cultural effects about infertility especially in some questions and the students experienced dilemma (they were mostly neutral about having relationship with an infertile person and "I do not hesitate to share if I learned that I could not have children") (Table 2).

In the present study, it was determined that the positive attitude of the students toward infertility increased as their empathy level increased (Table 3).

Empathy is an important parameter affecting attitudes and behaviors and has a significant effect on the attitude and behavior in holistically meeting the healthcare needs of groups, who are vulnerable, disadvantaged and exposed to stigma in the society, in particular.[34] Porr et al.(2012) determined that one of the important factors affecting the attitude toward the patients was the empathy level.[35] Therefore, considering both variables of the stigma and empathy are influenced by cultural and social values and clinical experience of students in health centers. Empathy is the process of understanding feelings, thoughts and behaviors of others by putting yourself in someone else's place.[19] Empathy is a skill that can be developed through education.[22] The empathic approach for patient care can lead to more positive results such as increased patient satisfaction, compliance to treatment, correct diagnoses and effective use of resources. Therefore, nurses can understand the infertile person with an empathic approach and establish a supportive relationship.

LIMITATIONS AND RECOMMENDATIONS

The first limitation is that the present study cannot be generalizable since it was conducted with nursing students of only one university and thus covered a small number of samples. The second limitation is that the data were collected based on the self-report of the students as in all similar studies. In this way, students' thoughts may be revealed, but it is difficult to determine behaviors in this way. Therefore, it can be recommended to conduct observational or intervention studies determining the empathic behavior and attitude toward infertility. It can be recommended to conduct a more in-depth study of the causes and the influencing factors concerning these views of the male students, exhibiting less positive attitudes among the students determined to have traditions values in attitude toward infertility, through qualitative methods, make the students aware of infertility, plan more comprehensive studies to reveal the regional differences and determine the opinions of the students and society about infertility, to add subjects related to infertility and increasing empathic approach in course contents of nursing department, provide the related counseling and training services by consider-

ing the attitudes of the students and society toward infertility and the factors affecting these attitudes, and explain care, counseling and education roles of nurses, working with infertile individuals, within team to the nursing students.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution..

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