ORIGINAL RESEARCH ORİJİNAL ARAŞTIRMA

Examining the Relationship Between Perception of Cancer and Empathy: Descriptive Research

Kanser Algısı ve Empati Arasındaki İlişkinin İncelenmesi: Tanımlayıcı Bir Araştırma

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ABSTRACT Objective: This study was conducted to determine the effect of patients' relatives' empathy level on their perception of cancer. **Material and Methods:** This study was designed as descriptive research. It was carried out at a university hospital located east of Turkey. The universe of the research was constituted by patient relatives at the aforementioned hospital and other healthy individuals. Data were collected using the Personal Introduction Form, the Questionnaire for Measuring Attitudes Toward Cancer (Cancer Stamp)-Community Version, and the Empathy Level Scale designed by the researchers of this study 1,006 relatives of patients constitute the sample of the study. Data were analyzed using descriptive statistics, independent samples t-test, correlation, regression, and Cronbach's alpha reliability analysis. The results of the analysis of the data collected for this study were evaluated within a 95% confidence interval, and significance was determined as p<0.05. **Results:** It was found that participants had positive perceptions of cancer, that their empathy scores were high, and that their cognitive empathy was higher than their social skills and emotional response. The presence of family members and the degree of relationship with them were important determinants for the questionnaire measuring attitudes toward cancer (cancer stigma) community version. **Conclusion:** In this study, a significant negative correlation was found between empathy and cancer-related perceptions. Respondents' attitudes toward cancer were found to change positively as empathy increased.

Keywords: Empathy; cancer perceptions; patient relative

ÖZET Amaç: Bu çalışma, hasta yakınlarının empati düzeylerinin, kanserin algılanışına olan etkisinin belirlenmesi amacıyla yapılmıştır. **Gereç ve Yöntemler:** Bu çalışma, tanımlayıcı araştırma olarak tasarlanmıştır. Araştırma Türkiye'nin doğusunda bulunan bir üniversite hastanesinde yapılmıştır. Araştırmanın evrenini söz konusu hastanedeki hasta yakınları ve diğer sağlıklı bireyler oluşturmuştur. Veriler, bu çalışmanın araştırmacıları tarafından tasarlanmış olan Kişisel Tanıtım Formu, Kansere İlişkin Tutumları Ölçme Anketi (Kanser Damgası)-Toplum Versiyonu ve Empati Düzeyi Belirleme Ölçeği aracılığıyla toplanmıştır. Çalışmanın örneklemini 1.006 hasta yakını oluşturmaktadır. Verilerin analizinde tanımlayıcı istatistikler, bağımsız örneklem t-testi, korelasyon analizi, regresyon analizi ve Cronbach's alfa güvenirlik analizi kullanılmıştır. Bu çalışmada toplanan verilerin analiz sonuçları %95 güven aralığında değerlendirilmiştir ve anlamlılık p<0,05 olarak belirlenmiştir. **Bulgular:** Katılımcıların kansere yönelik algılarının olumlu, empati düzeylerinin yüksek, bilişsel empati düzeylerinin ise sosyal beceri ve duygusal tepki düzeylerinden yüksek olduğu saptanmıştır. Aile üyelerinin varlığı ve onlarla olan ilişki derecesinin, Kansere İlişkin Tutumları Ölçme Anketi (Kanser Damgası)-Toplum Versiyonu için önemli bir belirleyici olduğu saptanmıştır. **Sonuç:** Çalışmada, empati ve kansere ilişkin algı arasında güçlü negatif korelasyon saptanmıştır. Bireylerin empati düzeyleri arttıkça kansere karşı tutumlarının olumlu yönde değiştiği bulunmuştur.

Anahtar Kelimeler: Empati; kanser algısı; hasta yakını

Cancer is the primary reason for death in the world today.[1] It is projected that there were 18 million new instances of cancer diagnosed around the world in 2018.[2] Despite the fact that treatments, survival rates, and management of side effects have all seen significant improvements, this disease is nevertheless associated with a great deal of unfavorable imagery, such as death and trauma.[3] It is a generally held belief that cancer cannot be completely cured, that it is an exceedingly fatal disease, and that people who do recover from the disease through therapy become physically and socially ineffective as a result of their treatment. This viewpoint is widely held throughout society.[4] Cancer is a disease that, in addition to being

a highly serious condition, conjures up images of death, combined with ambiguity, physical agony, and emotional anguish. In this context, it is understood as a disease that can bring on acute anxiety and panic attacks.[5] For this reason, it is extremely important for the caregiver to understand and empathize with the patient in this process.

Empathy is a powerful emotional component that involves having feelings of warmth, worry, and compassion for other people, particularly when they are going through a challenging moment in their lives. When you witness the suffering of another person, you may have these sensations. Empathy is essential if one is to make any attempt to comprehend the factors that might go into the development of a style of thinking that does not perpetuate stigma.[6] It has been discovered that individuals with varied degrees of empathy exhibit a number of distinct behavioral inclinations.[7] Alterations in behavior patterns may also bring about shifts in viewpoint regarding the prevalence of various diseases. Through the research that they conducted and then published, Jones and Ruthig were able to demonstrate that having empathy has the ability to lessen social prejudices that are held toward cancer patients.[8]

The societal outlook on diseases such as cancer, the efforts taken to prevent against them, the attitudes that are adopted toward them, and the way in which these diseases are managed are all shaped by the sociocultural ideas and customs that are prevalent in a society.[9] Scars or a loss of hair are examples of apparent bodily traces that can be left behind by cancer and its treatment. Invisible marks, such as how society views cancer, can also be left behind.[10] The perception of cancer can present itself in many different ways, including behaviors that are distinguishable from those of others, delays in the diagnosis or treatment of the disease, and a decreased availability of healthcare services.[11] It is well recognized that the disease itself, its progression, and the fear of death that it induces all have an effect on people's perceptions of cancer.[12] Cancer is viewed as an incurable disease in Turkish society, and the prospect that an individual can develop cancer causes individuals to feel anxiety.[13]

There are not a lot of studies in the body of academic research that investigate how levels of empathy can influence attitudes about cancer and cancer patients.[8] The purpose of this study was to investigate the ways in which the levels of empathy possessed by healthy individuals influence their attitudes on cancer, which is still one of the most significant health challenges confronting our society in the modern day. As a result of this study, the empathy levels of patients' relatives can be determined, and it will be possible to determine whether or not the empathy level of the society influences people's perceptions of cancer. This could be useful information in determining whether or not cancer perceptions are affected by the empathy level of the society. As a consequence of this, people's awareness can be raised, which in turn can lead to an increase in the level of empathy that people feel, and a more favorable perception of cancer can be developed. A positive attitude toward cancer can lessen the chance of needless delays in diagnosis and treatment, and it can also motivate individuals to take responsibility for their own health and wellbeing.

MATERIAL AND METHODS

DESIGN AND SAMPLE

The research was designed to be descriptive-comparative. It was carried out at a university hospital located east of Türkiye. The universe of the research was constituted by patient relatives at the aforementioned hospital and other healthy individuals, while the sample of the research was constituted by 1,006 patient relatives with a 0.05 margin of error with power analysis, a 0.95 confidence interval, and a 0.95 representativeness rate.

DATA COLLECTION

Data of the research was collected by the researchers, who organized face-to-face meetings between April and July 2018. Personal Introduction Form developed by the researchers, the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version, and the Empathy Quotient (EQ) were used to collect data. Each meeting was organized in sickrooms and waiting rooms and lasted for about 20 minutes.

ETHICS CONSIDERATION

Our study was conducted in accordance with the Helsinki Declaration. Before starting the research, a written permit from the Chief Physician of the hospital, an ethical approval from İnönü University Health Sciences Research and Publication Ethics Committee (date: December 4, 2018, no: 2018/22-17), and participants' verbal consent at the start of the research were obtained.

Personal Introduction Form: Personal Introduction Form was created by the researchers to obtain socio-demographic data of healthy patient relatives involved in the research.[14] There are 10 questions in total on the form, 8 examining the socio-demographic features of the individuals and 2 questioning the participants' degree of relationship to the patients.

Questionnaire for Measuring Attitudes Toward Cancer (Cancer Stigma)-Community Version: This questionnaire was created by Cho et al. in 2013 to measure the attitudes of cancer patient relatives and individuals in society toward cancer.[15] The Turkish language validity and reliability test of the questionnaire was performed by Yılmaz et al. in 2017.[5] The Cronbach's alpha coefficient of the original questionnaire is 0.79, while it is 0.92 for the Turkish language version. On the Turkish language version of the questionnaire, there are 3 sub-dimensions and 12 items. The items on the questionnaire can be answered as "(1) Absolutely disagree" through "(4) Absolutely agree." The mean scores for the items are utilized to assess the questionnaire and the items with a 2.5 average or above indicate negative attitudes toward cancer.[5] For this particular research, the Cronbach's alpha coefficient of the questionnaire was determined to be 0.80. Minimum 1 points and maximum 12 points can be optained from scale.

EQ: Created by Lawrence et al. in 2004, this scale is composed of three sub-dimensions in total, namely Social Skills, Emotional Reaction, and Cognitive Empathy.[16] The Turkish language validity and reliability test of the scale was carried out by Kaya and Çolakoğlu in 2015 and its Cronbach's alpha coefficient was computed to be 0.86. There are 13 items in total on the Turkish language version of the scale. The scale is a 5-point Likert type scale.[17] For this par-

ticular research, the Cronbach's alpha coefficient of the scale was determined to be 0.94. Minimum 13 points and maximum 65 points can be optained from scale.

EVALUATION OF DATA

For data assessment, descriptive statistics, the independent samples t-test, correlation analysis, regression analysis, and Cronbach's alpha reliability analysis were utilized. The results were assessed with a 95% confidence interval, while the significance was determined as $p < 0.05$.

▌ RESULTS

The average age of the individuals participating in the research was 40.7±13.2, 71.1% were female, 54.2% were single, 36.9% had an educational level of high school or above, 50.4% confirmed that there was a family member/family members diagnosed with cancer, and 16.9% had a first-degree or second-degree relationship to the person(s) diagnosed with cancer (Table 1).

In the research, it was determined that the individuals' EQ mean scores were 40.6±13.1 which indicated high empathy levels and their cognitive empathy levels were higher than their social skill and emotional reaction levels. It was also observed that the individuals' mean scores for the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version were 2.3±0.5 indicating that they adopted a positive attitude toward cancer (Table 2).

The results for the regression analysis performed with the variables of any family member diagnosed with cancer and the degree of relationship to the person diagnosed with cancer, determined to be related to the individuals' empathy levels in the research, are shown in Table 3. The variables were consequently assessed not to be significant predictors for empathy levels (R:0.063, R^2:0.004, $AdjR^2$:0.001, p>0.05) (Table 3).

The results for the regression analysis performed with the variables of any family member diagnosed with cancer and the degree of relationship to the person diagnosed with cancer, determined to be related

TABLE 1: Socio-demographic features of the individuals.

Individuals' features		n	%
Age	X̄±SD=40.7±13.2	1,006	
Gender	Female	715	71.1
	Male	291	28.9
Marital status	Married	461	45.8
	Single	545	54.2
Educational background	Literate	296	29.4
	Primary school	339	33.7
	High school or above	371	36.9
Employment status	Employed	535	53.2
	Unemployed	471	46.8
Profession	Housewife	286	28.4
	Retired	153	15.2
	Student	262	26
	Other	305	30.3
Income status	Income lower than expenses	357	35.5
	Income equal to expenses	343	34.1
	Income higher than expenses	306	30.4
Place of residence	Urban	512	50.9
	Rural	494	49.1
Any family member diagnosed with cancer	Yes	507	50.4
	No	499	49.6
The degree of relationship to the person diagnosed with cancer	First degree	170	16.9
	Second degree	170	16.9
	Third degree	167	16.6

A very significant negative correlation was detected in the research between the mean scores for EQ and all of its sub-dimensions and the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version and all of its sub-dimensions (p<0.001). As the individuals' empathy levels increase, their attitudes toward cancer become more positive (Table 4).

DISCUSSION

In our daily lives, the word "cancer" evokes much negativity and causes generally negative feelings and thoughts in people's minds. Perceptions of diseases are extremely important especially in terms of societies' perspectives on diseases like cancer, while empathy is what effectively makes people ascribe meanings to incidents around them.

Upon analyzing the results of the research, individuals were determined to have high empathy levels. These results are in parallel with those of a study carried out by Akgün Şahin and Kardaş Özdemir with several nurses, who also found the participants' empathy levels to be high.[18] In a qualitative study conducted by Kongsuwan and Chaipetch with nine caregivers, it was found that family members of caregivers; it was determined that he stated that he had physical, psychological and spiritual duties to his patients who were in the last period of life. These duties include reducing/managing the patient's suffering (taking a bath for comfort, soft massage, etc.), sharing feelings, showing empathy and understanding, praying, making religious rituals, emotionally prepar-

to the individuals' empathy levels in the research, are shown in Table 4. The variables were consequently assessed to account for 8.2% of the variance and be significant predictors for the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version (R:0.286, R^2:0.082, AdjR^2:0.79, p<0.001) (Table 4).

TABLE 2: The individuals' mean scores for EQ and the Questionnaire for Measuring Attitudes Toward Cancer (Cancer Stigma)-Community Version.

Scale	X̄±SD	Minimum-maximum scores obtained	Minimum-maximum score that can be taken from the scale
EQ	47.6±13.1	19-60	13-65
Cognitive empathy	15.6±5.2	5-25	5-25
Social skills	12.4±4.2	4-20	4-20
Emotional reaction	12.4±4.2	4-20	4-20
Cancer stigma-community version	2.3±0.5	1.3-3.5	1-12
Complete recovery impossible	2.3±0.5	1-4	1-5
Discrimination	2.3±0.6	1-3	1-3
Revealing and spreading the cancer diagnosis	2.3±0.6	1-4	1-4

EQ: Empathy Quotient.

TABLE 3: The analysis* of the individuals' risk factors for EQ.					
Risk factors for EQ	EQ total				
	B	SE	β	t	p value
Any family member diagnosed with cancer (referent: "yes")					
	1.113	1.169	0.042	0.952	0.341
The degree of relationship to the person diagnosed with cancer (referent: "first degree")					
Second degree	-1.141	1.428	-0.032	-0.799	0.424
Third degree	0.589	1.434	0.017	0.411	0.681
	R:0.063	R²:0.004	AdjR²:0.001		

*Multiple linear regression analysis; EQ: Empathy Quotient.

TABLE 4: The analysis* of the individuals' risk factors for the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version.					
(Cancer stigma) community version	The Questionnaire for Measuring Attitudes Toward Cancer (Cancer Stigma)-Community Version Total				
	B	SE	β	t	p value
Any family member diagnosed with cancer (referent: "yes")					
No	0.374	0.045	0.352	8.257	0.000**
The degree of relationship to the person diagnosed with cancer (referent: "first degree")					
Second degree	0.463	0.055	0.326	8.366	0.000**
Third degree	0.397	0.056	0.278	7.148	0.000**
	R:0.286	R²:0.082	AdjR²0.79		

*Multiple linear regression analysis; **p<0.001.

ing other family members to accept death, talking to the patient, helping the patient cope with the end-of-life experience and helping him die peacefully.[19] The fact that patient relatives witness the processes experienced by patients and become a part of those processes themselves may account for high empathy levels seen in the sample constituted by the patient relatives.

It was found out in the research that the variables of whether there were any family members diagnosed with cancer and, if there were, the participants' degree of relationship to them were determined not to be significant predictors for the participants' empathy levels. No similar studies were found in the literature. It gives the cancer patient feelings of belonging, being loved, comfort, compassion, closeness and attention. These behaviors enable the individual to cope emotionally with the consequences of anxiety-provoking and unfamiliar events.[20] Thus, people's ability to show empathy toward patients diagnosed with such a heavy disease as cancer even though they are not related may account for this result obtained from the research.

The participants were observed to adopt a positive attitude toward cancer in the research. The attitude of an individual toward a disease is shaped by their ideas based on their own experiences or those of their relatives.[21] In a study carried out by Gotay et al. in which they compared American and Japanese samples, the American participants were observed to have relatively more positive attitudes toward cancer.[22] Even though it is not on the same plane as our research, a study carried out by Ersin et al. demonstrated that sensitivity toward cancer is high.[23]

It was found out in the research that the variables of whether there were any family members diagnosed with cancer and, if there were, the participants' degree of relationship to them were determined to be significant predictors for the participants' perceptions of cancer. No similar studies were found in the literature. In addition to being a very serious and a chronic disease, cancer is perceived as a disease that involves suffering and ambiguity and causes anxiety in people.[24] People's past experiences are among factors that affect their attitudes toward incidents. Can-

cer creates a process that leaves marks on and deeply changes the life of an individual. Witnessing this process may enable one to get to know about cancer more and normalize the diagnosis. Therefore, the perceptions of individuals, who have a relative/relatives diagnosed with cancer, toward the disease can be claimed to be more positive. The attitudes of the individuals, whose first-degree relative/relatives were diagnosed with cancer, toward the disease were determined to be significantly more positive compared to other groups in the research. People with a first-degree relative/relatives diagnosed with cancer can be said to closely witness processes like diagnosis, treatment, and care and degrade the fear of obscurity associated with the diagnosis of cancer, a subject of taboo in societies.

A very significant negative correlation was detected in the research between the mean scores for EQ and all of its sub-dimensions and the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)- Community Version and all of its sub-dimensions. As the individuals' empathy levels increase, their positive attitudes toward cancer increase as well. In their research, Jones and Ruthig observed empathy to positively change social perceptions toward cancer.[8] Similarly, in another study carried out by Jones expressed that increased empathy had a positive impact on perceptions of cancer.[25] As people's empathy levels increase, they start to think that they could also experience the incidents or conditions they come across. As a result, it can be said that they begin looking at such incidents more positively and adopting more positive attitudes toward cancer.

The results of this research demonstrate empathy levels to be effective in perceptions of cancer. Also, the participants were observed to have high empathy levels and positive attitudes toward cancer in the research. The variables of any family member diagnosed with cancer and the degree of relationship to the person diagnosed with cancer were determined to be significant predictors for the Questionnaire for Measuring Attitudes toward Cancer (Cancer Stigma)-Community Version.

LIMITATION

The limitation of the research is constituted by the fact that it was carried out with patient relatives and other healthy individuals at only one hospital in a province of Türkiye due to constraints of time and budget.

CONCLUSION

As a result of the study, it was found that participants' perceptions of cancer were positive, their empathy levels were high, and their cognitive empathy levels were higher than their social skills and emotional reaction levels. In accordance with the results of the research, it is recommended that the cancer awareness of the society should be raised, relative education programs should be organized, methods that can improve individuals empathically should be examined by health professionals, and the research should be repeated with different and more extensive groups.

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