



# Nurses Attitudes Toward Cancer and Affecting Factors

Emine Derya İSTER,<sup>1</sup> Yasemin ALTINBAŞ<sup>2</sup>

<sup>1</sup>Department of Nursing, Kahramanmaraş Sütçü İmam University, Kahramanmaraş-Turkey

<sup>2</sup>Department of Nursing, Adıyaman University, Adıyaman-Turkey

## OBJECTIVE

The aim of this study was to determine nurses' attitudes towards cancer and affecting factors.

## METHODS

The population of this descriptive research was composed of nurses working in Public Hospitals in Adıyaman city center. The study was conducted with 214 participants.

## RESULTS

The mean scores of factor 1, factor 2, factor 3 and total QMATC scores are  $1.72\pm 0.67$ ,  $1.89\pm 0.51$ ,  $1.53\pm 0.47$  and  $1.71\pm 0.42$ , respectively. It was found that nurses who encountered cancer patients in their close social circles such as neighbors and friends had higher impossibility of recovery-stereotyping scores than those who never encountered cancer cases. ( $p<0.05$ ).

## CONCLUSION

It was observed that the nurses working in the hospital had positive attitudes towards the factors of revealing and spreading the diagnosis of cancer, impossibility of recovery-stereotyping and discrimination against cancer patients.

**Keywords:** Attitude; cancer; nurse.

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## Introduction

According to the definition of the World Health Organization (WHO), cancer is a group of diseases characterized by uncontrolled cell proliferation as a result of genetic changes in cells.[1] Cancer is one of the most important health problems today; it ranks the second most common cause of death following cardiovascular diseases in many countries of the world and also in Turkey.[2] With the emergence of new diagnosis and treatment methods, increased opportunities to benefit from health institutions and prolonged average life expectancy, cancer becomes increasingly important, and the number of diagnosed cancer cases increases every year.[3]

In 2008, 12.4 million people were diagnosed with cancer and 7.6 million people died due to cancer. It is estimated that deaths caused by cancer will continue to increase worldwide and that 12 million cancer deaths will occur in 2030.[4] 53.0% of new cancer cases and 60.0% of deaths occur in under developed countries.[5] The average incidence of cancer in our country is 196 per hundred thousand. The number of cancer cases is 256.4 per 100.000 males and 158.1 per 100.000 females. Given the current increase rates, it is estimated that the incidence of cancer in our country will double in the 2030s and reach 450 per hundred thousand.[5]

There are more than one hundred known cancer types. In Turkey, the most common types of cancer

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Dr. Emine Derya İSTER

Kahramanmaraş Sütçü İmam Üniversitesi,

Hemşirelik Bölümü,

Kahramanmaraş-Turkey

E-mail: eminederyaister@ksu.edu.tr

that cause death are lung-trachea-bronchus, stomach, bladder, colorectal cancers, leukemia and multiple myeloma.[4] In the coming years, treating a large number of cancer patients with the aspects of diagnosis, providing palliative, supportive care and end-of-life care will become a major challenge for many countries.[5] Care for cancer patients requires a multidisciplinary approach and nurses are an important and integral element of cancer care. Nurses provide multi-directional care at the stages of promotion and protection of health, diagnosis, treatment, rehabilitation and palliation.[6] Clinical practice, training, counseling, and management, as well as participation in clinical research on cancer have expanded the fields of nursing.[7] Nurses work with cancer patients and their relatives in many places such as reference hospitals, medical centers, oncology units, services, polyclinics, doctor offices, home care, and hospice centers. Nursing has many subspecialties such as bone marrow transplantation, radiotherapy, surgical oncology, community education, genetic risk counseling, and prevention programs. In all these settings, the general aim of the nurses is to ensure that the patient and his/her family maintain their functions at the highest level and to improve their quality of life.[8] Understanding nurses' attitudes towards cancer while fulfilling all these roles provides a basis for cancer patient care programs. A better understanding of nurses' beliefs and attitudes towards cancer is also important in developing issues related to patient care quality, public awareness and cancer screening and treatment protocol. [7,8] In addition, it is thought that the attitudes and behaviors of nurses who spend more time and communicate with their relatives during the disease process may affect the patient's coping mechanism positively or negatively. In the effective struggle against cancer, the existing knowledge, attitudes and behaviors of the nurses who provide care should be determined and then appropriate trainings should be given to increase the cancer awareness level of the nurses. As a result of the literature review; there were no studies found investigating whether there is a change in the attitudes and behaviors of the nurses who care for patients who are diagnosed with cancer, whose cancer treatment is continuing or whose cancer treatment is completed. For this reason, this study aimed to flash on understanding the nurses' evaluations about cancer and cancer patients, the needs and content of cancer education and information programs, and the psychosocial processes and situations of the families of these individuals in the disease period. Therefore, the aim

of this study is to determine nurses' attitudes towards cancer and the factors affecting them.

## Materials and Methods

### Study Design and Subjects

This descriptive cross-sectional study was conducted in the provincial center of Adiyaman, located in the southeast of Turkey. The population of the study consisted of 237 nurses working in a public hospital located in the provincial center of Adiyaman. The sample size of the study was 177 as calculated based on an effect size of 0.3, an error level of 5%, and a confidence level of 95% and a power of 95%. Since three nurses were on unpaid leave, five nurses were on sick leave, eight nurses were on maternity leave and seven nurses were not willing to participate in the study, the research was completed with 214 participants.

### Data Collection

The research data were collected between 15 May and 15 August 2018. In data collection, "Individual Identification Form" and the "Questionnaire for Measuring Attitudes Toward Cancer (QMATC)" were used. The individual identification form contains 13 questions regarding the sociodemographic characteristics of nurses and information about their cancer attitudes. The QMATC was developed by Cho et al.[9] (2013) to measure the attitudes of cancer patients' relatives and related individuals in the public, and in our country the validity and reliability study was conducted by Yilmaz et al.[10] (2017) on Turkish public. It provides information about the positive/negative attitudes of individuals living in public. The QMATC consists of 12 items and three sub-factors. The first factor is "Willingness to disclose a cancer diagnosis", the second factor is the "Impossibility of recovery-stereotyping", and the third factor is the "Discrimination against cancer patients". The Cronbach's alpha value of the scale is 0.92 in the Turkish society and the Cronbach's alpha value was found as 0.85 in the nursing group in this study. The mean score of the items is used in the assessment of the scale, and the scores of 2.5 and above indicate the presence of negative attitudes towards cancer.[9]

### Ethical Aspect of Research

To conduct this study, permission of the Non-invasive Research Ethics Committee of Adiyaman University (2018/3-18) was obtained. Written permissions were obtained from the hospital where the study was conducted and the participant nurses.

### Statistical Analysis

Statistical Package for the Social Sciences (SPSS 17.00) was used for statistical analysis of the data. In the evaluation of the data, descriptive statistical methods such as number, percentage and mean were used, and t-test analysis and one-way analysis of variance were used in independent groups.

### Data Availability Statement

The data that supports the findings of this study are available in the supplementary material of this article.

### Results

It was determined that 57.3% of the nurses participating in the study were in the range of 30-40 years, 85.5% were female, 69.2% were university graduates, 79.4% were married, 70.6% had children, and 42.5% were working shift and only in daytime. It was found that 25.7% of the nurses had a family member with cancer, 57.9% of them had a relative with cancer and 75.7% of them had a friend with cancer. It was found that 73.4% of the nurses never worked in oncology clinics and 18.7% of them did never provide care to cancer patients (Table 1).

The mean scores of QMATC and sub-factors and distribution of items were given in Table 2. The mean scores of factor 1, factor 2, factor 3 and total QMATC scores are  $1.72 \pm 0.67$ ,  $1.89 \pm 0.51$ ,  $1.53 \pm 0.47$  and  $1.71 \pm 0.42$ , respectively. The fact that the mean score of nurses was below 2.5 for all three factors indicates that the nurses generally do not have negative attitudes towards cancer. %29.4 of the nurses were agreed that the ability of cancer patients to perform tasks at the workplace may decrease even after successful cancer treatment (Table 2).

Age, gender, marital status, education level, having children, working shifts, presence of cancer patients in their family and among their relatives do not affect the nurses' attitudes towards cancer ( $p > 0.05$ ). It was determined that the mean scores of willingness to disclose a cancer diagnosis and discrimination against cancer patients of the nurses with oncology clinical experience were statistically significantly lower than those who have no experience ( $p < 0.05$ ). This finding indicates that nurses with oncology experience have more positive attitudes towards cancer than those who have no experience. It was found that the mean score of factor 2 (Impossibility of recovery-stereotyping) of the nurses who had cancer patients in their social circles such as neighbors, and friends was higher than other nurses

**Table 1** Characteristics of nurses

Specification	n	%
Age		
19-29	67	31.3
30-40	115	57.3
≤41	32	15.0
Gender		
Female	183	85.5
Male	31	14.5
Education level		
High school degree	32	15.0
Associate degree	34	15.9
University degree	148	69.2
Marital status		
Married	170	79.4
Single	44	20.6
Parental status		
Yes	151	70.6
No	63	29.4
Working shift		
Only daytime	91	42.5
Only night	32	15.0
Shift	91	42.5
Does anyone in the family have cancer?		
Yes	55	25.7
No	159	74.3
Does any of your relatives have cancer?		
Yes	124	57.9
No	90	42.1
Are any friends or neighbors cancer patients?		
Yes	162	75.7
No	52	24.3
Working status in oncology clinics		
Yes	57	26.6
No	157	73.4
Caregiving status for cancer patient		
No	40	18.7
Rarely	42	19.6
Sometimes	58	27.1
Often	47	22.0
Very often	27	12.6

( $p < 0.05$ ). This finding indicates that the nurses who have cancer patient in their social environment (except for family and relatives) have more negative attitudes towards cancer (Table 3).

It was determined that 11.7% of the nurses had negative attitude towards "Willingness to disclose a cancer diagnosis" and 8.9% of them had negative attitudes towards "Impossibility of recovery-stereotyping". It was observed in our study that the number of nurses who have negative attitudes towards cancer was low and that

**Table 2** Nurses' participation items of QMATC and the average of sub-factors and total QMATC

	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)	Mean (SD)
Willingness to disclose a cancer diagnosis (Factor 1)					1.72±0.67
if I'm diagnosed with cancer, I don't tell my family	99 (46.3)	91 (42.5)	20 (9.3)	4 (1.9)	
If I'm diagnosed with cancer, I don't tell my friends.	87 (40.7)	108 (50.5)	16 (7.5)	3 (1.4)	
If I'm diagnosed with cancer, I don't tell my neighbors.	82 (38.3)	98 (45.8)	28 (13.1)	6 (2.8)	
if I'm diagnosed with cancer, I don't tell my colleagues/Coworkers	92 (43.0)	105 (49.1)	13 (6.1)	4 (1.9)	
Impossibility of recovery-stereotyping (Factor 2)					1.89±0.51
It is very difficult to be healthy again once a person is diagnosed with cancer.	54 (24.8)	128 (59.8)	28 (13.1)	5 (2.4)	
Cancer patients would not be socially active once diagnosed with cancer.	67 (31.3)	129 (6.3)	14 (6.5)	4 (1.9)	
The ability of cancer patients to perform tasks at the workplace may decrease even after successful cancer treatment.	39 (18.2)	109 (50.9)	63 (29.4)	3 (1.4)	
It is impossible to treat cancer regardless of highly developed medical science.	61 (28.5)	114 (53.3)	31 (14.5)	8 (3.7)	
Cancer patients would not be able to make contributions to society.	121 (56.5)	87 (40.7)	4 (1.9)	2 (0.9)	
Discrimination against cancer patients (Factor 3)					1.53±0.47
I feel uncomfortable when I am with cancer patients.	112 (52.3)	92 (43.0)	8 (3.7)	2 (0.9)	
I tend to avoid interacting with neighbors who have cancer.	124 (57.9)	86 (40.2)	2 (0.9)	2 (0.9)	
I would avoid working with people who have cancer.	121 (56.5)	87 (40.7)	4 (1.9)	2 (0.9)	
Total					1.71±0.42

the majority of them had a positive attitude towards cancer. %98.6 of the nurses didn't have discriminative attitude against cancer patients (Table 4).

## Discussion

Cancer is one of the leading causes of death worldwide and all nurses may have to provide care for cancer patients at some point in their career.[11] Kearney et al. (2003) revealed that many health professionals had negative attitudes towards cancer independent of gender, occupational and clinical experience. It has been found that negative attitudes and perceptions towards cancer, and cancer experience of the cancer patient and their families affect the coping strategies, motivation and caregiving behaviors of nurses.[12] In this context, it is not sufficient that only nurses have positive attitudes towards cancer; however, it is also important that cancer patients and their families have positive attitudes towards cancer. Nurses should provide care for cancer patients by considering attitudes of them and their families and plan the initiatives to change negative attitudes. Indeed, Cho et al. (2013) reported that 30% of patients had negative attitudes towards cancer in the study conducted with 466 cancer patients.[13]

In this study, the mean score of the total QMATC of the nurses was  $1.71 \pm 0.42$ , indicating nurses generally did not have negative attitudes towards cancer. There are a few studies which have examined Turkish nurses' attitudes towards cancer or patients with cancer.[14-16] A study that aimed to assess Turkish nurses' attitudes toward cancer and patients with cancer indicated that Turkish nurses hold positive attitudes towards cancer and patients with cancer.[16] In the study by Yildirim-Usta et al.[14] the nurses were aware of their attitudes towards being positive with cancer patients and its significance in support for cancer patients. Adversely, in a few studies it was demonstrated that health care professionals hold negative attitudes towards patients with cancer.[12,17,18] Nurses' positive attitudes towards cancer patients and their satisfactory work ethics in nursing care provide positive outcomes in patients.

In this study, the mean score of the nurses for the sub-factor "Impossibility of recovery-stereotyping" (Factor 2) was  $1.89 \pm 0.51$ , indicating that the nurses did not have negative attitudes. In the literature, there are a lot of studies on the attitudes of nurses toward the treatment of cancer and the management of cancer pain.[19-21] Box and Anderson reported that nurses working in the community services such as school

<b>Table 3</b> Comparison of QMATC factors of nurses with some variables			
	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>
<b>Gender*</b>			
Female	1.71±0.67	1.91±0.52	1.52±0.48
Male	1.75±0.65	1.78±0.45	1.56±0.47
	p=0.794	p=0.219	p=0.643
<b>Education Level**</b>			
High School degree	1.50±0.46	1.93±0.53	1.45±0.49
Associate degree	1.77±0.77	1.75±0.59	1.50±0.55
University degree	1.75±0.67	1.91±0.49	1.55±0.46
	p=0.129	p=0.254	p=0.571
<b>Marrital status*</b>			
Married	1.70±0.68	1.89±0.51	1.53±0.48
Single	1.72±0.63	1.90±0.51	1.51±0.45
	p=0.566	p=0.914	p=0.787
<b>Parental status*</b>			
Yes	1.69±0.68	1.86±0.50	1.51±0.48
No	1.79±0.64	1.95±0.54	1.58±0.46
	p=0.307	p=0.226	p=0.335
<b>Working shift**</b>			
Only daytime	1.63±0.66	1.85±0.48	1.46±0.44
Only night	1.75±0.76	1.88±0.50	1.53±0.57
Shift	1.79±0.64	1.93±0.55	1.60±0.47
	p=0.288	p=0.514	p=0.136
<b>Does anyone in the family have cancer?*</b>			
Yes	1.68±0.51	1.90±0.50	1.56±0.49
No	1.73±0.69	1.88±0.51	1.51±0.47
	p=0.660	p=0.783	p=0.510
<b>Does any of your relatives have cancer?*</b>			
Yes	1.71±0.64	1.91±0.53	1.51±0.48
No	1.73±0.70	1.86±0.48	1.55±0.48
	p=0.857	p=0.533	p=0.494
<b>Are any friends or neighbors cancer patients?*</b>			
Yes	1.71±0.65	1.94±0.53	1.56±0.46
No	1.74±0.73	1.73±0.42	1.43±0.51
	p=0.810	p=0.009	p=0.096
<b>Working status in oncology clinics</b>			
Yes	1.53±0.57	1.88±0.55	1.39±0.40
No	1.78±0.69	1.89±0.50	1.58±0.50
	p=0.014	p=0.935	p=0.013
<b>Caregiving status for cancer patient**</b>			
No	1.81±0.80	1.90±0.54	1.55±0.46
Rarely	1.76±0.76	1.93±0.45	1.59±0.53
Sometimes	1.69±0.51	1.97±0.51	1.60±0.44
Often	1.66±0.59	1.86±0.41	1.46±0.41
Very often	1.66±0.75	1.68±0.67	1.37±0.57
	p=0.196	p=0.812	p=0.187

\*Student t test independent groups; \*\* One-way ANOVA

health nurses and visiting nurses have negative attitudes towards the effectiveness of cancer treatment. [20] Shahriary et al.[19] (2015) report that oncology

nurses' attitudes towards the pharmacological treatment of cancer pain are poor and their knowledge is insufficient. Likewise, in the study conducted by Yildirim

**Table 4** Distribution of nurses with negative attitudes towards cancer

QMATC Factors	n	%
Willingness to disclose a cancer diagnosis/Negative Attitude		
No	189	88.3
Yes	25	11.7
Impossibility of Recovery-Stereotyping/Negative Attitude		
No	195	91.1
Yes	19	8.9
Discrimination Against Cancer Patients/Negative Attitude		
No	211	98.6
Yes	3	1.4

et al.[21] (2008) with oncology nurses in Turkey, it was found that nurses' knowledge and attitudes regarding cancer treatment were insufficient.

In this study, the mean score of nurses regarding the sub-factor "Discrimination against cancer patients" (Factor 3) was  $1.89 \pm 0.51$ , indicating that nurses did not have negative attitudes. In the study performed by Cho et al.[13] (2013) on 466 cancer patients, it was reported that 10% of patients are exposed to social discrimination due to cancer and 24.5% of them have clinically significant depressive symptoms. In the same study, the patients who experienced cancer stigma were reported to be 2.5 times more prone to depression. Holistic care philosophy is important in nursing. Holistic nursing care is a nursing practice that argues the body, mind, spirit, emotions, environment, relationships and social, cultural aspects of life are interconnected and should be addressed as a whole.[22] The negative attitude of nurses towards cancer also affects the patients they care for. While the nurses with negative attitudes towards cancer can provide the physical care to the cancer patient, they cannot provide the care that the patient needs psychologically.[23] In a study conducted by Badihian et al.[24] (2017), it is reported that individuals in society, in some sense the society itself, have/has negative attitudes towards cancer. Negative attitudes of society can lead to discrimination against cancer patients. Yilmaz et al. (2017) reported that the mean score of discrimination (factor 3) factor of the participants is high ( $2.68 \pm 0.71$ ) in the study they conducted with cancer patients and individuals in society in Turkey. [10] For this reason, nurses should be able to evaluate cancer patients who experience discrimination, provide the psychological care that the patient needs, and

cooperate with other health professionals in order to provide holistic care.

In the current study, significant relationships were observed between nurses' attitudes toward cancer and working status in oncology clinics and having any friends or neighbors as cancer patients ( $p < 0.05$ ). Lebovits et al. stated that having oncology course and medical education about oncology can affect attitudes toward cancer.[25] Dedeli et al.[16] found significant relationships between nurses' attitudes toward cancer and patients with cancer and status of giving care for patients with cancer.

In the current study, there was no significant relationship found between nurses' attitudes toward cancer and gender, marital status, education level, parental status, working shifts, presence of cancer patients in family and relatives ( $p > 0.05$ ). In a study with Turkish nurses, it was shown that there was no significant relationship between nurses' attitudes towards cancer and their educational status, gender and marital status.[16]

In the literature, the questionnaires structured with in-depth interview techniques were used to evaluate nurses' attitudes towards cancer.[18] Attitudes are the whole of beliefs regarding people, objects or thoughts. Attitudes are acquired through learning and can be changed throughout life.[26] Nurses are the members of the society they live in and their attitudes towards cancer can be affected by the society and culture they live in. In the literature, the QMATC was developed to measure the attitudes of individuals in society towards cancer.[9] However, there is no study evaluating nurses' attitudes towards cancer using the QMATC. In this study, the attitudes of the nurses towards cancer were evaluated by using the QMATC and it was found that the Cronbach's alpha coefficient of the scale in nurses was 0.85. This study indicates that the use of the QMATC in nurses is reliable.

### Study Limitations

The lack of male respondents and the greater number of females in the sample may have resulted in some bias in the results. However, the sample does reflect the gender balance within health care.

### Conclusion

Cancer prevention education and services may prevent disease occurrence or may improve patient outcome by early disease detection and intervention. Oncology nurses are crucial members of the health care team, from cancer prevention and detection through end-of-

life. Highly skilled oncology nurses take the patient history; assess the patient for cancer related problems and issues; educate the patient, families, caregivers, and communities; provide treatment and care; and offer support and encouragement. Primary care nurses are usually the first point of contact that patients have within the health care system. These nurses take the patient history and emphasize the need for cancer prevention.[27] So, It is important determining nurses attitudes toward cancer. In this study, it was observed that the nurses working in the hospital had positive attitudes towards the factors of revealing and spreading the diagnosis of cancer, impossibility of recovery-stereotyping and discrimination against cancer patients. It was concluded that the nurses in the study had positive attitudes towards cancer in general while a small number of nurses had negative attitudes towards cancer. It was observed that the attitudes of nurses working in oncology clinics towards cancer were more positive. Age, gender, marital status, education level, having children, working shifts, presence of cancer patients in families and among relatives did not affect nurses' attitudes towards cancer. There are few studies conducted to determine the attitudes of nurses towards cancer. For this reason, it is recommended to conduct similar studies in different samples.

Nurses play an important role in prevention of cancer, raising awareness of society regarding cancer, and early diagnosis, treatment, and rehabilitation of the disease. According to the findings of this study, nurses' attitudes towards cancer were positive in contrast to the society they were in. The fact that society has a negative attitude towards cancer can be an obstacle to early diagnosis and treatment of cancer, however, nurses can play a key role in changing society's negative attitudes towards cancer. In particular, the nurses working in the field of public health and clinical nurses can raise awareness in the communities they live in and positively affect the negative attitude of society.

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**Ethics Committee Approval:** To conduct this study, permission of the Non-invasive Clinical Research Ethics Committee of Adiyaman University (No. 2018/3-18, Date: 17.04.2018) was obtained. Written permissions were obtained from the hospital where the study was conducted and the participant nurses.

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