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RESEARCH ARTICLE

THE IDENTIFICATION OF THE RELATIONSHIP BETWEEN ONCOLOGY PATIENTS' CARE DEPENDENCY AND ANXIETY LEVELS

Derya Bicak Ayik[1], Zeliha Buyukbayram[2]

[1] Siirt University, Faculty of Health Sciences, Department of Midwifery, Siirt, Turkey
[2] Siirt University, Faculty of Health Sciences, Department of Nursing, Siirt, Turkey

ORCID: D.B.A. 0000-0003-2366-227X; Z.B. 0000-0001-9152-6662

Corresponding author: Derya Bicak Ayik, **E-mail:** deryaaabck@gmail.com
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ABSTRACT

Introduction: This study aims to identify the relationship between oncology patients' care dependency and anxiety levels.
Material and Methods: The research data were collected by using the individual Identification Form, the Care Dependency Scale, and the Beck Anxiety Inventory via the interviews held with 142 cancer patients hospitalized at the oncology clinic. The independent samples t-test, one-way analysis of variance, and the Pearson correlation test were used in the analysis of research data.
Results: In the study, it was discerned that the mean of cancer patients' Care Dependency Scale scores was 37.83±21.42 points and the patients who had the disease for a longer duration had higher levels of care dependency. Besides, it was found that the mean of cancer patients' Beck Anxiety Inventory scores was 24.27±11.52 points and the patients had medium-level anxiety. Moreover, it was identified that there was a statistically significant association between the participant cancer patients' care dependency and anxiety levels ($p<0.01$).
Conclusion: The increase in cancer patients' care dependency levels is associated with the rise in their anxiety levels. Therefore, finding out about the patients' care dependency levels by identifying the care needs of the patients to whom the nurses are responsible for offering care plays a significant role in enhancing the quality of nursing care.

Key Words: Anxiety, care dependency, oncology, cancer

INTRODUCTION

Cancer is the crucial health problem that came to the fore across the world and in Turkey in the last century (1). According to the data released by the World Health Organization (WHO) in 2018, cancer ranks second as the cause of death across the world, and approximately one in six deaths was connected with cancer (2). On the other hand, it is estimated that the individuals diagnosed with cancer will live for a minimum of ten years by virtue of the developments in cancer treatment in the recent period (1,3,4). Even if the developing early diagnosis and treatment methods extend the period of living, the identification of a tumor in a patient presents a serious emotional burden that gives rise to anxiety in the patient (5,6). Besides, the increase in dependency experienced by the patients during this process leads to a rise in the patients' psychosocial problems (7,8) as the inadequacy felt by the patients in terms of self-care practices during the disease can cause them to be confronted with several negative circumstances and have care dependency (7).

The care dependency is the case in which the patients' self-care skills such as eating & drinking,

hygiene, and social relations decrease to the extent that the patients will be dependent on the nursing care (9). In all periods of life, individuals can experience dependency for a variety of reasons (7,10). The care dependency that is comprised of a highly sophisticated structure refers to the areas of care where the patient has self-care deficiency in need of support (11). The dependency varies as per the individuals' demographic, sociocultural, psychosocial, physical, and economic circumstances (7,10). Considering the consequences coming into play in association with cancer, it is necessary to evaluate the patient with physical, mental, emotional, sociocultural, and spiritual aspects in the healthcare approach (12,13). In this process, the objective is to enable the patient to have independence for meeting the self-care needs (8). Bearing in mind that the dependent patients need nursing care more than other patients, the identification of the patients' care needs serves as a guide for the management of the nursing care. Therefore, identifying the care dependency levels of the patients whose care the nurses assume is of high importance to the enhancement of the quality of nursing care (11). Upon the review of the relevant literature, it was discerned that approximately half of the oncology patients bore care burden (14–16) and there were a quite limited number of studies exploring particularly these patients' care dependency and anxiety levels (7,13,15). Cancer causes an increase in dependence on others in activities of daily living (14). The increase in external triggers such as care dependency disrupts the balance of the organism. An increase in stressors that threaten the patient's mental balance can also cause anxiety (7,12,17). Departing from these findings, this study aims to identify the relationship between oncology patients' care dependency and anxiety levels.

MATERIAL AND METHODS

Research Design and Sample

The research sample was composed of the patients who were hospitalized at the oncology clinic of a training and research hospital between September-December 2020. In this respect, the research sample included 142 patients who had inpatient treatment and care during the above dates. Patients diagnosed with cancer for at least 6 months, who could build verbal communication, patients without diagnosed psychiatric disease were included in the research. In the research, the sample size was not calculated, and the sample who were selected from the population with the random sampling method. By using the data collection tools in the face-to-face interviews with the patients, the researcher collected the research data in the patient rooms at the oncology clinic during the above dates. Each interview lasted approximately 15-20 minutes.

Data Collection Tools

The research data were collected by using the Individual Identification Form, the Care Dependency Scale, and the Beck Anxiety Inventory.

Individual Identification Form: The identification form that was prepared by the researchers to find out about the patients' age, gender, marital status, education level, disease diagnosis, and disease duration contained six questions.

Care Dependency Scale (CDS): Designed on the basis of human needs, this scale was developed to identify the state of the patient's dependency for receiving care (14). The validity and reliability study for the scale was performed by Yönt et al. in Turkey in 2010 (18). Designed as a five-point Likert-type scale, the CDS has a total of 17 items addressing the individual's daily life activities. The minimum and maximum scores to be obtained from the scale are successively 17 and 85 points. A low score obtained from the scale implies that the patient has high-level dependency whilst a high score obtained from the scale suggests that the patient has independence for meeting his/her own needs (14,19).

Beck Anxiety Inventory (BAI): The inventory was developed by Beck et al. in 1998 (20), and Ulusoy et al. performed the validity and reliability study for the inventory in the same year (21). Designed as a four-point Likert-type scale and composed of 21 items, the BAI measures the frequency of anxiety symptoms exhibited by the individual. The answers to the BAI items, 'not at all', 'mildly', 'moderately', and 'severely', are scored consecutively as 0, 1, 2, and 3 points, and thus, the total BAI score is calculated. The total scores to be obtained from the BAI range from 0 to 63 points. A high score obtained from the BAI demonstrates that the respondent has high-level anxiety. As per the total score obtained from the BAI, the anxiety symptoms are evaluated at four levels in ascending order (minimal anxiety: 0-7 points, mild anxiety: 8-15 points, moderate anxiety: 16-25 points, and severe anxiety: 26-63 points) (22,23).

Data Analysis

In the data analysis, IBM SPSS 25.0 was used. The confidence interval was set as 95% and the statistical significance was identified if the P-value was below 0.05 ($p<0.05$). Besides, the frequencies (n) and percentages (%) were utilized for the analysis of the qualitative variables whilst the arithmetic means (x) and standard deviations (sd) were used in the analysis of the quantitative variables. Moreover, the independent samples t-test, one-way analysis of variance (ANOVA), and the Pearson correlation test were used in the analysis of research data.

Ethical Aspect of the Research

Before launching the research, the ethical endorsement for the research was obtained (Date: 25 March 2019, No: 4477) and also, written permission was received from the institution where the research took place. After the patients were given the necessary information about the study and were told that participation in the study was voluntary, they were asked to express their consent to participate in the research.

RESULTS

Upon the review of individual characteristics of the patients who were included in the study and whose mean age was 60.28±1.28 years, it was found that, of the participant patients, 50.7% were male, 98.6% were married, 41.5% were illiterate, 33.1% had treatment for lung cancer, and 87.3% had the disease for 6-10 years (Table 1). Next, according to the examination of the participant patients' care dependency levels as per their descriptive characteristics, it was discerned that the participant patients who had the disease for 6-10 years had higher levels of care dependency. Besides, it was identified that there was a statistically significant association between the cancer type and care dependency ($p<0.05$). On the other hand, there was no statistically significant association between the participant patients' descriptive characteristics and their anxiety levels ($p>0.05$) (Table 2). The scores to be obtained from the CDS range from 17 to 85 points, and a low score obtained from the CDS shows that the patient is dependent on another person for meeting his/her care needs. In the study, it was found that the mean of participant cancer patients' CDS scores was 37.83±21.42 points and hence, the participant patients had high-level care dependency. Moreover, upon the review of the participant cancer patients' anxiety levels, it was identified that the mean of participant patients' BAI scores was 24.27±11.52 points and thus, the participant patients had medium-level anxiety. Lastly, it was discerned that there was a statistically significant association between the participant cancer patients' care dependency and anxiety levels ($p<0.05$) (Table 3).

Table 1. Distribution of individual characteristics (n=142)

Individual characteristics	n	%
Gender		
Female	70	49.3
Male	72	50.7
Marital status		
Maried	140	98.6
Single	2	1.4
Education status		
Illiterate	59	41.5
Literate	30	21.1
Primary education	42	29.6
High school	7	4.9
Undergraduate and postgraduate	4	2.8
Disease diagnosis		
Lung cancer	47	33.1
Breast cancer	18	12.7
Colon cancer	25	17.6
Pancreatic cancer	17	12.0
Gastric cancer	17	12.0
Others	18	12.7
Disease duration		
0-5 years	124	87.3
6-10 years	18	12.7
The average age (x ± sd)	60.28± 1.28	

DISCUSSION

As cancer is a chronic disease, it affects the individual in several aspects (3,15). Numerous factors such as the need for care along with the prolongation of the period of stay at the hospital and the failure to meet this need, the advancement of the disease, and the multiplication of the symptoms lead to increases in the cancer patients' dependency levels. This increase in the care dependency level paves the way for mental problems in patients (7,14). It was stated that one of the most prevalent mental problems observed in cancer patients was anxiety (5,24–27).

In the current study that was conducted to explore the relationship between the oncology patients' care dependency and anxiety levels, it was found that the participant cancer patients had high-level care dependency and medium-level anxiety, and there

Table 2. According to individual characteristics care dependency and anxiety levels

	Care dependency scale			**Beck anxiety scale**		
	x±sd	**Test**		**x±sd**	**Test**	
Gender						
Female	39.04±23.40	t=0.659	*p*=0.511	23.54±11.17	t=-0.745	*p*=0.458
Male	36.66±19.40			24.98±11.89		
Marital status	37.43±21.18	t=-1.889	*p*=0.61	24.28±11.55	t=0.095	*p*=0.924
Maried	66.00±26.87			23.50±13.43		
Single						
Education status						
Illiterate	35.50±16.67			22.13±9.44		
Literate	44.03±24.11	F=1.890	*p*=0.116	25.96±12.44	F=1.026	*p*=0.396
Primary education	37.83±24.81			25.64±13.30		
High school	42.85±22.73			23.85±10.44		
Undergraduate and postgraduate	17.00±00.00			29.50±14.53		
Disease diagnosis						
Lung cancer	43.48±21.16			24.55±12.20		
Breast cancer	44.72±26.74	F=3.586	***p*=0.004***	26.61±11.30	F=0.702	*p*=0.623
Colon cancer	41.76±22.28			25.40±13.55		
Pancreatic cancer	30.35±17.69			20.11±12.39		
Gastric cancer	29.58±15.87			22.82±9.62		
Others	25.62±14.26			24.94±7.23		
Disease duration						
0-5 years	35.80±19.28			24.62±11.83	F=1.915	***p*=0.038**
6-10 years	51.83±29.67	F=21.42	**p=0.003***	21.83±9.01		

t: : Independent samples test F: ANOVA *: p<0.05

was a statistically significant negative association between the participant patients' care dependency and anxiety levels.

In the studies that compared the cancer patients to the general population, it was discerned that the cancer patients had a higher anxiety prevalence (24,26). Moreover, in the studies performed on different sample groups, it was found that the cancer patients had medium-level anxiety (25,28–30) and high-level anxiety (31–33). Furthermore, in the studies conducted on hematologic cancer patients, it was identified that the patients had medium-level anxiety (12,34).

Next, in the current study, it was discerned that the care dependency and anxiety were not associated with the variables of gender and education level whilst the care dependency was associated with the variables of disease duration and cancer type, and the participant patients who had the disease for a longer duration and the participant patients with breast cancer had higher levels of care dependency. In the study that was performed by Özgün et al. (2020) to evaluate the oncology patients' anxiety levels, it was found that 60.5% of the patients with the risk of anxiety were female and the anxiety level was not associated with the variable of gender (35). In a similar vein to the current study, certain studies also identified that gender had no statistically significant association with anxiety level (32,36) and care dependency (11,17,37). On the other hand, in certain studies, it was found that gender affected the care dependency (10,38) and the female patients had a higher mean of anxiety scores than the male patients, and this difference was statistically significant (12,24,28,31,34).

When the effect of the education level on anxiety and care dependency was examined, some previous studies showed that the anxiety scores increased as the patients' education levels decreased (27,28,36,39). In the study by Kılıç et al., it was

Table 3. Comparison of care dependency and anxiety level

	x ± sd	t	p
Care dependency scale	37.83±21.42		
Beck anxiety scale	24.27±11.52	-0.477	**0.000****

t: Pearson correlation **: p<0.01

identified that the patients' care dependency levels went up as the education level decreased (11) and also, in other studies, it was found that the illiterate group had higher dependency levels than the literate group (11,14,38,40).

Moreover, in the current study, it is discerned that the mean of participant patients' CDS scores was 37.83±21.42 and the participant patients were quite dependent on another person for meeting their care needs. Likewise, in a study that analyzed the advanced-stage cancer patients' experiences, it was found that the patients had high levels of care dependency (4). Moreover, in another study conducted to find out the care dependency levels of the patients hospitalized at the oncology clinic, it was identified that the mean of patients' CDS scores was at the medium level (14). In light of the review of the relevant literature, it is ascertained that there are a limited number of studies exploring the care dependency levels of cancer patients, and thus, when the care dependency levels of patients with other chronic diseases were examined instead, it was discerned that the patients with chronic obstructive pulmonary disease (COPD) (38,41), the patients with neurological diseases (8,9,42,43) and the patients with chronic renal failure (19) had medium and high levels of dependency. Similarly, in the studies that analyzed the old individuals' dependency levels, it was identified that more than half of the cases were dependent on another person for meeting their needs (44–46). Moreover, in another study, it was found that the patients who were hospitalized at the clinic of the thoracic diseases, were semi-dependent for meeting their care needs, and had an additional chronic disease obtained a higher mean of CDS scores than other patients (40).

Furthermore, in the current study, it was discerned that the disease duration and care dependency were associated and the participant patients who had the disease for a longer duration had higher levels of care dependency. Considering that a chronic disease raised the care dependency risk (44), it is not surprising that the dependency level increased along with the prolongation of the disease duration. It was found that, as cancer having recovery and exacerbation periods, requiring treatments for a long time, and creating adaptation problems for the patient extended the duration of the patient's stay at the hospital, it affected the patient's care dependency (14).

Each patient with a different diagnosis of cancer has care needs distinct from other cancer patients. In the studies performed on the oncology patients, it was also identified that nearly half of the oncology patients needed care (14,47). On the one hand, the patients become part of the care and treatment process, and on the other hand, they are influenced by this process with physiological, psychological, and social dimensions (11). The patient needs nursing care in areas such as eating and drinking, hygiene, dressing, social relations. The increase in care dependency also contributes to the development of dementia and health-related nursing care problems (ie, malnutrition, pressure ulcers, incontinence, falls, limitations) (4,9,48). This influence restricts the individual's control over his/her own body and makes the individual have dependency at different levels (11).

In the current study, it is considered that, besides the emotional problems, losses, and the negative changes taking place in the family, business, and social roles of the patients diagnosed with cancer, the extensive and long-lasting treatments and their side effects affected the patients' lives negatively and increased their care dependency. Moreover, it is thought that the patient's care dependency increased as the cancer was a chronic disease, the disease advanced, and several symptoms were identified. Consequently, it is supposed that the cancer patients' increasing care dependency levels increased also the patients' anxiety levels.

Limitations

The study is limited to the answers given only by the participants.

CONCLUSION

In this study, it was found that the participant cancer patients had high-level care dependency and medium-level anxiety. In addition, it was determined that the level of anxiety increased with the increase in the level of care dependency. The identification of the patients' care needs and dependency levels occupies an important place in the nurse's individualization of the care for each patient. Therefore, the identification of the care dependency levels of the patients, to whom the nurses are responsible for offering care, by finding out their care needs plays a crucial role in enhancing the quality of nursing care. As care dependency is a dynamic process that can change over time, nursing care should be planned and adjusted as per the patients' needs. In line with these results; to determine the level of independence of cancer patients; It may be recommended to follow up the patient with appropriate intervals and scales, and to plan therapeutic, supportive and educational nursing interventions according to the patient's addiction level and care needs. Furher nurses should follow the patients in terms of possible psychiatric disorders such as anxiety. Moreover, performing the study again with a different sample group is recommended. Also, it is recommended that the patients' care needs and care dependency levels and the mental variables affecting the care dependency, such as anxiety, be identified and the nursing care be planned in this direction.

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Conflict of interests: No conflict of interest was declared by the authors.

Ethical approval: Before the research, ethical approval (Date: 25 March 2019, No: 4477) from the Non-Invasive Clinical Research Ethics Committee of Siirt University in Turkey and institutional permission from the hospital (Gazi Yaşargil Training and Research Hospital of Diyarbakır) where the research was conducted were obtained. Additionally, necessary explanations were made about the study to patients comprising of the sampling of the study, and verbal and written consents were received.

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