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Investigation of the relationship between autonomy and problem-solving skills in patients undergoing chemotherapya: A cross-sectional survey

Kemoterapi alan hastaların özerklik düzeyleri ve problem çözme becerileri arasındaki ilişkinin incelenmesi: Kesitsel bir araştırma

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SUMMARY

Objective: Cancer is a difficult disease to cure that it affects the individual physically, emotionally, and socially, and reduces the quality of life and threatens life. Successful chemotherapy and general care depends on patient participation.This study was conducted to investigate the relationship between autonomy levels and problem-solving skills of chemotherapy patients.
Method: One hundred and four patients who received chemotherapy within the past year comprised the sample of this descriptive, cross-sectional study. Data were collected using a personal information form, the Autonomy subscale of the Sociotropy-Autonomy Scale and the Problem-solving Inventory.
Results: Means and standard deviations for total scores on the Autonomy subscale and Problem Solving Inventory were 66.54±20.97 and 83.46±20.00 respectively. Autonomy was positively correlated with problem-solving skills. Autonomy and problem-solving skill levels of the patients who had a university degree, were married, were residing in the city center, perceived their economic status as good, received education about chemotherapy or suffered the effects of chemotherapy were statistically significantly higher (all *ps* < 0.05).
Conclusions: Our sample displayed moderate autonomy and poor problem-solving skills. We recommend that nurses take into account patients' autonomy and problem-solving skill levels during chemotherapy and efforts should be made at both individual and institutional level to promote patient autonomy and improve patients' problem-solving skills.
Keywords: Autonomy, chemotherapy, problem-solving skills

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ÖZET

Amaç: Çalışma kemoterapi alan hastaların otonomi düzeyleri ve problem çözme becerileri arasındaki ilişkiyi incelemek amacı ile yapılmıştır.

Yöntem: Tanımlayıcı ve kesitsel türdeki çalışmanın örneklemini son bir yıl içinde kemoterapi tedavisi alan 104 hasta oluşturmuştur. Veriler Kişisel Bilgi Formu, Sosyotropi-Otonomi Ölçeği içindeki Otonomi Alt Ölçeği ve Problem Çözme Envanteri ile toplanmıştır. Otonomi Alt Ölçeği'nden alınan puanın yüksekliği yüksek düzeyde otonom özellikleri, bununla birlikte Problem Çözme Envanteri'nden alınan puanın yüksekliği problem çözme becerilerinin yetersiz olduğunu göstermektedir. İstatistiksel analizde yüzdelik dağılım, Pearson korelasyon analizi, t ve Anova testi kullanılmıştır.

Bulgular: Hastaların yaş ortalaması 59.71±13.42 olup, %50'si erkek, %55.8'i ilköğretim mezunu ve %77.9'u evlidir. Katılımcıların toplam otonomi puan ortalaması 66.54±20.97, toplam problem çözme envanteri puan ortalaması 83.46±20.00 olup, otonomi düzeyi ve problem çözme becerileri arasında negatif yönde, istatistiksel olarak anlamlı düzeyde bir ilişki olduğu (r=−541, p=0.000) saptanmıştır. Üniversite mezunu (p=0.007), evli olanların (p=0.006), şehir merkezinde yaşayanların (p=0.030), ekonomik durumunu iyi olarak algılayanların (p=0.001), kemoterapi hakkında eğitim alanların (p=0.022), kemoterapinin olumsuz etkilerini yaşayan hastaların otonomi düzeyleri (p=0.020) ve problem çözme becerileri (p=0.033) istatistiksel olarak anlamlı düzeyde yüksek bulunmuştur.

Sonuç: Araştırmadan elde edilen bulgular doğrultusunda hastaların otonomilerinin orta ve problem çözme becerilerinin düşük düzeyde olduğu ifade edilebilir. Hastaların otonomi düzeyleri yükseldikçe problem çözme becerileri artmaktadır. Otonomi ve problem çözme becerilerini hastaların eğitimi, medeni durumu, yaşadığı yer, ekonomik durumunu algılama, kemoterapi hakkında eğitim alma ve kemoterapinin olumsuz etkilerini yaşama durumu olumlu yönde etkilemektedir. Kemoterapi tedavisi sürecinde onkoloji alanında çalışan profesyonellerin hastaların otonomi düzeyleri ve problem çözme becerilerini dikkate almaları, bu alanlarda hastaları destekleme ve güçlendirmeye yönelik bireysel ve kurumsal çabaları ortaya koymaları önerilmektedir. Ayrıca bu konularda farklı kurum ve farklı popülasyonlarda araştırmaların yapılması ve literatüre bilgi girdisinin sağlanması da önerilmektedir.

Anahtar sözcükler: Otonomi, kemoterapi, problem çözme becerisi, etik.

INTRODUCTION

Cancer is one of the world's main health problems and the incidence of cancer is increasing all the time.[1,2] Cancer is a difficult disease to cure that it affects the individual physically, emotionally, and socially, and reduces the quality of life and threatens life.[3,4] Chemotheraphy, a commonly used treatment method in cancer patients, is used to prolong patients' lives and improve their quality of life.[4] Cancer patients suffer problems related both to the disease and to chemotherapy, and may have trouble coping with them.[5,6] It is inevitable that individuals diagnosed with cancer will experience negative emotions such as anxiety, stress and depression.[7-9] It is reported that 23-66% of individuals diagnosed with cancer have psychological problems.[8] The process of diagnosing and treating cancer and the problems that arise during this process - repeated hospitalization, pain, physical side effects of chemotherapy and death-related thoughts - lead to changes in patients' lifestyles, their perceptions of their body and their ability to perform activities of daily living. These problems may also cause difficulties in self, working life, interpersonal relationships, personal, family and social roles, decision-making and coping with problems as well as forcing patients to adjust their expectations and plans for the future.[5,6,10] Because of all this cancer has adverse effects on patients' cognitive, psychological, emotional and social functioning.[10-12] It is possible that conditions such as anxiety and stress negatively affect the treatment process and prognosis.[8] It is important, therefore, that patients and their repartlaklatives come to terms with the diagnosis and find ways of coping with the problems they face.[7,9,13]

Any situation in which an individual has difficulty responding to internal and external stimuli can be considered a problem; however problem-solving is defined as a conscious, rational, demanding and goal-oriented activity.[14] Individuals diagnosed with cancer need to be mentally strong, able to acknowledge and understand their situation and capable of choosing the treatments and care options that will be most beneficial and will help them to cope with the problems caused by the disease.[15] The patient-centered approach to medicine recognizes autonomy as a fundamental patients' right. Giving cancer patients the information they need to understand their diagnosis and the treatment options and ensuring that patients are involved in decisions about their care are fundamental ethical principles. Involving patients in the decision-making process facilitates compliance with treatment and makes it easier for them to cope with the disease.[16-19] Autonomy is defined as a person's ability to control his/her behaviors, decisions and activities.[6,20] It is related to independence, the protection and enhancement

of individual rights, achievement of personal goals and the assumption and fulfillment of responsibilities.[13,21] Loss of control over one's environment or perceived failures can cause stress and depression in highly autonomous people.[5,20,21] Cancer patients face many stressful situations during the treatment process and these may affect their mental health and coping strategies and impairs adherence to treatment; they may also prevent patients making good decisions about their treatment.[3,5,18] A patient's ability to cope with the stress is influenced by many factors, including personal characteristics and ability to cope with problems.[22] However, if a patient is to be included in the diagnosis and treatment process, in addition to respecting patient autonomy and rights, patients' approaches regarding the use of autonomy should be put forth.[13,16] Shared mind and decision-making tools can help to increase patient autonomy and ensure that patients are involved in medical decision-making processes.[20,23] An international study of patient autonomy and patient participation in medical decision-making processes reported that although almost all the patients wanted to be informed about the issues, only about two-thirds wanted to participate actively in decision-making processes.[24] An international review of 33 articles on patient participation in the medical decision-making process concluded that patients' preferences were varied and affected by many different factors.[25] Our search for studies on autonomy and problem-solving skills in cancer patients revealed a gap in the Turkish literature. Patient involvement in, and cooperation with treatment is regarded as desirable, but it is dependent on patients having autonomy and advanced problem-solving skills.

The aim of this study was, therefore to investigate chemotherapy patients' autonomy and problem-solving skills and the relationship between these two variables.

MATERIAL AND METHODS

1. Study Design and Participants

This was a descriptive, cross-sectional study of 104 patients who attended the chemotherapy unit of State Hospital in Turkey between January 1, 2011 and December 31, 2011 in order to receive chemotherapy, underwent chemotherapy treatment within the past year. Participation was voluntary and all participants were over 18 years of age, able to communicate without problems. The study was conducted at a state hospital in Turkey with 400 beds and 21 clinics. At the time of the study the chemotherapy unit treated outpatients and was staffed by a physician and a nurse who administered chemotherapy. The average number of patients admitted per year is 125 (participation rate: 83.2%). Nine patients were excluded because they were not voluntary to involve in the study.

2. Measures

1. Personal Information Form

This form was designed by the researchers based on a literature review and comprised 23 items, ten relating to socio-demographic characteristics (age; gender; education; marital status; employment status; perceived economic situation; health insurance; place of residence; household) and 13 to features of the respondent's disease (medical diagnosis; duration of the disease; duration of chemotherapy; effects of the disease on work and activities of daily living; physical and psychological comorbidities; surgery; experience of side effects of chemotherapy).

2. Sociotropy-Autonomy Scale

This scale was developed by Beck, Epstein, Harrison, and Emery.[26] We used the Turkish version developed by Sahin, Ulusoy and Sahin [27] for which reliability and validity data are available. The scale assesses dependent and independent personality traits. The Autonomy subscale of the Sociotropy-Autonomy Scale consists of 30 items organized into 3 sections: individualistic or autonomous achievement, mobility/freedom from control of others and preference for solitude. The Autonomy subscale of the Sociotropy-Autonomy Scale assesses the degree of autonomy the respondent perceives him or herself to have. Respondents are required to rate items using a five-point scale ranging from 0 to 4 (0 = not at all, 1 = a little, 2 = somewhat, 3 = very, 4 = extremely). Scores can range from 0 to 120 and high scores indicate greater perceived autonomy.[27] The Cronbach's a. coefficient of the scale in Şahin et al.'s study [27] was 0.81. In the present study, the Cronbach's a. coefficient of the scale was 0.95.

3. Problem-Solving Inventory

The Problem-solving Inventory was developed by Heppner and Petersen.[28] Sahin, Sahin and Heppner [29] developed a Turkish version of the Problem-solving Inventory and assessed its reliability and validity. The Problem-solving Inventory is a self-report instrument consisting of 35 items to which responses are given using a six-point Likert scale ranging from 1 to 6 (1 = I always act like that; 2 = I usually act like that; 3 = I often act like that; 4 = I sometimes act like that; 5 = I rarely act like that; 6 = I never act like that). The inventory is organized into six subscales ('Hasty approach'; 'Thinking approach'; 'Avoidant approach'; 'Evaluative

approach'; 'Self-confident approach'; 'Planned approach'). Items 1, 2, 3, 4, 11, 13, 14, 15, 17, 21, 25, 26, 30 and 34 are reverse scored. Total scores range 32 to 192. In Şahin et al.'s study [29], the Cronbach's a. coefficient was found as 0.88. In the present study, the Cronbach's a. coefficient was 0.90.

3. Ethical Consideration

Approval for the study was obtained in advance from the Ethics Committee of University (decision number: 2010-06/38) and the Directorate of Health. The study was conducted in accordance with the Declaration of Helsinki. Permission to administer the Turkish version of the scale was obtained from the authors who adapted the scale into Turkish.

4. Procedure

Potential participants were given information about the subject and aim of the study in order to obtain reliable responses and to ensure that they completed the forms appropriately. Written consent to participation was obtained from all participants before they completed the questionnaires.

5. Data Analysis

Data were analyzed using SPSS version 14.0. Frequency distributions were calculated for socio-demographic and disease characteristics. Pearson's correlation analysis was used to assess relationships between variables. Group differences were assessed with *t*-tests or analysis of variance. Tukey's test was used to determine which groups in the sample differed. The significance level for all tests was $p < .05$.

RESULTS

1. Socio-Demographic Characteristics

The mean age of the patients was 59.7 years (*SD* = 13.42, range: 19 - 85). Fifty percent of the participants were male, 55.8% were primary school graduates, 77.9% were married, 85.6% were unemployed, 84.6% reported their economic status as intermediate, 100% had health insurance, 62.5% resided in a city center and 42.3% were living with a spouse and children.

About a fifth of the participants (21.25) had been diagnosed with breast cancer, 15.4% had colon cancer, 12.5% had multiple myeloma, 11.5% had lung cancer, 8.7% had chronic lymphocytic leukemia, 5.8% had stomach cancer, 54.8% had had cancer for between 0 and 1 year, 51.9% did not know how long they had been having chemotherapy, 71.2% had problems with work and everyday activities, 68.3% had not been diagnosed with another physical illness, 84.6% had to make decisions about their life or illness on their own, 61.5% had been educated about chemotherapy, 59.6% had undergone surgery as part of their cancer treatment, 51.9% suffered from the negative effects of chemotherapy, 32.7% reported nausea and vomiting, 26% malaise, 16.3% anorexia, 12.5% hair loss and 12.5% pain.

2. Autonomy and Problem-Solving

Descriptive statistics for participants' scores on the three sections of the Autonomy subscale were as follows, individualistic or autonomous achievement: *M*=27.80, *SD*=9.12, range:7-47; mobility/freedom from control of others: *M*=27.25, *SD*=8.41, range:6-47; preference for solitude: *M*=11.48, *SD*=5.15, range:1-24. The mean score for the Autonomy subscale was 66.54 (*SD*=20.97, range:14-114) (Table 1).

Descriptive statistics for participants' scores on the subscales of the Problem-solving Inventory were as follows, hasty approach: *M*=24.92, *SD*=6.38, range:13-58; thinking approach: *M*=12.57, *SD*=5.30, range:5-30; avoidant approach *M*=8.60, *SD*=3.40, range: 4-18; evaluative approach: *M*=8.74, *SD*=3.36, range:2-18; self-confident approach: *M*=15.56, *SD*=5.07, range:6-28; planned approach: *M*=9.93, *SD*=3.97, range:4-22. Mean total score on the Problem-solving Inventory was 83.46 (*SD*=20.00, range:47- 138) (Table 1).

Mean score on the Autonomy subscale was positively related to scores on the individualistic or autonomous achievement and mobility/freedom from control of others sections (both *ps* <.05). Mean score on the Problem-solving Inventory was positively related to scores on the thinking approach, avoidant approach, evaluative approach and self-confident approach subscales (all *ps* <.05). Mean score on the preference for solitude section of the Autonomy subscale was positively related to total score on the Problem-solving Inventory and to scores on the thinking approach, evaluative approach, self-confident approach and planned approach subscales (all *p*s <.05) (Table 2).

In this study autonomy was higher in participants who were university graduates (p=.007), married (p=.006), residing in the city center (p=.030), perceived their economic status as good (p=.001), had received education about chemotherapy (p=.022) or had suffered the negative effects of chemotherapy (p=.020) (all ps <.05). Participants who had suffered the negative effects of chemotherapy perceived themselves to have better problem-solving skills than those who had not (p=.033) (ps <.05) problem-solving (Table 3).

Table 1: Mean Scores on Instruments Measuring Autonomy and Problem-Solving Skills

Scales	Min*	Max*	*M* ± *SD*
Autonomy subscale sections			
Individualistic or autonomous achievement	7 (0)	47 (48)	27.80±9.12
Mobility/freedom from control of others	6 (0)	47 (48)	27.25±8.41
Preference for solitude	1 (0)	24 (24)	11.48±5.15
Autonomy subscale score	14 (0)	114 (120)	66.54±20.97
Problem-solving skills			
Hasty approach	13 (1)	54 (54)	24.92±6.38
Thinking approach	5 (1)	30 (30)	12.57±5.30
Avoidant approach	4 (1)	18 (24)	8.60±3.40
Evaluative approach	2 (1)	18 (18)	8.74±3.36
Self-confident approach	6 (1)	28 (36)	15.56±5.07
Planned approach	4 (1)	22 (24)	9.93±3.97
Total score on Problem-Solving Skills Inventory	47 (32)	138 (192)	83.46±20.00

* The first figure given is the minimum or maximum score in our sample; theoretical minimum and maximum scores are given in parentheses.

Table 2: Relationship between Autonomy and Problem-Solving Skills

			Problem-Solving Skills Inventory: Subscale scores and total score						
			Hasty approach	Thinking approach	Avoidant approach	Evaluative approach	Self-confident approach	Planned approach	Total
Autonomy: sections scores and subscale score	Individualistic or autonomous achievement	r [a] p	-0.10 .307	-0.55 p <.001*	-0.34 p <.001*	-0.50 p <.001*	-0.60 p <.001*	-0.59 p <.001*	-0.58 p<.001*
	Mobility/freedom from control of others	r [a] p	-0.05 .585	-0.55 p <.001*	-0.23 .018*	-0.38 p <.001*	-0.56 p <.001*	-0.57 p <.001*	-0.51 p<.001*
	Preference for solitude	r [a] p	0.03 .706	-0.36 p <.001*	-0.14 .149	-0.25 p <.010*	-0.38 p <.001*	-0.45 p <.001*	-0.33 p<.001*
	Total	r [a] p	-0.05 .569	-0.55 p <.001*	-0.27 .005*	-0.43 p <.001*	-0.58 p <.001*	-0.59 p <.001*	-0.54 p<.001*

*p <.05

[a] Pearson correlation analysis

Table 3: Mean Scores on Autonomy Subscale and Problem-Solving Skills Inventory Organized By Socio-Demographic Variables

Socio-demographic characteristics	Autonomy subscale score M±SD	Total problem-solving skills score M±SD
Education		
Literate - illiterate	54.70±21.01	88.52±11.47
Primary school	66.25±20.51	83.87±21.92
High school	68.20±22.19	87.46±18.15
University	80.35±13.20	71.28±18.21
F [a]	F=4.22	F=2.39
p	p=.007*	p=.073
Marital status		
Married	69.54±19.34	82.85±21.20
Single	56.00±23.43	85.60±15.24
t [b]	t=2.82	t=−0.58
p	p=.006*	p=.562
Place of residence		
City center	70.33±20.59	80.66±18.12
Town	57.40±18.80	90.56±24.09
Village	65.28±22.57	83.78±18.56
F [a]	F=3.64	F=2.26
p	p=.030*	p=.109
Perceived economic status		
Good	87.10±20.27	78.80±24.62
Intermediate	65.14±20.06	83.26±19.19
Bad	52.83±14.63	94.16±23.57
F [a]	F=7.01	F=1.13
p	p=.001*	p=.324
Received education on chemotherapy		
Yes	70.25±21.18	82.85±21.44
No	60.62±19.44	84.42±17.67
t [b]	t=2.32	t=−0.38
p	p=.022*	p=.700
Suffered from the negative effects of chemotherapy		
Yes	71.12±20.29	79.44±20.51
No	61.60±20.76	87.80±18.66
t [b]	t=2.36	t=−2.16
p	p=.020*	p=.033*

* $p < 0.05$

[a] One-way analysis of variance

[b] Independent samples t test

DISCUSSION

Cancer is a disease that is difficult to come to terms with and treatment is often long and difficult treatment.[5,6,30] Chemotherapy is one of the treatments commonly used to prolong cancer patients' survival and improve their quality life. Successful chemotherapy and general care depends on patient participation.[15]

The comparison of the mean autonomy scores the participants obtained in this present study with the possible scores to be obtained from the scale revealed that the participants' scores were at a moderate level. Patients have autonomy if they are given information and are able to make decisions about their medical treatment and care that are implemented by their medical team.[17,24,31] In other words, if a patient has autonomy his/her individual rights as a patient are respected and he/she has a say in medical decisions. If patients are to exercise their right to autonomy they need to feel in control of their life and their body and have sufficient information to make decisions about their treatment. A diagnosis of cancer may make people feel that they have lost control over their life; they may feel powerless and desperate and may have

difficulty coping with problems during this time of crisis.[13,18,30] The patients in our sample may have reported only moderate autonomy because they did not have sufficient understanding of their disease and the treatment and care options open to them and hence did not have a voice in decisions about their treatment. Although the concepts of human and patient rights and informed consent are very important to contemporary healthcare, nurse practitioners' approach to medical decision-making may still be dominated by paternalism.[20,25] There is evidence, however, that patients want to be involved in decisions about critical health issues. In a study conducted in Turkey 78.8% of the patients stated that they should have the right to participate in decisions about their treatment and that their consent should be required before treatment could be carried out.[32] The overwhelming majority (93%) of a sample of 57 women diagnosed with breast cancer stated that their husband and physician played the key role in the medical decision-making process, and that it was important to them that their spouse participated in the decision-making (84%) and agreed with their decisions (89%). In this study both the breast cancer patients and their spouses preferred a "shared decision-making process" to paternalistic- or autonomy-based approaches, and emphasized the superiority of shared decision-making over decisions by an individual.[33] A UK study of 106 healthcare professionals in various disciplines corroborated these findings; the healthcare professionals emphasized the importance of ensuring that patients had a say in making medical decisions and were able to make informed decisions about their treatment.[34]

The mean scores of our sample on the Problem Solving Inventory and its subscales show that their problem-solving skills were poor. In the literature, it has been emphasized that cancer patients do not comply with the diagnosis and treatment process sufficiently, due to the side effects, they suffer anxiety, depression and despair and their quality of life was low [2,22,35] and they cannot effectively solve problems arising, all of which negatively affect the prognosis and the treatment process.[5,6,8] The poor problem-solving skills of our sample and their lack of compliance with treatment may have been due to lack of support from nurse practitioners and their families when they faced mental and physical problems. It has been reported that breast cancer patients' problem-solving skills are associated with their anxiety and depression status.[36]

In the present study, a positive and statistically significant correlation was determined between mean total scores obtained from the Autonomy Scale and those obtained from the Problem-solving Inventory. Thus, it can be said that the higher the patients' autonomy levels were, the higher their problem-solving skills were. Therefore, a patient's making decisions about his/her body and life, in other words, his/her participation in informed consent and decision-making processes can reduce his/her anxiety, which enables him/her to cope with problems better. However, in Turkey, the public and health professionals still believe that accurate and reliable information about the diagnosis and prognosis of patients should be given only to family members, and that this information should be concealed from the patient.[37] Thus, chemotherapy patients cannot be aware of practices related to their own health, they cannot be involved in decisions about their lives and they themselves cannot solve problems they face.

In our sample being a university graduate, being married and residing in a city center were all associated with greater autonomy. One could argue from these results that education increases individuals' capacity for independent decision-making. Other reports that better educated cancer patients participate more in the medical decision-making process support our findings.[24] We also suggest that being married benefits patients' decision-making because married patients are less likely to feel lonely and more likely to have people around to support them when a problem arises during the treatment process. We also suggest that living in a city center facilitates patients' decision-making process because it means they have better access to information and health services.

We also found that patients who perceived their economic situation as good reported having greater autonomy. This suggests that economic status can be a determining factor in making decisions about their diagnosis and treatment process. Because of the long treatment process, cancer places an economic burden on sufferers.[30] The high cost of cancer treatment and care can prevent poorer people from accessing treatment.[19] People who perceive their economic situation as good may be better able to cope with the disease because they have better access to treatment; they may find it easier to find solutions to physical and psychological problems that arise during the process of diagnosis and treatment process and to make decisions about their treatment and act autonomously. It has been reported that autonomy and social attitudes were associated with socio-economic burden.[38]

Cancer patients face many stressful situations during the treatment process and these may affect their mental health and coping strategies and

impairs adherence to treatment; they may also prevent patients making good decisions about their treatment. Involving patients in decision-making by nurse practitioners facilitates compliance with treatment and facilitates coping with diseases. Nurse practitioners take into account patients' autonomy and problem-solving skill levels during chemotherapy and efforts should be made at both individual and institutional level to promote patient autonomy and improve patients' problem-solving skills.

CONCLUSION

We found that patients who had received education on chemotherapy or had suffered the negative effects of chemotherapy such as nausea, vomiting, fatigue, loss of appetite, hair loss, pain reported higher autonomy. Patients who had suffered the negative effects of chemotherapy also reported better problem-solving skills. These results are noteworthy because they demonstrate that education and experience can affect individuals' autonomy and problem-solving skills.

The patients who participated in this study reported moderate autonomy and poor problem-solving skills. Autonomy was positively associated with problem-solving skills in our sample. Autonomy was also associated with being a university graduate, being married, residing in the city center, perceiving one's economic status as good, having received education about chemotherapy and having suffered from the negative effects of chemotherapy. Patients who had suffered the negative effects of chemotherapy perceived themselves as having better problem-solving skills. We recommend the development of strategies to improve chemotherapy patients' autonomy and problem-solving skills, that further research on this issue should be carried out, in other institutions using larger samples, and that health professionals' attention should be drawn to this issue. It can be said that the higher the patients' autonomy levels were, the higher their problem-solving skills were. Therefore, nurse practitioners should emphasize advocacy roles in respecting patient autonomy.

Limitations

The results obtained from this study are applicable only to the study sample and cannot be generalized to other patients. As this was the first study of its type to be carried out in Turkey we were unable to compare our findings with those of similar studies.

Conflict of interests

No potential conflict of interest was reported by the authors.

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