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Determining Pain Coping Behaviors of Patients with Acute and Chronic Pain: The Cross-Sectional Descriptive Study

Akut ve Kronik Ağrısı Olan Hastaların Ağrıyla Başa Çıkma Davranışlarının Belirlenmesi: Kesitsel Tanımlayıcı Çalışma

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ABSTRACT Objective: The aim of this study was to determine the coping behaviours of patients with acute and chronic pain. **Material and Methods:** This cross-sectional, descriptive study was conducted in the thoracic surgery and rheumatology wards of a university hospital. The data consisted of 118 patients with acute (59) and chronic (59) pain between 2.1.2023-1.8.2023. Patient Description Forms and the Pain Coping Inventory were collected. Descriptive analyses, independent sample t-tests, chi-square tests (Fisher's exact test), and Pearson chi-square analyses were used to evaluate the data. **Results:** In the study, it was determined that male patients used active coping methods (p=0.038) and pain transformation (p=0.016) at a statistically significant level in coping with pain compared to female patients. When the level of education was analysed, it was found that university graduate patients used distancing from active coping methods at a statistically significant level (p=0.043). There was no statistical significance between the patients' behaviours of coping with acute pain and coping with chronic pain (p>0.05). **Conclusion:** In the study, it was determined that patients' methods of coping with pain did not differ significantly according to the type of pain (acute or chronic). We recommend that nurses know the pain coping behaviours of patients with acute and chronic pain for a holistic approach to pain management.

Keywords: Pain coping; nursing; acute pain; chronic pain

ÖZET Amaç: Bu araştırmanın amacı, hastaların akut ve kronik ağrıyla başa çıkma davranışlarının belirlenmesidir. **Gereç ve Yöntemler:** Kesitsel ve tanımlayıcı türdeki bu araştırma, bir üniversite hastanesinin göğüs cerrahisi ve romatoloji servislerinde yürütüldü. Veriler 02.01.2023-01.08.2023 tarihleri arasında akut (59) ve kronik (59) ağrılı toplam 118 hastadan oluştu. Hasta Tanıtıcı Formu ve Ağrıyla Baş Etme Envanteri kullanılarak toplandı. Verilerin değerlendirilmesinde tanımlayıcı analizler, bağımsız örneklem t-testi, ki-kare testi (Fisher's exact test) ve Pearson ki-kare analizi kullanıldı. **Bulgular:** Araştırmada erkek hastaların kadın hastalara göre ağrıyla başa çıkmada aktif baş etme yöntemlerini (p=0,038) ve bu yöntemlerden ağrıyı dönüştürmeyi (p=0,016) istatistiksel olarak anlamlı düzeyde kullandıkları belirlendi. Eğitim düzeyi incelendiğinde, üniversite mezunu hastaların aktif baş etme yöntemlerinden uzaklaştırmayı istatistiksel olarak anlamlı düzeyde kullandıkları saptandı (p=0,043). Hastaların akut ağrıyla baş etme davranışları ile kronik ağrıyla baş etme davranışları arasında istatistiksel olarak anlamlılık bulunamadı (p>0,05). **Sonuç:** Araştımada ağrının türüne göre (akut veya kronik), hastaların ağrı ile başa çıkma yöntemlerinin kullanımında anlamlı farklılık olmadığı belirlendi. Hemşirelerin, akut ve kronik ağrılı hastaların ağrı yönetiminde bütüncül yaklaşım için hastaların ağrıyla baş etme davranışlarını bilmelerini önermekteyiz.

Anahtar Kelimeler: Ağrıyla baş etme; hemşirelik; akut ağrı; kronik ağrı

It is reported that 18.9% to 31% of the world, especially Canadians and Americans, experience chronic pain, while the proportion of patients experiencing acute pain varies between 37% and 53%.[1,2] In the study, which included 3882 people applying to a health institution, Steyaert et al. stated that 22% of patients complain of acute pain and 50% of them complain of chronic pain.[3]

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Pain is known as a complex, holistic condition that includes the past and present pain experiences of individuals. The definition of pain varies between individuals.[3] The International Association for the Study of Pain defines pain as an unpleasant emotional experience associated with or identifiable by actual or potential tissue damage.[4,5] Pain is classified as acute or chronic according to its duration. Acute pain starts suddenly and lasts less than three months. Chronic pain, on the other hand, is a type of pain that lasts longer than three months, includes a wide range of cognitive, behavioural and psychological comorbidities, and is resistant to drug treatment. In chronic pain, unlike acute pain, there is often no tissue damage or temporal or causal relationship with the disease.[6] Generally, acute pain develops in patients during surgical intervention. One of the most important of these acute pains is thoracotomy pain.

Pain after thoracotomy is known to be initiated by stimulation of neuroreceptors due to surgical trauma and decreases with tissue healing.[7,8] Thoracotomy pain is transmitted by intercostal nerves after incision of skin, tissue, and muscles, parietal pleural injury, retraction of the costae, and chest drain placement. After an injury to the bronchi, pain is transmitted by the phrenic and vagus nerves. However, the most severe pain is caused by bone structures, damage to costal articular joints, stretching of ligaments, and intercostal nerve damage.[9,10] The site, duration, type of anaesthesia, anxiety during the surgical procedure, and prolonged lateral decubitus position also affect the incidence of postoperative pain.[9-11] Acute postoperative pain may lead to chronic pain due to ineffective management or a pathological condition.[12] However, it is known that chronic pain is usually experienced by patients hospitalised in internal medicine clinics. It is stated that one of the most important diseases causing chronic pain is rheumatological disease.

Rheumatoid arthritis (RA) is the most common inflammatory joint disease in the world. RA is known to be a chronic and autoimmune disease affecting many systems.[13] In RA, afferent nerves that are effective in inflammatory processes cause pain by creating hypersensitivity in the spinal cord and upper centres. It has been determined that pain is one of the most important findings seen in RA and that it causes patients to apply to health institutions.[14] It is stated that pain in these patients turns into chronic pain due to various reasons and causes functional inadequacy and decreased quality of life.[14,15]

Coping is defined as the thoughts and behaviours that a person has to manage pain and its effects Patients use active and passive methods to cope with acute and chronic pain.[16] The active approach to coping with pain involves taking responsibility for pain management, controlling pain, or attempting to continue functioning despite pain. In the passive coping approach, the responsibility for pain management is assigned to an external source. Daily living activities are negatively affected by pain in individuals who use passive coping approaches.[16,17] Şimşek et al. found that patients with mild pain used active coping strategies more than patients with moderate and severe pain.[17] It is stated that active coping methods may reveal positive health outcomes, and passive coping methods may reveal negative health outcomes. It was found that as the use of passive coping methods increased, the level of disability caused by pain also increased.[16] Pain coping behaviours are influenced by various factors, such as the cultural back ground and socioeconomic status of patients.[18]

Since pain is subjective data, the most reliable indicator for determining pain is the expression of pain by patients. Therefore, knowing the pain perception of patients and the factors affecting pain enables nurses to have the right approach to patients with pain.[19]

It is stated that one of the most severe postoperative pains is the pain experienced after thoracotomy. It is emphasized that severe acute pain occurs in 21-67% of patients after thoracotomy.[20] One of the diseases most frequently accompanied by chronic pain is RA. In the study conducted by Hocaoğlu et al. on the validity and reliability of the Pain Coping Inventory, the majority of the sample group (33.7%) consisted of RA patients.[16]

In their study examining patients' approaches to coping with pain, Deif and Ellis determined that the RA patient group used passive coping methods more.[21] In their research conducted in internal

medicine and surgical services, Öztürk Birge and Mollaoğlu found that 49.1% of the patients used non-drug methods to cope with pain.[22] It is stated that determining the pain coping skills used by patients is useful in pain management.[23] These results in the literature reveal that there are limited studies on determining the pain coping behaviors of patients in acute or chronic pain situations. The aim of this study was to determine the pain coping behaviours of patients with acute and chronic pain.

Research Questions

- Do individuals' methods of coping with pain vary depending on the type of pain (acute or chronic)?
- What are the factors affecting the pain coping behaviors of patients experiencing acute or chronic pain?

MATERIAL AND METHODS

STUDY DESIGN AND SAMPLE

This cross-sectional descriptive study was conducted in the thoracic surgery and rheumatology clinics of a university hospital in Edirne between 2.1.2023-1.8.2023. In order to determine the number of samples, power analysis was performed using the findings of the study titled "Chronic, acute, and acute-on-chronic pain prevalence in a tertiary care hospital setting," it was calculated that 112 patients (56 with acute pain, 56 with chronic pain) should be included in the sample at a 95% confidence level, with 95% power, and the tolerance ratio not exceeding 0.05 of the relevant parameter.[2] In order to prevent possible data loss, a total of 118 patients with acute pain (59) and chronic pain (59) were included in the study. Inclusion criteria were as follows: elective hospitalization in the rheumatology and thoracic surgery clinic; for patients to be included in the chronic pain group, having been diagnosed with RA for at least 3 years, for patients to be included in the acute pain group, having undergone elective lung resection surgery, not having reading, writing, hearing, vision or mental incompetence; more than 18 years old and volunteering to participate in the study. During the data collection process, there were no patients who did not accept the research or did not meet the inclusion criteria. A total of 118 patients who underwent lung resection from the Thoracic Surgery Service (59) and who were diagnosed with RA from the Rheumatology Service (59) were included in the study. The reason why patients diagnosed with RA and who had undergone lung resection were included in the study is that the patients who experience non-malignant chronic pain most intensely are the patients with RA, and the patients who experience thoracotomy pain, which can be described as one of the most severe types of acute pain, are the patients who underwent lung resection.

DATA COLLECTION

The Patient Identification Form and Pain Coping Inventory were given to the volunteer patients, and they were given time to complete them. After the forms were taken back, it was questioned whether there was anything unclear. Data from patients in the acute pain group who had undergone surgery were collected on the 3rd postoperative day. Evaluations of the patients' pain levels were made using visual analogue scale (VAS). Values obtained with VAS were classified as mild to moderate (1-4 cm), severe (5-7 cm) and very severe to unbearable (8-10 cm).

PATIENT DESCRIPTION FORM

In line with the relevant literature, the questionnaire included questions related to acute and chronic pain (age, gender, marital status, education, employment status, current pain experience, continuous drug use, and use of non-drug approaches for pain management).[24,25] In addition, the VAS was used to determine the pain level of the patients.

PAIN COPING INVENTORY

It was developed by Kraaimaat and Evers to reveal pain-specific affect and behavioural patterns.[26] The validity and reliability study of the Pain Coping Inventory was conducted by Hocaoğlu et al. Core components are divided into two categories: active and passive methods.[16] Active methods are distancing, transforming pain, relaxing thinking, and reliability. The alpha coefficients were found to be 0.76, 0.77 and 0.53, respectively. Passive methods are worry-

ing, resting, and withdrawal, and their reliability alpha coefficients were calculated as 0.69, 0.73 and 0.61, respectively. Active coping, distancing: items 12, 13, 14, transforming pain: Items 7-8, relaxing thinking: Items 10, 11, 19, passive coping, worry: Items 9, 15, 16, 18, rest: Items 1, 2, 3, 4, 5, 6, withdrawal: items 17, 20, 21, 22. Scoring: Firstly, two scores can be obtained for active coping and passive coping. The items in the active and passive coping dimensions are summed, and the total score is obtained by dividing by the number of items. Also, scores of sub-dimensions are obtained by adding the items in the sub-dimension and dividing by the number of items. The increase in the scores of the active and passive coping dimensions of the scale and the sub-dimensions of these dimensions indicates that the rate of using pain coping behaviors increases. Eighteen in this study, Cronbach's alpha values were found for distancing was 0.73, for transforming pain was 0.71, for relaxing thinking was 0.54. As passive methods, concern, rest, and withdrawal sub-dimensions' alpha coefficients were calculated as 0.76, 0.85 and 0.35, respectively.

DATA ANALYSIS

The data were analysed using the SPSS (IBM, Armonk, NY, USA) statistics programme for Windows version 20.0. Descriptive statistical variables (age, gender, etc.) were shown as mean, standard deviation, percentage, and frequency. Independent sample t-test, chi-square test (Fisher's exact test), Pearson chi-square, and correlation analysis were used in the evaluation of the data. For the results, $p<0.05$ was considered statistically significant.

ETHICAL CONSIDERATIONS

In order to perform the study, the necessary written permissions were obtained from the University of Trakya Faculty of Medicine Non-Invasive Scientific Research Ethics Committee (date: December 26, 2022, no: 25/18) and the Health Research and Application Centre's Central Directorate. This study was conducted in accordance with the Declaration of Helsinki. Before the study, the patients were informed about the study and asked whether they wanted to participate or not. Written and verbal consents were obtained from the patients who wanted to participate in the study.

RESULTS

The mean age of the patients was 52.34±14.17 years. It was determined that 81.4% of the patients with acute pain (thoracotomy) were male, 86.4% were married, 47.5% were primary school graduates, 67.8% were not working, 83.1% did not use continuous medication in pain management, 61.1% had mild to moderate pain, 55.9% used non-drug approaches in pain management, 78% received training on pain management, and 45.8% thought that the person who was effective in pain management was themselves. Among patients with chronic pain (diagnosed with RA), 59.3% were male, 84.7% were married, 40.7% were primary school graduates, 50.8% were employed, 84.8% used other (immunosuppressive, etc.) medications, 47.5% had mild to moderate pain, 100% used non-drug approaches in pain management, 89.8% received training on pain management, and 67.8% thought that health professionals were effective in pain management.

In the study, it was determined that the mean age of patients with acute pain was statistically significantly higher than that of patients with chronic pain ($p=0.034$). Most of the patients were male and it was seen that male patients experienced acute pain more than female patients ($p=0.015$). While the majority of patients with chronic pain were using other medications (immunosuppressives, etc.), patients with acute pain were not using any medications other than analgesics and adjuvant drugs ($p=0.000$). When the patients' current pain experiences were examined the rate of experiencing mild to moderate pain in the was higher in patients with acute pain than with chronic pain ($p=0.025$). Most of the patients in the study and all patients with chronic pain were using nonpharmacological approaches in the treatment of pain, and there was a statistically significant difference between patients with acute pain and chronic pain in terms of using nonpharmacological approaches ($p=0.000$). There was a difference between patients with acute pain and chronic pain in terms of the person(s) they thought was effective in treating their pain ($p=0.026$). While patients with chronic pain thought

that healthcare professionals could play a more active role in the management of their current pain, patients with acute pain thought that they could play a more active role themselves (Table 1).

When the pain coping scores of the patients were examined according to their demographic characteristics, it was seen that male patients' scores for active methods of coping with pain were higher than female

TABLE 1: Distribution of characteristics of the patients.

Features	Total		Acute pain group-Thoracotomy (n=59)		Chronic pain group-Rheumatoid arthritis (n=59)		Test
Age $\bar{X}$±SD	52.34±14.17		55.10±15.62		49.59±12.07		t=2.143
							***p=0.034**
	n	%	n	%	n	%	
Gender							
Female	35	29.7	11	18.6	24	14.7	****p=0.015**
Male	83	70.3	48	81.4	35	59.3	
Marital status							
Married	101	85.6	51	86.4	50	84.7	**p=1.000
Single	17	14.4	8	13.5	9	15.3	
Education status							
Literate	8	6.8	3	5.1	5	8.4	X^2=0.891
Primary education	52	44.1	28	47.5	24	40.7	***p=0.828
High school	41	34.7	20	33.9	21	35.6	
University	17	14.4	8	13.6	9	15.3	
Employment status							
Employee	49	41.5	19	32.2	30	50.8	**p=0.061
Not working	69	58.5	40	67.8	29	49.2	
Continuous use of medication							
NSAID	12	10.1	8	13.5	4	6.8	X^2=98.080
Adjuvant	6	5.1	2	3.4	4	6.8	****p=0.000**
Other (immunosuppressive etc.)	50	42.4	0	0.0	50	84.8	
None	50	42.4	49	83.1	1	1.6	
Current pain level of patients with pain							
Mild to moderate	64	54.3	36	61.1	28	47.5	X^2=7.356
Severe	32	27.1	12	20.3	20	33.9	****p=0.025**
Very severe-unbearable	22	18.6	11	18.6	11	18.6	
Use of non-drug approaches for pain management							
Yes	85	72.0	26	44.1	59	100	***p=0.000**
No	33	28.0	33	55.9	0	0.0	
Information/training on pain management							
Yes	99	83.9	46	78.0	53	89.8	**p=0.066
No	19	16.1	13	22.0	6	10.2	
Person(s) thought to be effective in pain management							
Health workers	64	54.2	24	40.7	40	67.8	X^2=9.247
Himself	42	35.6	27	45.8	15	25.4	****p=0.026**
God	11	9.3	7	11.9	4	13.8	
All of them	1	0.8	1	1.6	0	0.0	

*Independent sample t-test; **Chi-square test (Fisher's exact test); ***Pearson chi-square; NSAID: Non-steroidal anti-inflammatory drug; SD: Standard deviation.

TABLE 2: Active and passive dimensions and sub-dimension scores for coping with pain according to the demographic characteristics of the patients.

Features	Active coping	Distancing	Transforming pain	Relaxing thinking	Passive coping	Concern	Rest	Withdrawal
Age $\bar{X}$±SD								
Test*	r=0.024	r=0.013	r=0.077	r=-0.018	r=0.088	r=0.011	r=0.097	r=0.073
	p=0.796	p=0.889	p=0.405	p=0.844	p=0.344	p=0.905	p=0.296	p=0.434
Gender								
Female (n=35)	2.07±0.50	2.31±0.74	1.61±0.67	2.15±0.63	2.46±0.57	2.10±0.77	2.79±0.81	2.33±0.61
Male (n=83)	2.32±0.62	2.49±0.86	1.99±0.80	2.38±0.71	2.42±0.71	2.03±0.71	2.68±0.70	2.41±1.45
Test**	**t=-2.099**	t=-1.099	**t=-2.446**	**t=-1.645**	t=0.308	t=0.432	t=0.716	t=-0.302
	p=0.038	p=0.274	**p=0.016**	**p=0.003**	p=0.759	p=0.666	p=0.475	p=0.763
Marital status								
Married (n=101)	2.26±0.60	2.44±0.83	1.92±0.81	2.32±0.70	2.45±0.70	2.08±0.75	2.71±0.73	2.41±1.34
Single (n=17)	2.17±0.57	2.45±0.85	1.61±0.51	2.27±0.63	2.34±0.48	1.89±0.60	2.72±0.76	2.22±0.46
Test**	t=0.577	t=-0.040	t=1.503	t=0.249	t=0.604	t=0.964	t=-0.031	t=0.597
	p=0.565	p=0.968	p=0.136	p=0.804	p=0.547	p=0.337	p=0.975	p=0.552
Education status								
Literate (n=8)	1.85±0.27	1.83±0.50	1.50±0.53	2.12±0.61	2.28±0.72	2.34±1.03	2.37±0.74	2.09±0.69
Primary Education (n=52)	2.17±0.63	2.33±0.86	1.80±0.79	2.25±0.73	2.54±0.59	2.16±0.79	2.88±0.73	2.40±0.71
High school (n=41)	2.39±0.64	2.58±0.86	2.06±0.88	2.41±0.70	2.40±0.78	1.89±0.64	2.67±0.71	2.50±1.92
University (n=17)	2.36±0.39	2.70±0.63	1.85±0.55	2.35±0.62	2.26±0.60	1.95±0.53	2.50±0.73	2.22±0.65
Test***	F=2.44	**F=2.798**	F=1.52	F=0.640	F=0.959	F=1.608	F=2.030	F=0.350
	p=0.067	**p=0.043**	p=0.213	p=0.591	p=0.415	p=0.191	p=0.114	p=0.789
Employment status								
Employee (n=49)	2.31±0.55	2.49±0.84	1.91±0.66	2.38±0.62	2.33±0.59	1.94±0.69	2.61±0.71	2.29±0.67
Not working (n=69)	2.21±0.63	2.40±0.82	1.85±0.86	2.26±0.74	2.50±0.72	2.13±0.75	2.79±0.74	2.46±1.54
Test**	t=0.870	t=0.584	t=0.449	t=0.975	t=-1.415	t=-1.400	t=-1.263	t=-0.718
	p=0.386	p=0.561	p=0.654	p=0.332	p=0.160	p=0.164	p=0.209	p=0.474

*Correlation analysis; **Independent sample t-test; ***Analysis of variance; SD: Standard deviation.

patients (p=0.038). Among these methods, transforming pain (p=0.016) and relaxing thinking (p=0.003) scores were also higher in male patients than in females. There was a statistically significant difference between the patients' distancing scores from active coping methods according to their education levels (p=0.043). The distancing scores of university graduate patients were higher than those of patients with other education levels, and were lower in literate patients (Table 2).

There was no statistical significance between the patients' behaviours of coping with acute pain and coping with chronic pain (p>0.05). In addition, no statistical significance was found between continuous use of medication, use of non-pharmacological approaches for pain management, information or training on pain management, and person(s) thought to be effective in pain management acute or chronic pain coping behaviours (p>0.05) (Table 3).

DISCUSSION

The results obtained from the study conducted to determine the coping behaviours of patients with acute and chronic pain were discussed in light of the literature. As a result of the study, it was determined that the mean age of patients with acute pain was statistically significantly higher than that of patients with chronic pain. In the literature, it is stated that chronic diseases increase with age, and this is the main reason for the increase in pain.[19] We think that this is because the age at diagnosis of patients with acute pain is different from the age at diagnosis of patients with chronic pain.

In the study, it was found that male patients experienced more acute pain than female patients. Diseases that cause lung surgical interventions are more common in male patients.[20] RA is reported to be more common in female patients than in male patients.[27] However, the number of male and female patients in our study was found to be close to each other. It was determined that the different incidence of the diseases included in the study according to gender affected the result of the study.

It was found that patients with chronic pain used other (immunosuppressive, etc.) drugs more than patients with acute pain before hospitalisation. The use of drugs for pain before thoracotomy is seen due to secondary causes (chronic diseases, tumours, etc.). Since RA is an autoimmune disease affecting many systems, immunosuppressive drugs are frequently used.[13]

When the patients' current pain experiences were examined the rate of experiencing mild to moderate pain in the was higher in patients with acute pain than with chronic pain. It has been reported that acute pain after thoracotomy is usually mild or moderate and tends to disappear over time.[28]

We think that the collection of postoperative data on the 3rd postoperative day may have affected this.

In the study, it was found that patients with chronic pain were statistically significantly higher than patients with acute pain in terms of the use of non-pharmacological approaches for pain management. As in the whole world, the use of non-pharmacological approaches for pain management is increasing in our country, and it is reported to be between 22% and 98.3%.[19] Difficulties in the management of chronic diseases and the inability to achieve complete recovery have been found to increase the use of non-pharmacological approaches in pain management.[13,29] It is stated that the primary reason for the use of non-pharmacological approaches in RA is pain management.[12]

It was determined that the people who could assume the most effective role in chronic pain management were healthcare professionals. It is known that patients with chronic pain are more likely to apply to health institutions.[16] We think that this situation affected our research results.

In the study, it was determined that male patients used active coping methods and pain transformation statistically significantly more than female patients. In the active coping method, patients can provide pain management, while in the passive coping method, patients do not believe that it will have an effect on pain management.[16] In the study of Karaman et al. it was determined that female patients used passive methods more at a statistically significant level.[25] Çırak and Samancıoğlu Bağlama determined

TABLE 3: Active and passive dimensions and sub-dimension scores for coping with pain according to the pain and pain management characteristics of the patients.

Features	Active coping	Distancing	Transforming pain	Relaxing thinking	Passive coping	Concern	Rest	Withdrawal
Pain life								
Acute pain (n=59)	2.33±0.58	2.54±0.81	1.91±0.75	2.39±0.69	2.43±0.74	2.04±0.71	2.66±0.68	2.47±1.65
Chronic pain (n=59)	2.17±0.60	2.34±0.83	1.84±0.82	2.23±0.70	2.43±0.59	2.06±0.75	2.77±0.78	2.30±0.67
Test*	t=1.428	t=1.372	t=0.467	t=1.281	t=0.000	t=-0.126	t=-0.791	t=0.766
	p=0.156	p=0.173	p=0.642	p=0.203	p=1.000	p=0.900	p=0.431	p=0.445
Continuous use of medication								
NSAID (n=12)	2.13±0.58	2.27±0.72	1.62±0.64	2.33±0.65	2.28±0.38	1.93±0.48	2.61±0.52	2.14±0.44
Adjuvant (n=6)	1.97±0.69	1.94±1.04	2.08±0.66	1.94±0.77	2.22±0.54	2.12±0.65	2.41±0.73	2.04±0.75
Other^ (n=50)	2.19±0.61	2.38±0.83	1.81±0.85	2.25±0.69	2.51±0.58	2.10±0.76	2.87±0.78	2.38±0.66
None (n=50)	2.37±0.57	2.60±0.82	1.99±0.75	2.41±0.69	2.41±0.81	2.02±0.77	2.62±0.72	2.49±1.79
Test**	F=1.480	F=1.575	F=1.013	F=1.033	F=0.636	F=0.224	F=1.468	F=0.413
	p=0.224	p=0.199	p=0.390	p=0.381	p=0.593	p=0.880	p=0.227	p=0.744
Use of non-pharmacological approaches for pain management								
Yes	2.21±0.59	2.38±0.82	1.90±0.78	2.24±0.66	2.40±0.58	2.03±0.74	2.72±0.75	2.28±0.63
No	2.35±0.61	2.58±0.84	1.83±0.82	2.48±0.76	2.51±0.88	2.09±0.70	2.69±0.70	2.65±2.15
Test*	t=-1.196	t=-1.162	t=0.412	t=-1.678	t=-0.797	t=-0.401	t=0.214	t=-1.453
	p=0.234	p=0.248	p=0.681	p=0.096	p=0.427	p=0.689	p=0.831	p=0.149
Information/training on pain management								
Yes	2.26±0.58	2.44±0.81	1.89±0.78	2.33±0.69	2.44±0.69	2.08±0.74	2.69±0.74	2.41±1.33
No	2.20±0.70	2.45±0.97	1.78±0.84	2.22±0.75	2.40±0.58	1.89±0.69	2.85±0.72	2.25±0.74
Test*	t=0.398	t=-0.072	t=0.554	t=0.583	t=0.184	t=1.045	t=-0.900	t=0.527
	p=0.691	p=0.943	p=0.580	p=0.561	p=0.855	p=0.298	p=0.370	p=0.600
Person(s) thought to be effective in pain management								
Health workers	2.22±0.59	2.39±0.81	1.93±0.77	2.24±0.65	2.39±0.55	2.05±0.71	2.67±0.79	2.29±0.58
Himself	2.34±0.64	2.60±0.87	1.83±0.87	2.43±0.78	2.51±0.82	2.05±0.75	2.79±0.64	2.54±1.94
God	2.09±0.51	2.15±075	1.72±0.52	2.27±0.59	2.46±0.47	2.11±0.84	2.72±0.80	2.43±0.80
Test**	F=0.725	F=1.140	F=0.304	F=0.719	F=0.577	F=0.212	F=0.387	F=0.483
	p=0.539	p=0.336	p=0.823	p=0.542	p=0.631	p=0.888	p=0.763	p=0.694

*Independent sample t-test; **Analysis of variance; ^: Immunosuppressive.

that female patients used situation such as crying and moaning to cope with pain compared to male patients.[30] Similar to our study, it is stated that male patients use active coping methods such as transforming pain for problem solving, and female patients use emotionally oriented passive coping methods more.[31,32]

According to other education levels, it was found that university graduate patients used distraction from active coping methods statistically significantly more. It is stated that as the level of education increases, patients' self-belief in pain management and, thus, their self-efficacy increase.[33]

There was no statistical significance between the patients' behaviours of coping with acute pain and coping with chronic pain. It was determined that patients with acute pain used active coping methods more than patients with chronic pain, and the levels of use of passive coping methods in patients with acute and chronic pain were similar. It is stated that there is a relationship between the pain experienced by patients and active and passive coping methods, and that passive coping methods have a negative effect.[34] Patients with acute or chronic pain usually cannot be adequately treated with pharmacological methods alone and may need alternative coping behaviors.[23] Because pain includes both emotional and physical components, tissue damage and pain intensity do not always go in parallel.[16] The lack of significance between acute and chronic pain and coping behaviours may be due to the multidimensional nature of pain.

LIMITATIONS

There were some limitations in this study. First of all, the fact that the study was conducted in the rheumatology and thoracic surgery service of a university hospital constitutes a limitation in terms of the generalizability of the study results. The inclusion of patients who underwent thoracotomy and lung resection surgery due to acute pain and patients with RA due to chronic pain limits the generalization of the study results to patients with chronic pain with other diagnoses and patients with acute pain due to other surgeries. In RA, an upper age limit could not be determined due to the insufficient number of patients.

CONCLUSION

In the study, it was determined that patients' methods of coping with pain did not differ significantly according to the type of pain (acute or chronic). It was found that patients with acute pain used active coping methods more than patients with chronic pain, and the levels of use of passive coping methods were similar in patients with acute and chronic pain. No significance was found between the factors affecting the pain coping behaviors of patients with acute or chronic pain. It was determined that the factors affecting acute and chronic pain were gender, education level, continuous medication use, pain level, use of non-drug approaches for pain and pain management, and the person(s) thought to be effective in pain management.

Nurses should determine the pain coping behaviours of patients for a holistic approach to the pain management of patients with acute and chronic pain.

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Conflict of Interest

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

Authorship Contributions

Idea/Concept: *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Filiz Tuncel Sağlam;* ***Design:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Fatma Önüt;* ***Control/Supervision:*** *Ayşe Gökçe Işıklı, Fatma Önüt, Filiz Tuncel Sağlam;* ***Data Collection and/or Processing:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu;* ***Analysis and/or Interpretation:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Filiz Tuncel Sağlam;* ***Literature Review:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Fatma Önüt;* ***Writing the Article:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Filiz Tuncel Sağlam;* ***Critical Review:*** *Ayşe Gökçe Işıklı;* ***References and Fundings:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu, Fatma Önüt;* ***Materials:*** *Ayşe Gökçe Işıklı, Sacede Yıldızeli Topçu.*

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