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Determining the Prevalence of Pain in Adult Patients Hospitalized in a University Hospital in Western Türkiye: An Observational Point Prevalence Study

Türkiye'nin Batısında Bir Üniversite Hastanesinde Yatan Erişkin Hastalarda Ağrı Prevelansının Belirlenmesi: Bir Gözlemsel Nokta Prevelans Çalışması

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Determining the Prevalence of Pain in Adult Patients Hospitalized in a University Hospital in Western Türkiye: An Observational Point Prevalence Study

ABSTRACT

Objective: Pain, called the fifth vital sign, is also known as an indicator of quality of life. This study aimed to investigate the prevalence and associated factors of pain in adult patients hospitalized in a university hospital in western Türkiye.

Material and Method: After obtaining ethical committee approval, this cross-sectional study investigated the prevalence of pain and associated factors in hospitalized patients who met the inclusion criteria using a face-to-face survey method between May 1-31, 2022. Sociodemographic data surveys were administered to the participants in the study. The Numeric Rating Scale (NRS) and the Brief Pain Inventory (BPI) were used to assess pain intensity. Pain intensity is defined as mild [1-3], moderate [4-6], or severe [7-10].

Results: The prevalence of pain was found to be 68.5% among the 762 people included in the study. The average NRS was found to be 6.33±2.24. Among the patients with pain, 60 (11.7%) had mild pain, 210 (41%) had moderate pain, and 242 (47.3%) had severe pain. A significant difference was found between the presence of pain according to gender (*p=0.034*). A moderate positive correlation was found between the worst pain intensity in the last 24 h and the least pain intensity in the last 24 h (*r=0.401, p<0.001*) and the average pain intensity in the last 24 h (*r=0.629, p<0.001*).

Conclusion: Pain prevalence and pain intensity were high in a university hospital in western Türkiye. Timely and appropriate treatments for pain management can prevent the development of complications and improve the quality of life of patients.

Keywords: Epidemiology, inpatients, pain, pain measurement, pain prevalence.

ÖZET

Amaç: Beşinci vital bulgu olarak adlandırılan ağrı aynı zamanda bir yaşam kalitesi göstergesi olarak bilinmektedir. Bu çalışmanın amacı Türkiye'nin batısında bir üniversite hastanesinde yatan erişkin hastalarda ağrı prevalansı ve ilişkili faktörlerini araştırmaktır.

Gereç ve Yöntem: Etik komite onayı alındıktan sonra hazırlanan bu kesitsel çalışmada dahil edilme kriterlerine uygun hospitalize hastalar 01-31 Mayıs 2022 tarihleri arasında yüzyüze anket yöntemi kullanılarak ağrı prevalansı ve ilişkili faktörler sorgulandı. Araştırmaya katılanlara sosyodemografik veri anketleri uygulandı. Ağrı yoğunluğunu değerlendirmek için Sayısal Derecelendirme Ölçeği (NRS) ve Kısa Ağrı Envanteri (BPI) kullanıldı.

Bulgular: Çalışmaya dahil edilen 762 kişinin ağrı prevelansı %68,5 olarak tespit edilmiştir. NRS ortalaması 6,33±2,24 olarak tespit edilmiştir. Ağrısı olan hastaların 60' ında (%11,7) hafif, 210' unda (%41) orta, 242' sinde (%47,3) şiddetli ağrı vardı. Cinsiyete göre ağrı varlığı arasında anlamlı farklılık tespit edilmiştir *(p=0.034)*. Son 24 saat en kötü ağrı şiddeti ile son 24 saat en hafif ağrı şiddeti *(r=0.401, p<0.001)* ve son 24 saatteki ortalama ağrı şiddeti *(r=0.629, p<0.001)* arasında pozitif yönde orta dereceli korelasyon ilişkisi tespit edilmiştir.

Sonuç: Ağrı prevelansı ve ağrı yoğunluğu Türkiye'nin batısında bulunan bir üniversite hastanesinde yüksek tespit edilmiştir. Ağrı yönetimindeki zamanında uygun tedaviler komplikasyon gelişimini önleyebilir ve hasta yaşam kalitesini artırabilir.

Anahtar Sözcükler: Ağrı, ağrı ölçümü, ağrı prevalansı, epidemiyoloji, yatan hastalar.

Introduction

Pain is defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage"(1). It is a complex and personal phenomenon that involves physical, sensory, and psychological factors. Pain is the leading cause of individual healthcare consultations and the most frequent symptom among hospitalized patients (2). Research indicates that nearly half of all hospitalized patients experience pain, with one in three reporting severe pain (3). The notion of pain as the "fifth vital sign" aims to encourage healthcare providers to be more attentive and careful about patients' pain complaints (4). Pain is known to hinder physical activity, affect sleep quality and anxiety, and contribute to a reduced quality of life and economic burden (5). However, inadequate pain management can lead to prolonged hospital stays, increased complications, higher healthcare costs, and repeated unnecessary hospitalizations (3). Therefore, healthcare providers play a crucial role in minimizing the impact of chronic pain and in supporting patients in maintaining their independent living abilities (6).

In the United States, the pain management survey was created by the Hospital Consumer Assessment of Healthcare Providers and Systems, and in Europe, the numeric rating scale (NRS) and a number of surveys have been used to determine the prevalence of pain in hospitalized patients (4). Studies conducted in different regions of the world have reported different results regarding prevalence of pain. The prevalence of pain in hospitalized patients in Canada, France, and Germany was found to be 71%, 40-90%, and 63%, respectively (7-9). Publications on the prevalence of pain are also reported to be quality indicators as they play a role in the adequate management of pain and the development of treatment strategies (10). In other words, the prevalence of pain in hospitalized patients can be defined as a quality indicator of healthcare (11). In addition, although there are some studies regarding the prevalence in Turkish society, studies regarding Turkish hospitals and inpatients are limited in the literature (12,13). Also, it has been reported that problems in pain management can cause patients to have serious functional disability, low quality of life, and significant health-related economic burdens (14). For this reason, the study to be conducted in a university hospital in the western region of Turkey is meaningful in terms of both showing the prevalence of pain and the factors affecting it and shedding light on the situation in our country on this issue. The aim of this study was to investigate the prevalence of pain and its associated factors in hospitalized in patients at Dokuz Eylül University Medical Faculty Hospital. The primary aim of this study is to determine the prevalence of pain, while the secondary aim is to determine the factors associated with pain severity.

Material and Method

Design and Setting

This cross-sectional study was conducted between 01-31 May 2022 on patients hospitalized at İzmir Dokuz Eylül University Faculty of Medicine Hospital, which has 1100 beds and is in the city of Izmir in the western region of Türkiye. Ethics committee approval was obtained before this cross-sectional study (İzmir Dokuz Eylül University Ethics Committee, Ethics Committee No:2022/02-22, Date:23.02.2022). The study protocol was in accordance with the Declaration of Helsinki as revised in 2013.

Sample

This study included patients of both sexes, aged 18 years and over, who had been hospitalized for at least 24 hours before the study, were willing to participate, and were conscious and able to speak. Patients in pandemic wards, pediatric patients, obstetric patients, patients who could not provide a pain anamnesis, and patients admitted for day surgery were excluded from the study (2, 15).

Sample Size

The sample size was computed with online calculator (https://www.calculator.net/sample-size-calculator.html). The primary endpoint was the prevalence of pain. For this purpose, we used the study of Mitello et al. (2). In their study involving 499 patients, they found the prevalence of pain to be 46.9%. Considering the number of patients included in this study, it was determined that 664 patients with marginal error of 5% and confidencel level of 99% should be included in the study. Considering that in addition to this rate, a 15% patient loss could occur, a plan was designed with 762 patients.

Measurement of Outcomes

Survey Form: The study used a survey that included sections on the patients' sociodemographic characteristics, as well as their medical diagnosis, length of hospital stays, other medical problems, mobility levels, and pain experiences (4,15).

Numeric Rating Scale (NRS): The study focused on the prevalence of pain, including its severity and duration. NRS is used to assess the intensity of pain in adults who can self-assess. It allows the intensity of pain to be determined on a scale of "0" (no pain) to "10" (maximum pain). Pain is defined as mild [1-3], moderate [4-6], or severe [7-10] (2,4).

Brief Pain Inventory (BPI): The Brief Pain Inventory (BPI) is a tool that assesses the severity of pain (BPI pain score) and the impact of pain on patients' daily functioning (BPI pain interference). Pain was rated on a scale of 0 (no pain) to 10 (the most severe pain you can imagine). In the interpretation of scores, the BPI pain score categorization is expressed as 7-10 for severe pain, 5-6 for moderate pain, 1-4 for mild pain, and 0 for the absence of pain. During the interview, the research assistant administered the BPI pain severity item, which includes 4 items in which patients rate their "worst pain", "least pain", "average pain" in the last 24 hours and "current pain". The scales for each item ranged from 0 to 10 (16-18).

Statistical analysis

We used the SPSS (Statistical Package for the Social Sciences) 24.0 package program to analyze the data of our research. We expressed frequent variables as number (n) and percentage (%). We used the Pearson chi-square and Fisher's exact test for group comparisons of frequency-indicating data. We examined the normal test assumptions of variables with continuous values using Kolmogorov, Smirnov and Shapiro-Wilk tests. We expressed variables with continuous values whose distribution pattern conformed to normal distribution as mean±standard deviation. We expressed variables with continuous values whose distribution pattern did not follow a normal distribution as mean ± standart derivation. We tested continuous value data using t test, Mann-Whitney U test, Kruskal Wallis test, considering the number of groups and normality test results. We considered *p values below 0.05* to indicate statistical significance.

Results

This study included a total of 762 patients who were hospitalized in the inpatient wards of İzmir Dokuz Eylül University Hospital. The mean age of the patients included in the study was 60.44±16.11, the median [minimum-maximum] was 63 [18-93]; the mean body weight (kg) was 74.8±14.1, the median was 74 [30-129]; the mean body length (cm) was 167.65±9.1, the median was 168 [145-197]; the duration of pain (months) was 12.26±38.41, the median was 3 [0-480]; the NRS average in all patients was 4.27±3.49, the median was 5 [0-10] and the NRS average in patients with pain was 6.33±2.24, the median was 6 [1-10].

Table I Pain Locations According to Gender

	Gender						
	Male (n=427)		Female (n=335)		Total		
	n	%	n	%	n	%	*p*
Head	38	13.6	40	16.5	78	15	*0.353*
Neck	32	11.5	37	15.3	69	13.2	*0.2*
Teeth	11	3.9	18	7.4	29	5.6	*0.083*
Abdomen	78	28	55	22.7	133	25.5	*0.172*
Upper Back	33	11.8	34	14	67	12.9	*0.45*
Lower Back	31	11.1	39	16.1	70	13.4	*0.095*
Knee	25	44.6	31	55.4	56	10.7	*0.157*
Upper Extremity	17	6.1	21	8.7	38	7.3	*0.258*
Feet	36	12.9	33	13.6	69	13.2	*0.806*
Hip	17	6.1	21	8.7	38	7.3	*0.258*
Shoulder	19	6.8	24	9.9	43	8.3	*0.199*
Chest	30	10.8	33	13.6	63	12.1	*0.314*
Other	7	2.5	9	3.7	16	3.1	*0.435*

Pearson Chi-Square Test, p<0.05 statistically significant

In this study, 453 (59.4%) patients were hospitalized in without surgery and 309 (40.6%) were hospitalized in surgery departments. Of these, 427 (56%) were male and 335 (44%) were female. A total of 232 (30.4%) participants stated that they were working. There were 209 (27.4%) patients with low economic status, 504 (66.1%) with medium economic status, and 49 (6.4%) with high economic status. The prevalence of findings accompanying pain is as follows: vomiting 62 (8.1%), nausea 93 (12.2%), fatigue 154 (20.2%), muscle weakness 153 (20.1%), loss of appetite 93

(12.2%), weight loss 92 (12.1%), dizziness 64 (8.4%), walking imbalance 75 (9.8%), insomnia 84 (11%), muscle cramps 50 (6.6%) and other symptoms 11 (1.4%). The number of patients who had previously received medication for pain was 298 (39.1%), 64 (8.4%) had medication and rehabilitation, 182 (23.9%) had medication and surgical treatment, and 44 (5.8%) had other treatments. The medication they used for their pain were as follows; paracetamol 437 (57.3%), non-steroidal anti-inflammatory drugs 101 (13.3%), narcotic analgesics 22 (2.9%), and other medications 39 (5.1%). 221 (29%) patients were not using any medication.

The ages of the patients in the study were as follows= <40y, n=101(13.3%); 41-60y, n=236 (31%); 61-70y, n=194, (25,5%), 71-80y, n=168 (22%) and >80, n=63 (8.3%). Pain was detected in 522 (68.5%) of the total 762 patients, whereas it was not detected in 240 (31.5%) patients. The most common area of pain was the abdomen 133 (25.5%), followed by the low back 70 (13.4%). No statistically significant differences were found between the painful areas according to sex (Table I). However, a significant difference was found between the sexes and the presence of pain (*p=0.034*). Pain was detected in 72.5% of women (n=243) and 65.3% of men (n=279). Acute pain was detected in 216 (28.3%) patients and chronic pain in 304 (39.9%) individuals among all patients. Cancer and vascular pain were detected in 73 (9.6%) and 122 (16%) patients, respectively. Statistically significant differences were found between educational status, the presence of cancer, and vascular pain according to whether the pain was acute or chronic, respectively (*p=0.029, p=0.036, p=0.026,* respectively) (Table II). Patients with comorbidities were as follows with their diseases and frequencies; diabetes was detected in 179 (23.5%), hypertension in 278 (36.5%), pulmonary disease in 51 (6.7%), and other diseases in 115 (5.1%).

Table II Evaluation of Factors Related to Pain Chronicity

Variable	Chronicity of Pain		*p*
	Acute (n=214, 41.3%)	Chronic (n=304, 58.7%)	
Age in Years			*0.832*
<40	36 (47.4)	40 (52.6)	
41-60	73 (41.2)	104 (58.8)	
61-70	57 (41)	82 (59)	
71-80	40 (39.6)	61 (60.4)	
>80	10 (37)	17 (63)	
Sex			*0.985*
Female	100 (41.5)	141 (58.5)	
Male	116 (41.6)	163 (58.4)	
Economic Situation			*0.811*
Mild	47 (39.8)	71 (60.2)	
Moderate	152 (42.5)	206 (57.5)	
High	17 (38.6)	27 (61.4)	
Education Status			*0.029*
Illiterate	4 (16)	21 (84)	
Literate	15 (27.8)	39 (72.2)	
Primary school	55 (44)	70 (56)	
Middle school	42 (42.9)	56 (57.1)	
High school	51 (41.5)	72 (58.5)	
Master's degree	17 (50)	17 (50)	
University	30 (52.6)	27 (47.4)	
Doctorate	2 (66.7)	1 (33.3)	
Pain Character			*0.652*
Manageable	15 (51.7)	14 (48.3)	
Throbbing	16 (47.1)	18 (52.9)	
Like a Shot Fired	2 (25)	6 (75)	
Like a knife stabbing	16 (39)	25 (61)	
Gnawing	9 (30)	21 (70)	
Sharp	6 (22.2)	21 (77.8)	
Soft	4 (40)	6 (60)	
Burning	8 (30.8)	18 (69.2)	
Exhausting	4 (26.7)	11 (73.3)	
Tiring	6 (37.5)	10 (62.5)	
Piercing	3 (42.9)	4 (57.1)	
Constantly annoying	9 (37.5)	15 (62.5)	
Numbness	10 (52.6)	9 (47.4)	
Awful	3 (30)	7 (70)	
Intolerable	6 (33.3)	12 (66.7)	
Department			*0.164*
Nonsurgical	89 (38.2)	144 (61.8)	
Surgical	127 (44.3)	160 (55.7)	
Presence of Cancer			*0.036*
Yes	22 (30.1)	51 (69.9)	
No	192 (43.1)	253 (56.9)	
Presence of Vascular Pain			*0.026*
Yes	61 (50)	61 (50)	
No	153 (38.6)	243 (61.4)	

p<0.05 statistically significant

Table III Demographic Data and Clinical Factors According to Pain İntensity

Variable	Intensity of Pain			p
	Mild	Moderate	Severe	
Age in Years				
<40	12 (15.8)	38 (50)	26 (34.2)	0.056
41-60	19 (10.9)	63 (36)	93 (53.1)	
61-70	21 (15.4)	48 (35.3)	67 (49.3)	
71-80	6 (6)	48 (48)	46 (46)	
>80	4 (14.3)	13 (46.4)	11 (39.3)	
Sex				
Female	35 (14.6)	101 (42.1%)	104 (43.3)	0.134
Male	27 (9.8)	109 (39.6)	139 (50.5)	
Economic Situation				
Mild	11 (9.4)	40 (34.2)	66 (56.4)	<0.001
Moderate	49 (13.8)	140 (39.3)	167 (46.9)	
High	2 (4.8)	30 (71.4)	10 (23.8)	
Current Job				
Housewife	8 (9.3)	21 (24.4)	57 (66.3)	<0.001
Retired	28 (12.1)	103 (44.6)	100 (43.3)	
Officer	5 (8.8)	26 (45.6)	26 (45.6)	
Employee	8 (12.9)	31 (50)	23 (37.1)	
Student	4 (30.8)	2 (15.4)	7 (53.8)	
Self-employment	8 (12.9)	31 (50)	23 (37.1)	
Other	0 (0)	17 (63)	10 (37)	
Pain Character				
Manageable	6 (20)	18 (60)	6 (20)	0.032
Throbbing	5 (14.7)	12 (35.3)	17 (20)	
Like a Shot Fired	1 (12.5)	5 (62.5)	2 (25)	
Like a knife stabbing	1 (2.4)	14 (34.1)	26 (63.4)	
Gnawing	5 (16.7)	13 (43.3)	12 (20)	
Sharp	2 (7.1)	13 (46.4)	13 (46.4)	
Soft	2 (20)	6 (60)	2 (20)	
Burning	4 (15.4)	15 (57.7)	7 (26.9)	
Exhausting	1 (6.7)	7 (46.7)	7 (46.7)	
Tiring	4 (25)	5 (31.3)	7 (43.8)	
Piercing	1 (14.3)	3 (42.9)	3 (42.9)	
Constantly annoying	2 (8.3)	14 (58.3)	8 (33.3)	
Numbness	0 (0)	4 (21.1)	15 (78.9)	
Awful	1 (10)	5 (50)	4 (20)	
Intolerable	5 (27.8)	5 (27.8)	8 (44.4)	
Department				
Nonsurgical	40 (17.2)	76 (32.8)	116 (50)	<0.001
Surgical	22 (7.8)	134 (47.3)	127 (44.9)	
Presence of Cancer				
Yes	6 (8.2)	19 (26)	48 (65.8)	0.003
No	53 (12.1)	191 (43.7)	193 (44.2)	
Presence of Vascular Pain				
Yes	12 (10)	74 (61.7)	34 (28.3)	<0.001
No	47 (12.1)	136 (34.9)	207 (53.1)	

p<0.05 statistically significant

Table IV Demographic Data and Clinical Factors by Departments

Variable		Departments		p
		Department of Non-Surgery	Department of Surgery	
Pain	+	234(44.8)	288(55.2)	**<0.001**
	-	219(91.3)	21(8.8)	
NRS	Mild Pain 1-3	40 (64.5)	22 (35.5)	**<0.001**
	Moderate Pain 4-6	76 (36.2)	134 (63.8)	
	Severe Pain 7-10	116 (47.7)	127 (52.3)	
Age in Years				
<40		55 (54.5)	46 (45.5)	**<0.001**
41-60		143 (60.6)	93 (39.4)	
61-70		94 (47.9)	101 (52.1)	
71-80		111 (66.1)	57 (33.9)	
>80		51 (81)	12 (19)	
Sex				
Female		218(65.1)	117(34.9)	**0.005**
Male		235(55)	192(45)	
Economic Situation				
Mild		144 (68.9)	65 (31.1)	**<0.001**
Modarete		289 (57.3)	215 (42.7)	
High		20 (40.8)	29 (59.2)	
Education Status				
Illiterate		27 (67.5)	13 (32.5)	**0.008**
literate		57 (67.1)	28 (32.9)	
Primary school		104 (60.8)	67 (39.2)	
Middle school		64 (44.8)	79 (55.2)	
High school		119 (63.6)	68 (36.4)	
Master's degree		30 (61.2)	19 (38.8)	
University		50 (60.2)	33 (39.8)	
Doctorate		1 (33.3)	2 (66.7)	
Marital status				
Never Married		44(66.7)	22(33.3)	**<0.001**
Married		313(56)	246(44)	
Widow/widower		82(75.9)	26(24.1)	
Divorced		14(48.3)	15(51.7)	
Current Job				
Housewife		112 (78.3)	31 (21.7)	**<0.001**
Retired		187 (54.5)	156 (45.5)	
Officer		39 (53.4)	34 (46.6)	
Employee		42 (55.3)	34 (44.7)	
Student		16 (94.1)	1 (5.9)	
Self-employment		47 (60.3)	31 (39.7)	
Other		8 (26.7)	22 (73.3)	
Pain Character				
Manageable		17 (56.7)	13 (43.3)	**0.022**
Throbbing		11 (32.4)	23 (67.6)	
Like a shot fired		3 (37.5)	5 (62.5)	
Like a knife stabbing		21 (51.2)	20 (48.8)	
Gnawing		11 (36.7)	19 (63.3)	
Sharp		12 (42.9)	16 (57.1)	
Soft		4 (40)	6 (60)	
Burning		9 (34.6)	17 (65.4)	
Exhausting		10 (66.7)	5 (33.3)	
Tiring		11 (68.8)	5 (31.3)	
Piercing		1 (14.3)	6 (85.7)	
Constantly annoying		12 (50)	12 (50)	
Numbness		13 (68.4)	6 (31.6)	
Awful		4 (40)	6 (60)	
Intolerable		14 (77.8)	4 (22.2)	
Presence of Cancer				
Yes		38(52.1)	35(47.9)	0.173
No		194(43.5)	252(56.5)	
Presence of Vascular Pain				
Yes		24(19.7)	98(80.3)	**<0.001**
No		208(52.3)	190(47.7)	

NRS= The Numeric Rating Scale, *p<0.05* statistically significant

Among all patients, 60 (8.1%) had an NRS final score of 1-3 (mild pain), 210 (27.6%) had 4-6 (moderate pain), and 243 (31.9%) had 7-10 (severe pain). Among the patients with pain (mild pain), 60 (11.7%), 4-6 (moderate pain) 210 (41%), and 7-10 (severe pain) 242 (47.3%) were detected. According to pain intensities, a significant relationship was detected between economic status, current job, pain character, department where the patient was hospitalized, presence of cancer, and vascular pain, respectively (*p<0.001, p<0.001, p=0.032, p<0.001, p=0.003, p<0.001*, respectively) (Table III). A significant relationship was detected between the presence and intensity of pain, age groups, sex, gender, economic status, educational status, marital status, current job, pain characteristics and presence of vascular pain in the patients according to the departments in which they were hospitalized, respectively (*p<0.001, p<0.001, p<0.001, p=0.005, p<0.001, p=0.008, p<0.001, p<0.001, p=0.022, p<0.001*) (Table IV).

Table V Correlation Relationship Between Brief Pain Inventory Subgroups

	Worst pain in the last 24 hours		Least pain in the last 24 hours		Average pain in the last 24 hours		Current Pain	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Worst pain in the last 24 hours	-	-	*0.401*	***<0.001***	*0.629*	***<0.001***	*0.302*	***<0.001***
Worst pain in the last 24 hours	*0.401*	***<0.001***	-	-	*0.572*	***<0.001***	*0.447*	***<0.001***
Worst pain in the last 24 hours	*0.629*	***<0.001***	*0.572*	***<0.001***	-	-	*0.453*	***<0.001***
Worst pain in the last 24 hours	*0.302*	***<0.001***	*0.447*	***<0.001***	*0.453*	***<0.001***	-	-

Pearson correlation test, *p<0.05* statistically significant

According to the BPI results of the patients included in the study median [minimum-maximum], the worst pain intensity in the last 24 hours was 8 [0-10], the least pain intensity in the last 24 hours was 3 [0-10], the average pain intensity in the last 24 hours was 5 [0-10] and the current pain was 4 [0-10]. A moderate positive correlation was found between the worst pain intensity in the last 24 hours and the least pain intensity in the last 24 hours (*r=0.401, p<0.001*) and the average pain intensity in the last 24 hours (*r=0.629, p<0.001*). A weak positive correlation was found between the worst pain intensity in the last 24 hours and the current pain intensity (*r=0.302, p<0.001*) (Table V).

Discussion

We found that the prevalence of pain in 762 hospitalized patients was 68.5%. The prevalence of pain was significantly higher in women than that in men. The average NRS was 6.33±2.24. 90% of the participants with pain had moderate or severe pain. Severe pain was higher in the non-surgical departments, while moderate pain was higher in the surgery departments.

Of the 762 patients included in our study, 59.4% were hospitalized in non-surgical departments and 40.6% in surgical departments. Of these, 56% were male and 44% were female. The prevalence of pain was found to be 68.5%. The NRS average score in patients with pain was found to be 6.33±2.24. The most common finding associated with pain was fatigue (20.2%), the most used analgesic for pain was Paracetamol (57.3%), and the most common painful body region was the abdomen (25.5%). The most common age range of the patients included in the study was 41-60 years (31%). While no significant difference was found between sex and painful body region, a significant difference was found between educational status and whether the pain was acute/chronic. A statistically significant difference was found between the pain intensity and the presence of cancer or vascular pain. A positive correlation was found between the worst, mildest, and average pain in the last 24 hours and the current pain.

Several studies have investigated, the prevalence of pain in hospitalized patients has been investigated in different studies. Das et al. (3) found the prevalence of pain in a teaching hospital in India was 70.6%, and Wu et al. (4) found it to be 69.5% in an academic medical center in Taiwan, Strohbuecker et al (7). found it to be 63% in a teaching hospital at a German university, while Wadensten et al. (19) found it to be 65% in a university hospital in Sweden. Our study is comparable to the literature with a pain prevalence of 68.5%. However, Damico et al. (20) found the prevalence of pain to be 38% in a study involving 26 centers in Italy. The difference in prevalence between studies can be explained by

differences in the inclusion/exclusion criteria in the study methodologies and differences between the departments where the studies were conducted.

In our study, the most common location of pain reported by patients was the abdomen (25.5%). Das et al. (3) also found that pain was most common in the abdomen, like our study. However, the results reported in the literature indicate that the most common location is the first site of musculoskeletal pain, followed by the abdomen (7). Silva et al. (21) found the most common location of pain was the abdomen (33.3%), in a study that examined the prevalence of pain in a hospital in Portugal. However, when they evaluated all musculoskeletal regions as a single region, musculoskeletal pain was the most common. Musculoskeletal pain affects 47% of the general population and causes a loss of quality of life (22). In our study, the prevalence was also found to be 59% when all musculoskeletal regions were evaluated as a single region. It can be stated that health care providers have a great responsibility to detect and treat both musculoskeletal pain and abdominal pain to improve patient quality of life.

In our study, the mean NRS score in patients with pain was 6.33±2.24. In different studies, the average NRS was 5.2 ± 3.33 and 6.27 ± 1.97, like our study (2,3). According to the NRS results in our study, mild pain was found in 11.7% of the patients, moderate pain in 41%, and severe pain in 48.8%. In a study conducted in India, mild, moderate, and severe pain were found in 9.4%, 41.1%, and 49.5% of patients, respectively, like our study (3). Sawyer et al. (8) reported severe pain in 25.8% of the patients and Silva et al. (21) reported severe pain in 28.8% of the patients. This difference can be explained by the differences in study methodologies and the cultural differences in how patients assess pain. In our study, it was observed that severe pain was significantly more common in cancer patients. Like our study, studies have shown that show that severe pain is significantly more common in cancer pain (3,23). This situation can be explained by the need for healthcare providers to prioritize cancer patients in terms of care and pain management. In our study, chronic pain was found in 58.7% of the patients with pain. Hutchcroft et al. (24) found chronic pain in 54% of patients, and Salomon et al. (8) found this in 44% of patients. On the other hand, some studies that have also found chronic pain at levels of 10% (3). This can be explained by the differences between the methodologies and the departments in which the studies were conducted. In addition, it can guide healthcare providers in preventing pain from becoming chronic.

In our study, we found no significant difference between patients in the non-surgery and surgery departments in terms of whether they had acute or chronic pain, but we did find a significant difference in pain intensity. Accordingly, severe pain was higher in non-surgical departments, whereas moderate pain was higher in surgical clinics. In contrast to the results of our study, it has been reported in the literature that pain lasting longer than 4 weeks is significantly more common in non-surgical departments (3). This can be explained by the fact that the definition of chronic pain is difference between studies. In our study, we defined patients who reported pain for ≥ 3 months as being in the chronic pain group.

In our study, we found that the prevalence of pain was significantly higher in women than that in men. A study conducted at a teaching hospital in France with 1478 participants also found that women reported more pain than men (8). The reason for this is not yet clear, but it has been reported in the literature that women are more likely to have a higher somatic response to pain stimuli than men. Women expressing pain have also been reported to have increased social acceptability (11). Future studies identifying the cause will clarify the difference in pain between the sexes.

In the current study, according to the BPI results, a moderate positive correlation was found between the worst, mildest, and average pain in the last 24 hours. Lorenz et al. (18) also found a moderate positive correlation between BPI parameters like our study. Considering the current pain processes of patients, it can be explained that the pain levels are in proportional ups and downs between these processes.

As a result of the surveys applied in the current study, it was determined that pain symptoms were more common in female patients than in the opposite sex, and the most common painful area was the abdomen and musculoskeletal region. Clinicians

should pay attention to these areas during patient examination and evaluation and should not ignore other areas. As it is known, the patient's response to pain questioning is affected by many factors, from the patient's clinical condition to his cultural status. The mean NRS value we obtained in patients hospitalized in a university hospital in Turkey will be a guide in questioning the level of pain experienced by doctors when examining patients during their clinical practice.

Our study has some limitations. It can be said that the results of the study cover hospitalized patients in a university hospital and will not be generalizable to a society with a large population. The answers given by the participants to the questions may lead to different results in different societies due to socio-cultural reasons. The fact that patients with no history taken a pain history were not included in our study is another important limitation. Conducting similar studies in patients who cannot have a pain history in the future will contribute to the field of science.

Conclusion

In this study, we investigated the prevalence of pain and its associated factors in a university hospital in Western Türkiye. Health care providers should be more attentive to patients about pain, which is an important quality of life indicator and is called the fifth vital sign, and that they should improve themselves in pain management. Factors affecting the quality of pain management include appropriate assessment, multidisciplinary, collaborative care planning, effective, cost-conscious, and safe treatment, and access to specialized care when needed. Pain prevalence detection and effective pain management improve the quality of life and ensure effective treatment delivery.

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