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Research Article

An Analytical Study on the Identification of Factors That May Cause Depression in Patients Receiving Chronic Pain Treatment

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Abstract:

Whether the cause is known or not, pain is one of humanity's greatest problems. The duration and severity of pain can determine quality of life. Untreated pain can lead to depression. The aim of this study is to determine and assess whether individuals receiving pain treatment have depression-related factors. For this purpose, 176 individuals were interviewed between June and July 2025. The dependent variable was depression and the independent variables consisted of sociodemographic data such as age, gender, marital status, family relationship status, and bad habits. In addition to these variables, diseases considered to be influential in the study, the number of comorbidities, the time to diagnosis of pain, the pain scale value, the source of the pain being known, whether physical therapy was received, the availability of professional help for psychological management, the location of the pain in the body (lower back, knee, shoulder, etc.), the treatment method, and medication use were determined. Consequently, 21.2% of the individuals participating in the study had positive RHQ-9 scores on the depression test. The prevalence of depression was found to be 27.11 in women, slightly higher than in men. The prevalence was found to be 107.4% in married individuals and 22.1% in unmarried individuals. The value for married individuals was found to be statistically highly significant. Those with disrupted family relationships were found to be more likely to be depressed. The study found that individuals' pain levels were generally moderate to severe. In addition to other factors that contribute to depression, the duration of pain triggers it. The prevalence of depression was significantly higher at 40.4% for those with two comorbidities and 22.3% for those with three or more comorbidities, depending on the underlying medical condition. Odds ratios were 1.25 and 1.12, respectively, and the prevalence of pain was 32% among those receiving physical therapy and those not receiving psychological therapy, and 24% among those receiving psychological therapy.

1. Introduction

Pain is a phenomenon that can be experienced throughout human life and negatively impacts quality of life to some extent. Almost everyone has experienced and struggled with pain in some way. Pain can generally result from physical trauma, but it can also occur after illness or surgical intervention [1]. Some pain can be psychological [2]. Regardless of the type of pain, it can cause significant emotional and sensory distress in individuals. Pain can have different sources. Understanding this can guide specialists in treatment. If the source is unknown, numerous new tests will be required to implement treatment protocols. While some pains can be treated very simply and positive results can be achieved quickly with the applied treatment methods, this is not easy for others. Pain treatment is generally performed by specialists in a specialized field known as "Algology" [3]. The goal here is to first eliminate the sources of pain and, if this is not possible, to reduce the effectiveness of the sources of pain as much as possible and improve quality of life [4]. While some pains take less time to address and provide treatment with a high probability of success, others can be very difficult or even impossible to treat. Pain, which we define as chronic pain, generally has no symptoms and is considered a disease [5]. For a pain to be considered chronic pain, it must persist despite all treatment programs and last

for more than 12 weeks [6]. In cases of chronic pain, multidisciplinary studies are conducted to identify the underlying causes. To achieve this, the root cause is investigated, encompassing primarily biological factors, but also epidemiological studies, health records, official statistics, hospital data, and psychological and pathophysiological factors [7]. Without a complete understanding of the root cause, the problem cannot be resolved.

Pain is one of the most frequently reported complaints in healthcare settings, contributing to increased workloads in healthcare facilities. It is reported that approximately 20% of individuals over the age of 18 worldwide experience pain, and approximately 10-12% of these are diagnosed with chronic pain each year [8]. However, Stovner et al. (2022) reported that 52% of the global population experiences pain, 14 out of every 100 people are diagnosed with migraine, and 15.8% of the global population experiences headaches every day, 7% of which are migraine related [9].

It is stated that there is no gender or age difference in pain [10]. Studies have found no gender difference regardless of population characteristics [11]. While good or poor living conditions change the location and sensation of pain, the proportions generally remain the same, according to this situation, pain may have a psychological basis [12]. Although the social, cultural, and cognitive characteristics of individuals experiencing pain make it difficult to define pain, the reality of pain cannot be eliminated [13]. While studies on adults indicate that the age of onset of pain ranges from 20

to 85, Stovner and colleagues have stated that pain can occur at any age, from young to old, without any age limit [9, 14].

Confining chronic pain to the physical domain alone is not a correct approach. Individuals' disabilities, their hopelessness due to their circumstances, or psychological disorders that develop after certain experiences can trigger pain [15]. The persistence of such conditions can lead to much worse outcomes and exacerbate pain [16]. Ishak et al. (2018) established a strong link between pain and depression in their study, noting that pain can be shaped by the degree of disability [17]. Bergbom et al. (2011) reported that many of those experiencing pain become depressed and are forced to seek psychiatric help [18]. Pain is known to significantly impact not only physical but also mental and social functioning [17].

Such patients primarily seek treatment at Physical Medicine and Rehabilitation centres. While some rehabilitation patients recover, others fail to recover and may even worsen [19]. However, it has been stated that the most important reason for this lack of success is the crucial and decisive role of healthcare professionals' attitudes toward patients [20]. It has been stated that if healthcare professionals treat individuals well and with a smile, the likelihood of recovery increases; otherwise, recovery is either delayed or absent [21]. Because physicians generally focus on physical causes of pain, they may neglect the issue of depression. Depression can complicate the management of chronic pain. Therefore, depression and pain treatments should be combined. Our aim in this study was to determine whether pain management in individuals with chronic pain is associated with depression. It is believed that understanding the factors that can cause depression will increase the chance of success in pain management and treatment.

2. Material and Methods

Attention was paid to the selection of those with chronic pain. Individuals over the age of 18 who had a medical diagnosis of chronic pain and provided informed consent were included on a completely voluntary basis. This study, conducted between June and July 2024, interviewed 176 individuals. Ethical principles were observed in the study, and no actions were taken to influence individuals' rights and freedoms, or to manipulate their thoughts and actions. Necessary permissions were obtained for the study from Karabük University Non-Interventional Clinical Research Ethics Committee. The information obtained from this study was kept confidential and its use was limited to this study. Patient Health Questionnaire forms (PHQ-9) containing pre-prepared questions were distributed to the participants and they were asked to fill in the required fields as appropriate [22, 23, 24]. Before completing the survey, a brief information about the importance of the survey and how to complete it was provided.

To avoid being influenced by the survey process, participants were asked to fill out the questionnaire alone. Family assistance was not requested for the survey. However, assistance was provided to older individuals who might have difficulty completing the survey. The PHQ-9 questionnaire is a very useful method for measuring the severity of symptoms experienced by depressed individuals. It consists of questions aligned with the diagnostic criteria for depression in the Diagnostic and Statistical Manual of Mental Disorders-5. The forms include realistic reports of experiences over the past two weeks. Each item on the form is scored to determine the severity of depression. Individuals scoring 10 or higher were considered depressed (Table 1). As can be seen from the Table, this accepted cutoff value represents the point at which individuals should begin treatment protocols and be monitored. Therefore, this value

was accepted as the cutoff point [25, 26]. Pain intensity was measured using the Visual Analog Scale (VSA) [27].

Since depression was our primary focus in the study and we aimed to identify the factors affecting depression in the model to be established, the dependent variable was "depression." Dependent variables included sociodemographic data such as age, gender, marital status, family relationship status, and bad habits. In addition to these variables, the diseases considered to be influential in the study, the number of comorbidities, the time to diagnosis of pain, the pain scale value, the source of pain, whether physical therapy was received, the availability of professional help for psychological management, the location of the pain in the body (lower back, knee, shoulder, etc.), the treatment method, and medication use were determined.

Descriptive statistical analyses were conducted for the statistical analysis of the obtained results. This allowed us to determine the general status of the variables. The normality assumptions of the data were analysed using the Kolmogorov-Smirnov test. The chi-square test was used to analyse categorized variables. Pearson correlation was used for normally distributed variables to determine the relationships between variables, while Spearman correlation was used for non-normally distributed. The variance inflation point (VIF) was used to determine the presence of multicollinearity between variables. The VIF value was not found to be significant for all variables in the study. Multiple Explanatory Variables Logistic Regression Analysis was used to identify variables that could influence depression as a possible risk factor. Thus, prevalence rates were calculated. $P<0.05$ was considered significant in the statistical analyses performed in the study. All analyses in the study were conducted using SPSS 22V.

Table 1. *Provisional Diagnosis and Recommended Therapeutic Actions (Kroenke et al., 2003)*

PHQ-9 Score	Depression Severity	Proposed Treatment Actions
0 – 4	None-minimal	None
5 – 9	Mild	Watchful waiting; repeat PHQ-9 at follow-up
10 – 14	Moderate	Treatment plan, considering counseling, follow-up and/or pharmacotherapy
15 – 19	Moderately Severe	Active treatment with pharmacotherapy and/or psychotherapy
20 – 27	Severe	Immediate initiation of pharmacotherapy and, if severe impairment or poor response to therapy, expedited referral to a mental health specialist for psychotherapy and/or collaborative management

3. Results and Discussions

The sociodemographic and pain-related characteristics of the individuals in the study are presented in Table 2. An examination of the table reveals that 61.9% of the study participants were male, while the proportion of females was 38.1%. The higher number of males does not necessarily mean that males are more likely to be ill. This difference stems from the proportional distribution of patients in the study area. Regarding age, individuals aged 60 and over led the way at 43.8%, followed by those aged 40-59 at 35.2%. The lowest rate was found in the 20-39 age group. 70.5% of the study participants were married. It was also observed that 80.1% of the participants had good family relationships. A good family situation is also a positive indicator of receiving psychological support. Nearly half of the individuals (47.7%) worked in government offices. 24.4% of them are freelancers, while 18.2% are retirees. The percentage of those who are unemployed is 9.7%.

Habits shape our lives. However, it can be argued that bad habits are much more influential in guiding us. Such habits can both harm our health and foster undesirable developments. Bad habits include cigarettes, alcohol, and chemicals such as pills. To ensure the questions are general and to avoid discomfort for respondents, no details about the substance used were provided. The percentage of individuals with bad habits was 39.2%, while the percentage of non-users was 60.8%. However, 56% of non-users were former users who had recently quit.

Comorbidity (comorbidity) always poses a problem. It can create difficulties or limitations in the diagnosis and treatment of diseases. When examining individuals' comorbidities, it is reported

that 80.1% have them and 19.9% do not. However, it is believed that some of those who say "the disease doesn't exist" do so because they are unaware of their true presence. The number of comorbidities was two at 42.6%, followed by one at 26.1%. The rate of those with three or more diseases was found to be 15.8%.

The timeframe for pain diagnosis is considered important in providing insight into the difficulties experienced in coping with pain and the psychological state of patients. The study found that more than half of the participants (52.8%) were diagnosed 12 months or more ago. The rate of those diagnosed 7-11 months ago was 32.9%, while the rate of those diagnosed 3-6 months ago was 14.3%. Regarding the intensity of pain, 52.8% reported moderate pain. The values for mild and severe pain were similar. Considering moderate and severe pain, approximately 74% of individuals experience significant pain. Generally, knowing the source of the problem is always advantageous. However, in the study, the source of the pain was unknown for 72.2% of individuals. This complicates matters.

Table 2.*The sociodemographic and pain-related characteristics of the individuals in the study*

Main Characteristics	Sub-Characteristics	N=176 (%)	Presence of Depression		P Value
			Yes (%)	No (%)	
Age	60 years and older	77 (43,8)	54 (70,1)	23 (18,3)	0,098
	40–59 years	62 (35,2)	48 (77,4)	14 (22,6)	
	20–39 years	37 (21,6)	31 (83,8)	6 (16,2)	
Gender	Male	109 (61,9)	89 (81,7)	20 (18,3)	0,039*
	Female	67 (38,1)	61 (75,9)	6 (24.1)	
Marital Status	Married	124 (70,5)	105 (84,7)	19 (15,3)	0,241
	Single	52 (29,50)	47 (90,4)	5 (9,6)	
Relationship with Family	Good	141 (80,1)	134 (95,0)	7 (5,0)	0,028*
	Poor	35 (19,9)	21 (60,0)	14 (40,0)	
Employment Status	Public Employee	84 (47,7)	72 (85,7)	12 (14,3)	0,318
	Retired	32 (18,2)	23 (71,9)	9 (28,1)	
	Unemployed	43 (24,4)	30 (69,8)	13 (30,2)	
	Unemployed	17 (9,7)	10 (58,8)	7 (41,2)	
Bad Habits	Yes	69 (39,2)	44 (63,8)	25 (36,2)	0,012*
	No	107 (60,8)	95 (88,8)	12 (11,2)	
Comorbidities	Yes	141 (80,1)	118 (83,7)	23 (16,3)	0,001
	No	35 (19,9)	26 (74,3)	9 (25,7)	
Number of Comorbidities	0	27 (15,3)	24 (88,9)	3 (11,1)	0,039*
	1	46 (26,1)	33 (71,7)	13 (28,3)	
	2	75 (42,6)	68 (77,3)	17 (22,7)	
	≥3	28 (15,8)	15 (53,6)	13 (46,4)	
Pain diagnosis duration	≥12 months	93 (52,8)	54 (58,1)	39 (41,9)	0,529
	7–11 months	58 (32,9)	24 (41,4)	34 (58,6)	
	3–6 months	25 (14,3)	14 (56,0)	11 (44,0)	
Pain intensity (by VSA)	Mild(0–3)	45 (25,6)	27 (60,0)	18 (40,0)	0,417
	Moderate (4–6)	93 (52,8)	52 (55,9)	41 (44.1)	
	Severe (7–10)	38 (21,6)	23 (60,5)	15 (39,5)	

Pain etiology	Known	49 (27,8)	26 (53,1)	23 (46,9)	0,309
	Unknown	127 (72,2)	89 (70,1)	38 (29,9)	
Physical Therapy	Received	71 (40,3)	37 (52,1)	34 (47,9)	0,613
	Unreceived	105 (59,7)	66 (62,9)	39 (37,1)	
Psychological Treatment	Received	21 (11,9)	7 (83,8)	14 (16.2)	0,012*
	Unreceived	155 (88,1)	96 (61,9)	59 (38,1)	

Physical therapy plays a significant role in pain management. Although physical therapy may not cure the pain, depending on the location and nature of the pain, its pain-relieving properties can provide relief for patients for a certain period. 40.3% of individuals received physical therapy, while 59.7% did not. The primary reasons cited for those who did not receive it were lack of time or high cost. Psychological treatment may be necessary depending on the duration and severity of the pain. Psychotherapeutic medications are recommended because they can improve or alleviate mental health and associated physiological disorders. While 11.9% of individuals received psychological treatment, the remaining 88.1% did not. The primary reason for this is the widespread misconceptions within society, such as "am I crazy?" The close association between seeing a psychologist and experiencing insanity significantly reduces the rate of this type of treatment.

The location of pain on the body is as important as its intensity. Especially in professional settings, locating pain in a location that could hinder or disrupt work can significantly exacerbate its negative consequences. Table 3 shows the location of pain in the body and the treatment methods used accordingly. Accordingly, 61.4% of individuals experience back pain. 71.8% of those experiencing pain stated that they did not consider it a significant concern because it was mild or moderate. The rate of those experiencing shoulder pain was found to be 43.8%. The most frequently reported pain was knee pain. 75.9% of those experiencing knee pain were found to have knee pain, while 24.1% stated that they did not experience knee pain. Individuals attributed the main cause of knee pain to working conditions and poor posture. The rate of those experiencing pain in other areas was 24.4%. There are some differences in pain between those experiencing constant pain and those experiencing intermittent pain. The rate of those experiencing polyarticular pain, defined as multiple joint pain, was 17.6%. Multiple joint pain was observed in a total of 37 patients. 16 of these were female and 21 males. The main reason for the higher prevalence in males was working conditions. The use of nonsteroidal anti-inflammatory drugs (NSAIDs), defined as nonsteroidal anti-inflammatory drugs (NSAIDs), was found to be 67.0%. A significant portion of patients use NSAIDs to relieve or alleviate their pain. An examination of the number of medications used for pain relief reveals that 51.7% of individuals are taking two medications. 22.8% are taking three or more medications. Taking high doses of medication can also lead to serious side effects, which can lead to serious problems. Gabapentinoids are considered more potent and are not recommended by physicians unless necessary. The rate of individuals using gabapentinoids is reported as 32.4%. Some of these patients are taking gabapentinoids in conjunction with NSAIDs.

The rate of muscle relaxant use was higher than that of the other drugs in the group. The rate of muscle relaxant users was 80.7%. 68.2% of muscle relaxant users also reported using NSAIDs and/or gabapentinoids. While prolotherapy has been introduced in recent years and is considered a treatment with a high probability of success, the lack of sufficient studies has led to confusion. The rate of those using this treatment was 7.4%, while the rate of those not using it was 92.6%. It was observed that individuals were either unfamiliar with this type of treatment or lacked sufficient confidence.

Corticosteroid use is now commonplace in many diseases. It is also used for pain management. It can be administered to patients when other treatments have not responded adequately or as an adjunct to other treatments. However, it is important to ensure that it is used under medical supervision. The rate of corticosteroid users was 40.3%. This rate can be considered high overall.

Table 3. *The location of pain in the body and the treatment methods used*

Main Characteristics	Sub-Characteristics	N=176 (%)	Presence of Depression		P Value
			Yes (%)	No (%)	
Low Back	Yes	108 (61,4)	27 (25,0)	81 (75,0)	0,117

	No	68 (38,6)	11 (16,2)	57 (83,8)	
Shoulder	Yes	77 (43,8)	46 (59,7)	31 (40,3)	0,317
	No	99 (56,3)	56 (56,6)	43 (43,4)	
Knee	Yes	76 (75,9)	23 (30,3)	53 (69,7)	0,128
	No	100 (24.1)	19 (19,0)	81 (81,0)	
In Other Areas	Yes	37 (24,4)	12 (32,4)	25 (67,6)	
	No	139 (75,6)	10 (7,2)	129 (92,8)	
Multiple Joint Pain (Polyarticular)	Yes	31 (17,6)	13 (63,8)	18 (36,2)	0,019*
	No	145 (82,4)	29 (20,0)	116 (80,0)	
NSAID Use	Yes	118 (67,0)	17 (14,4)	101 (85,6)	0,011*
	No	68 (33,0)	16 (23,5)	52 (76,5)	
Number of Pain Medications Used	0	8 (4,5)	1 (12,5)	7 (87,5)	0,003**
	1	37 (21,0)	7 (18,9)	30 (81,1)	
	2	91 (51,7)	21 (23,1)	70 (76,9)	
	≥3	40 (22,8)	22 (55,0)	18 (45,0)	
Gabapentinoid Use	Yes	57 (32,4)	15 (26,3)	42 (73,7)	0,007**
	No	119 (67,6)	21 (17,6)	98 (82,4)	
Muscle Relaxant	Yes	142 (80,7)	14 (9,9)	128 (90,1)	0,511
	No	34 (19,3)	7 (20,6)	24 (79,4)	
Prolotherapy	Yes	13 (7,4)	9 (29,0)	22 (71,0)	0,001**
	No	145 (92,6)	14 (9,7)	131 (90,3)	
Corticosteroid	Yes	71 (40,3)	37 (52,1)	34 (47,9)	0,613
	No	105 (59,7)	66 (62,9)	39 (37,1)	

Prevalence rates and odds ratios for some characteristics of pain observed in individuals receiving pain medication that are particularly suggestive of depression are presented in Table 4. Logistic regression analysis conducted to examine the relationship between certain individual characteristics and depression reveals that age plays a significant role. The prevalence rate between ages 40 and 59 was quite high at 58.4%. This suggests that pain significantly affects middle-aged individuals. Regarding marital status, married individuals are at greater risk. The prevalence rate for married individuals was 107.4%, while the odds ratio was determined to be 1.12, which was statistically significant. The highest prevalence value in the table, at 42%, was observed in the moderate pain category. Accordingly, moderate pain is generally considered intense and potentially high. Severe pain, on the other hand, was 20.3%, indicating a high potential. Economic status also plays a role in determining the severity of the disease. It can be said that individuals with lower economic circumstances, in particular, experience worse pain than other groups. The odds ratios for these pains were found to be 1.43 and 1.19, respectively. When examining comorbidities, it was observed that while pain is present, two other illnesses are accompanying it. The prevalence rate was determined to be 37.8%. The use of three or more medications was also high at 24.4%. Most patients have at least two or more illnesses associated with pain. Considering the prevalence of one illness at 9.7%, it can be said that these individuals are under significant psychological pressure. Those with two illnesses had an odds ratio of 1.25, while those with three or more illnesses had an odds ratio of 1.12.

Pain was diagnosed between 7 and 11 months with an 11.6% prevalence rate. The odds ratio for

diagnosis within this period was determined to be 1.16. The probability of diagnosis between 3 and 6 months was determined to be 8.2%. Diagnosis time can directly affect individuals' psychological states. However, knowing the origin of pain also provides an advantage for individuals and physicians. Considering the number of medications used for pain, it is observed that comorbidities have similar consequences. The rate of those using two medications for pain was 40.4%, while the rate of those using three or more medications was 22.3%. The high prevalence and potential for individuals suffering from chronic pain to use two or more painkillers is concerning. The odds ratio for those using two medications was 1.44, while for those using one medication was 1.32. It has been noted that those receiving physical therapy generally experienced significant relief, although not complete recovery. Accordingly, the prevalence of physical therapy was determined to be 26.7%, and the rate of those receiving psychological therapy was also quite high at 21.9%. In terms of odds ratios, physical therapy had a value of 1.27, while psychological therapy had a value of 1.36. If both physical and psychological therapy are necessary, they should not be avoided.

Table 4. *The Effect of Possible Risk Factors on Depression and the Prevalence Rates of Depression-related Factors in Patients Receiving Chronic Pain Treatment Using Multivariate Logistic Regression Analysis*

Main Characteristics	Sub-Characteristics	Prevalence Rate of Depression (%)	P Value	OR (Odds Ratio)	P Value
Gender	Female	27,11	0,277	1,04 (0,78-1,24)	0,303
	Male	26,44	0,198	0,99 (0,72-1,14)	0,277
Age	18-39 months	37,2	0,003**	0,75 (0,58-0,92)	0,003**
	40–59 months	58,4	0,001**	0,83 (0,61-1,03)	0,001**
	≥ 60 months	29,0	0,001**	0,66 (0,47-0,82)	0,037*
Marital Status	Married	37,4	0,004**	1,12 (0,92-1,27)	0,033*
	Single	22,1	0,091	0,88 (0,71-0,98)	0,117
Economic Status	Good	18,5	0,116	0,69 (0,55-0,81)	0,239
	Fair	23,5	0,037*	1,26 (1,05-1,44)	0,048*
	Poor	33,1	0,001**	1,31 (1,13-1-42)	0,001**
Relationship with Family	Good	14,1	0,044	0,48 (0,33-0,58)	0,079
	Poor	24,6	0,142	0,21 (0,09-0,36)	0,092
Pain Diagnosis Time	≥12 months	31,2	0,011	0,85 (0,69-1,03)	0,107
	7–11 months	11,6	0,210	1,16 (0,99-1,29)	0,189
	3–6 months	8,2	0,001**	0,88 (0,71-0,97)	0,001**
Pain intensity	Mild (0–3)	19,3	0,001**	1,31 (1,10-1,46)	0,002**
	Moderate (4–6)	42,0	0,001**	1,43 (1,29-1,58)	0,013*
	Severe (7–10)	20,3	0,298	1,19 (1,01-1,33)	0,045*
Number of comorbidities	0	4,8	0,227	0,61 (0,44-0,79)	0,182
	1	9,7	0,018*	0,79 (0,63-0,95)	0,037*
	2	37,8	0,001**	1,25 (1,11-1,42)	0,005**
	≥3	24,4	0,562	1,12 (1,04-1,30)	0,106
Number of medications used for pain	0	7,39	0,552	1,02 (0,88-1,13)	0,116
	1	14,2	0,679	1,32 (1,19-1,44)	0,091
	2	40,4	0,028*	1,44 (1,31-1,57)	0,029*
	≥3	22,3	0,093	1,11 (0,96-1,33)	0,047*
Physical Therapy	Received	26,7	0,001**	1,43 (1,26-1,60)	0,002**
	Unreceived	19,8	0,067	1,13 (0,98-1,24)	0,083
	Received	21,9	0,218	1,36 (1,22-1,49)	0,077

Psychological Therapy	Unreceived	15,7	0,331	1,17 (1,02-1,31)	0,114

21.2% of individuals had positive RHQ-9 scores on a depression test. This rate is generally considered high. However, it varies depending on where the study was conducted. De la Rosa et al. found this value to be 23.9% in their study in the United States, while De la Cerna-Luna et al. (2024) determined this value to be 17.9% in their study in Peru [26]. and Rapti et al. (2019) reported it as 22.5% for Greece[28] and Özkal (2022) found it to be 21.1% for Turkey [29], However, Perez-García et al. (2019) reported this value to be 46.7% in Mexico [30]. Hofmann and Smits (2008) stated that the depression scale varies depending on the conditions of the society in which people live [31]. It was emphasized that this should not be ignored when making an assessment [32]. It has been reported that depression can reach a very high level, as high as 52%, especially in individuals receiving pain management in medical units [20]. While our results do not appear to show significant differences from those of the researchers, this difference suggests that this difference stems from differences in the PHQ-9 cutoff points selected for everyone.

The prevalence of depression in women was 27.11, slightly higher than in men. However, it was not statistically significant (r=216). Both genders have similar rates of depression. La Londe and Van Lieshout (2011) stated that depression affects all individuals regardless of gender, but that it may vary somewhat depending on the characteristics of society and the roles they occupy [33]. Rickels et al. (2012) indicated that gender may be important in those with chronic pain, depending on the type of work they do [34]. Despite the general belief that chronic pain is more prevalent and significant in women, the fact that no significant difference was observed in our study may be since similar problems are experienced and responsibilities are assumed within society.

In terms of marital status, it can be said that those who are married are at much greater risk than those who are not married (r=588**). In our study, the prevalence of those who are married was found to be 107.4%, while it was found to be 22.1% for those who are not married. The value of those who are married was found to be statistically very significant. Accordingly, it can be said that being married also constitutes one of the important sources of chronic pain, depending on the degree to which the problems experienced are overcome. Of course, more studies are needed for this [35]. Similarly, it has been stated that the experiences of married people affect stress conditions [36]. When the obtained results are evaluated together with the results of the researchers, the economic, social, and cultural uncertainties experienced throughout Turkey for many years may have been effective in this result. It can be argued that sociodemographic differences between the study locations played a role [37].

Economic status has always been and will continue to be important. Depression is much higher in societies with poor economic conditions (r=0.480**). Almeida-Filho et al. (2004) stated that economics determines social class differences, and that as class value decreases, depression levels increase [38]. However, Lorant et al. (2003) stated that increasing class value triggers depression, but its prevalence decreases [39]. They also highlighted dissatisfaction. Nicholson et al. (2007) stated that social inequality increases poverty, and therefore depression is more common among the poor [40]. Their study also found that individuals with lower incomes are more likely to be associated with depression. According to the researchers, the differences in the results may have been influenced by the sample size in the study. Additionally, the study only included outpatients. Therefore, the psychological effects of the results should not be overlooked.

Individuals' family harmony and understanding can also influence depression (r=0.558**). It has been reported that those with poor family relationships are more prone to depression [41]. Young people are known to be much hastier in this regard and less resilient to breaking off relationships [35]. Individuals need to be more vigilant about maintaining good family relationships. When family relationships are poor, approximately 90% of a person's depression burden stems from poor family relationships [42].

There is a correlation between the time it takes for pain to be diagnosed and depression (r=377*). The rate of depression increases in those experiencing pain for more than 12 months. Depression rates in individuals with chronic illnesses vary between 20-80% [43]. Furthermore, when the severity of pain is added to this, the situation can become even more painful. The study found that individuals' pain levels were generally moderate to severe. Among other factors contributing to depression, the duration of pain triggers it. Roelofs (2005) stated that as the duration and severity of pain increase, thoughts such as helplessness, hopelessness, guilt, and anxiety increase, which, in turn, exacerbates depression [44]. To achieve this, pain must first be controlled. It

should be remembered that all interventions undertaken without pain control and without individuals achieving a certain standard of living will fail [45, 2]. Our results are consistent with those of the researchers. As pain increases, the impact of depression increases, and the prevalence rate was determined to be 31.2%. The primary concern of healthcare professionals is to keep pain at a level that does not reduce their standard of living.

Comorbidity always amplifies the disease's impact (r=0.611**). Therefore, knowing the number of comorbidities accompanying pain is considered etiologically important. Türkçapar (2004) reported that at least 75% of patients with depression have a second comorbidity [46]. Tan et al. (2020) found a very high correlation between depression and the presence of comorbidities (r=0.698, p<0.05) [47]. Hirschfeld (2001) reported that more than half of patients diagnosed with depression have two or more comorbidities [48]. In some cases, anxiety is reported to coexist with depression [49]. The prevalence of depression was quite high at 40.4% for two comorbidities and 22.3% for three or more comorbidities, depending on comorbidities. Odds ratios were determined as 1.25 and 1.12, respectively. Sharpe et al. (2019) reported that chronic pain, diabetes, and respiratory diseases coexist with depression in a study conducted in Australia [50]. These results are generally considered somewhat higher than those of other studies. However, this may be due to the differences in sociodemographic characteristics of the region where this study was conducted. Turkey differs significantly from neighbouring countries and other countries worldwide in terms of social, cultural, and economic aspects. Therefore, the observed difference was an expected result.

Physical therapy and psychological treatment are useful methods for relieving or at least alleviating pain. It is known that patients are referred to physical therapy based on the severity and location of their pain. The prevalence of pain was found to be 32% among those who received physical therapy and 24% among those who did not. The frequency of pain and the extent to which individuals perceive it are important in determining quality of life. Therefore, physical treatment should be prioritized, and if this treatment fails to achieve results, psychiatric treatment should be considered [51]. The prevalence of those receiving physical therapy was 26.7%, while the rate of those receiving psychiatric treatment was 21.9%. Fonseca-Rodrigues et al. (2022) emphasized in their study that more than half of the patients were aged 60 and over, and that they needed physical and psychiatric support [52]. Hunter et al. (2014) stated that physical therapy alone is not sufficient for osteoarthritis patients; psychological treatment is also necessary [53]. The study found a positive and high correlation (r=0.715**) between the severity and duration of pain and the likelihood of patients experiencing depression. These results appear consistent with the researchers' results.

4. Conclusions

Pain is a significant experience experienced by everyone at some point in their lives. While most are mild and temporary, some can become chronic. Because the treatment of chronic pain is long-term, it negatively impacts quality of life. Pain perception also determines an individual's quality of life. However, some individuals are more sensitive to pain, and differences in their perception of pain can cause them to experience pain more intensely, or conversely, less. Therefore, screening is necessary to diagnose diseases early and prevent pain from progressing. Early interventions can alleviate the burden on healthcare institutions.

In addition to the high rate of using two or more medications to manage pain, long-term use can lead to demoralization and hopelessness in individuals. This can lead to worsening of the condition over time. While painkillers are beneficial in reducing pain and providing relief, they can also contribute to the development of various problems due to their high number of undesirable side effects. Severe and prolonged pain can lead to developments such as restlessness, lack of motivation, anxiety, and loss of focus. The fact that pain treatment methods have not been shown to reduce the prevalence of depression highlights the need for more detailed examination of the benefits and harms of their use. However, until better alternatives are found, their use is essential. It appears that applying pharmacological methods alone will not be sufficient in the treatment of chronic pain in patients with depression; non-pharmacological methods should also be employed.

General physical condition, their emotional state should also be considered. The high correlation between individuals' pain perception and mood indicates the need for a change in perspective on the disease. Early diagnosis and initiation of treatment, especially before pain becomes chronic, reduces the likelihood of developing depression. Therefore, ongoing screening and appropriate treatment are necessary. The prevalence of pain in Turkey increases among people aged 40 and over. One in every two people aged 60 and over complains of pain. These should be evaluated by considering the cause, location, and severity of the pain, and if possible, the source of the pain should be determined. Individuals often prefer to use painkillers before going to the hospital. This can be a good way to manage pain temporarily. However, it

can also delay the onset of more serious pain. Therefore, individuals should be educated on the subject and encouraged to attend pain screening clinics. However, the insufficient number of pain clinics, both in our country and globally, poses another problem. It's crucial to remember that the approach to patients experiencing pain is as important as treating the condition.

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