T.R.

YEDITEPE UNIVERSITY

INSTITUTE OF HEALTH SCIENCES, DEPARTMENT OF PHYSIOTHERAPY AND REHABILITATION

THE CROSS-CULTURAL ADAPTATION, VALIDITY, AND RELIABILITY OF THE TURKISH VERSION OF VANDERBILT MULTIDIMENSIONAL PAIN COPING INVENTORY

POSTGRADUATE THESIS

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ADVISOR: PROF. DR. RASMİ MUAMMER

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ONAY

Bu tez Yeditepe Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca yukarıdaki jüri tarafından uygun görülmüş ve Enstitü Yönetim Kurulu'nun 17/01/2020 tarih ve 2020/01-03 sayılı kararı ile onaylanmıştır.

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DECLARATION

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree except where due acknowledgment has been made in the text.

Ebru DURUSOY

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SYMBOLS AND ABBREVIATIONS LIST

PCI	Pain Coping Inventory
PCQ	Pain Coping Questionnaire
EFA	Exploratory Factor Analysis
α	Cronbach's alpha coefficient
DIP	Distal Interphalangeal
DMARD	Disease Modifying Antirheumatic Drug
DAS-28	Disease Activity Score
CFA	Confirmatory Factor Analysis
IASP	International Association for the Study of Pain
KMO Test	Kaiser-Meyer-Olkin Test
MHC	Major Histocompatibility Complex
MCP	Metacarpophalangeal
NSAID	Non-Steroid Anti-Inflammatory Drugs
E.g.	For example
PIP	Proximal Interphalangeal
RA	Rheumatoid Arthritis
RF	Rheumatoid Factor
SF-36	Short Form-36
SG	Substantia Gelatinosa
TMJ	Temporomandibular Joint
TENS	Transcutaneous Electrical Nerve Stimulation
T Cells	Transmission Cells
VMPCI	Vanderbilt Multidimensional Pain Coping Inventory
VMPI	Vanderbilt Multidimensional Pain Management Inventory

ÖZET

Durusoy, E. (2020). Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanteri'nin Türkçe'ye Uyarlanması, Kültürel Adaptasyonu, Geçerlilik Ve Güvenilirliği. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Fizyoterapi ve Rehabilitasyon ABD. Yüksek Lisans Tezi. İstanbul.

Romatoid artrit (RA), etyolojisi bilinmeyen, temelde sinoviyal eklemleri etkileyen, fonksiyon kaybına yol açan, kronik, progresif, inflamatuvar, otoimmun hastalıktır. Romatoid artritli hastayı medikal tedaviye yönlendiren başlıca sebep ağrıdır. Kronikleşen ağrı; hareketlerde kısıtlılık, uyku problemleri, yorgunluk, stres ve depresyonla beraber fizyolojik ve psikolojik sorunlara neden olarak bireyin yaşam kalitesini olumsuz şekilde etkilemektedir. Hastanın düşünceleri, beklentileri, ağrıyla başa çıkma yöntemleri ağrı kontrolünde etkilidir. Ağrılı durumun tanımlanması ve tedavisi için hastanın ağrıyla bireysel baş etme yöntemleri ve bu yöntemlerin etkinliğinin değerlendirilmesi gerekir. Bu çalışma, Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanterinin Türkçe'ye uyarlanması, kültürel adaptasyonu, geçerlilik ve güvenilirliğinin araştırılması amacıyla planlandı. Çalışma İstanbul Haydarpaşa Numune Eğitim ve Araştırma Hastanesi Romatoloji Polikliniği'nde dahil olma kriterlerini sağlayan 352 gönüllüyle tamamlanmıştır. Hastaların yaş ortalaması 54,72 ± 13,93 yıldır. Örneklemin %70,7'si (n= 249) kadın, %29,3'ü (n= 103) erkek hastadan oluşmaktadır. Çalışmada kullanılan veri toplama araçları; Demografik Veri Formu, Mcgill ve Melzak Ağrı Anketi, Short Form-36 (SF-36) , Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanteri (VÇABE), Ağrıyla Başetme Envanteri (ABE), Ağrıyla Başa Çıkma Ölçeği (ABÖ) kullanılmıştır. Ölçeğin Türkçe formunun dil geçerliği çeviri-geri çeviri yöntemiyle sağlanmıştır. Kapsam geçerliği için uzman görüşü alınmıştır. Türkçe formunun yapı geçerliğini belirlemek için açımlayıcı ve doğrulayıcı faktör analizleri uygulanmıştır. Ölçeğin Türkçe formunun güvenirliğinin değerlendirilmesi amacıyla; iç tutarlık katsayısı, test-tekrar test, paralel form yöntemleri kullanılmıştır. Tüm bu analizlerden sonra VÇABE ölçeğinin Türkçe Güvenirlik ve Geçerliği sağlanmıştır. Bu çalışmaya ek olarak örneklemi tanıtıcı özelliklerin, SF-36 ölçeğinin, Mcgill ve Melzack Ağrı Anketi sonuçlarının tek başına ve bu verilerin VÇABE ölçeği alt boyutları ile birlikte incelenmesi sağlanmıştır.

Anahtar Kelimeler: Romatoid artrit, Ağrı, başa çıkma, geçerlik, güvenirlik

ABSTRACT

Durusoy, E. (2020). The Cross-Cultural Adaptation, Validity and Reliability of the Turkish version of Vanderbilt Multidimensionel Pain Coping Inventory. Yeditepe University, Institute of Health Sciences, Department of Physiotherapy and Rehabilitation, Postgraduate Thesis. Istanbul.

Rheumatoid arthritis (RA) is a chronic, progressive, inflammatory, autoimmune disease with unknown etiology, mainly affecting synovial joints and causing loss of function. The main reason for referring RA patients to medical treatment is pain. Chronic pain causes limitation of movement, sleep problems, fatigue, stress and depression, as well as physiological and psychological problems and leads to negative effects on the quality of life of the individual. The patient's thoughts, expectations, and methods of coping with pain are effective in pain control. In order to identify and treat the painful condition, individual pain coping methods of the patient and the effectiveness of these methods should be evaluated. This study was designed to adapt the Vanderbilt Multidimensional Pain Coping Inventory into Turkish and to investigate its cross-cultural adaptation, validity and reliability. The study was completed with 352 volunteers who met the inclusion criteria in the Rheumatology Outpatient Clinic of Istanbul Haydarpaşa Numune Training and Research Hospital. The mean age of the patients was 54.72 ± 13.93 years. 70.7% (n = 249) of the sample were female and 29.3% (n = 103) were male. Data collection tools used in the study were Demographic Data Form, Mcgill and Melzack Pain Questionnaire, Short Form-36 (SF-36), Vanderbilt Multidimensional Pain Coping Inventory (VMPCI), Pain Coping Inventory (PCI), and Pain Coping Questionnaire (PCQ) were used. The language validity of the Turkish version of the inventory was provided by using the translation-back translation method. Expert opinion was obtained for content validity.

exploratory factor analysis and confirmatory factor analysis were applied to determine construct validity of the Turkish version of the inventory. In order to evaluate the reliability of the Turkish version of the inventory; internal consistency coefficient, test retest and parallel form methods were used. After all these analyses, the reliability and validity of the Turkish version of VMPCI were provided. In addition, the descriptive characteristics of the sample, results of SF-36, and results of Mcgill and Melzack Pain Questionnaire were examined alone and together with the Subscales of VMPCI.

Keywords: Rheumatoid Arthritis, pain, coping, validity, reliability

1.INTRODUCTION AND PURPOSE

Pain is described by the International Association for the Study of Pain (IASP) as an unpleasant sensory and emotional experience associated with current or potential tissue damage (1). Pain is also an indefinable complex feeling that affects humanity and has physical, sensorial, emotional, cognitive, and social mechanisms. Pain is a subjective concept. Individuals learn the application of the word pain through experiences related to injuries in early life (2). Chronic pain is a maladaptive syndrome that lasts for more than 3 months and has biopsychosocially a negative effect on individuals. The most common chronic pain is the musculoskeletal pain associated with rheumatoid arthritis and osteoarthritis and it is the main cause of disability at later ages (3). Although the cause of rheumatoid arthritis is not exactly known, it is a chronic, progressive, inflammatory, systemic, and autoimmune disease characterized by physical and psychological dysfunction which basically damages the synovial joints. Pain is the major problem in rheumatoid arthritis causing the patient to seek for medical help. Almost 70% of RA patients consider the pain relief as the first priority compared to the recovery of other RA symptoms (4). The unpredictability of pain in RA is a feature causing the discomfort and patients cannot predict the end of an ongoing pain process or the onset of another pain process (5). When compared with individuals without repeated pain or physical illness, patients with RA have worse outcomes in a variety of health-related life quality areas including increased psychological distress, decreased sleep quality and passive pain with the use of coping strategies. In addition, mood disorders are seen more commonly in individuals with RA compared to general population (6). Ways of patients with chronic pain to cope with their diseases or to adapt to these diseases are important in understanding the great variability in their ability to maintain the quality of life. Coping with disease and pain has been conceptualized in several ways. Active coping (e.g. Exercise) is usually associated with better health outcomes and is seen as an adaptive method. Passive coping (e.g. worsening pain) is known as a maladaptive method associated with worse health outcomes. It is important to determine how patients cope with pain in order to provide them with a full wellbeing. Systematic examination of these variables in multidisciplinary treatment programs is thought to make a valuable contribution to the treatment of RA and related chronic pain. It is stated that encouraging adaptive coping behaviors and implementing treatment works focusing on strategies of

increasing self-efficacy and reducing pain anxiety will be effective in maintaining the wellbeing of the patient (7). In order for the pain to be effectively identified and treated, the individual pain coping methods of the patient and the effectiveness of these methods must be absolutely evaluated (8).

This study was designed to conduct Turkish adaptation, cross-cultural adaptation, validity and reliability study of Vanderbilt Multidimensional Pain Coping Inventory in order to fill the gap forming in Turkish literature.

2. GENERAL INFORMATION

2.1. Definition of Rheumatoid Arthritis

Rheumatoid Arthritis (RA) is an autoimmune, chronic, and inflammatory disease that causes pain, swelling, and stiffness in the joints and can lead to serious joint damage, dysfunction, and disability (9-11). The disease can last a lifetime and symptoms can continue in the form of remissions and exacerbations (9).

2.2. Epidemiology of Rheumatoid Arthritis

Almost 1% of the world's population is affected by rheumatoid arthritis (11, 12). It is seen 3 times more in women than the male population and the disease risk is 4-5 times higher in the female population under the age of 50 (10). The number of studies on the epidemiology of rheumatic diseases is limited in Turkey (13). However, it was found in a study conducted in Izmir in 2000 that the prevalence based on the population structure of the country was 0.36% (14). Global prevalence of RA is variable. The lowest rates are reported in Japan and France (9).

2.3 Etiology of Rheumatoid Arthritis And Risk Factors

The etiology and pathogenesis of RA are not exactly known yet. However, some genetic factors and environmental effects that cause disease and affect its course have been defined (9, 12).

2.3.1. Genetic Factors

When the literature was examined to figure out the effect of genetic factors on RA, it was determined in a study that HLA-DR4 gene was positive of 70% in individuals with rheumatoid arthritis. However, it was positive of only 28% in the control group. Therefore, it was believed that HLA-DR4 positive individuals had 4-5 times higher relative risk of getting rheumatoid arthritis (15). In addition, the HLA-DR4 gene is thought to play a role in the chronicization of the disease. The risk of developing RA is 1.5 times higher in individuals who have first degree relatives with RA in their families (16). When the literature was examined, it was seen that while the rate of monozygotic twins to have same tendency toward RA was 12-15%, this rate was 3-4% for dizygotic twins. Recently, many studies have focused on the interaction between genetic risk and smoking in people having HLA DRB1 and PTPN22 genes. Although the specific mechanism by which smoking and genes interact has not yet been fully proven, it is seen that smoking increases citrullination of its own proteins and therefore can produce

pathogenic autoantigen-focused responses (9, 17). A polymorphism in the PTPN22 gene is also thought to cause a lower threshold for immune activation of T cells and other cells. (18). Although it is thought that the major genetic risk factor for RA disease is the presence of Major Histocompatibility Complex (MHC) alleles, it has been determined that the prevalence of rheumatoid arthritis increases with the presence of HLA-DR1 and DR4 alleles (19).

2.3.2. Environmental Factors

In terms of rheumatoid arthritis, the most important known environmental risk factor is smoking. Smoking increases the risk of developing seropositive RA. The risk of developing seropositive RA depends on the dose of smoking and increases with the increased number of cigarettes. Smoking is only commonly seen environmental factor as a risk factor especially in people carrying HLA-DRB1 shared epitope alleles. This risk continues between 10 and 19 years after quitting smoking (9). Smoking is the only proven environmental factor that increases the risk of RA (15). It is assumed that particles inhaled due to traffic pollution may also contribute to the risk of RA development (9). In a study conducted to investigate the risk of RA caused by traffic pollution, the status of residing close to road was examined among women. Being close to a road was seen to be an effective condition for exposure to traffic pollution. When the results were examined, it was seen that there was an increase of 31% in risk of RA for women living 50 meters near the roads compared to those living more than 200 meters away from the same roads. It has been stated that the prevalence of RA varies by geographic regions and has higher prevalence rates in areas with high air pollution in the United States of America (20). According to the studies, the disease is seen more commonly in city compared to the rural population (21).

It has been observed that pregnancy provides a protective effect in women with RA. On the other hand, there are some evidences suggesting that giving no birth causes an increased risk of RA susceptibility (9). Recovery was observed in 70-80% of female patients diagnosed with RA during pregnancy. The relative risk of women who breastfeed for less than 3 months is twice as high as women who are breastfeeding for more than two years (22, 23). The use of oral contraceptive reduces the risk of RA (18).

Blood transfusion has been also suggested to be a risk factor. It is thought to be more related to infectious mechanisms. However, sufficient evidence could not be found (24).

Working in a profession exposed to silica powder has an etiological importance in increasing the risk of RA (21).

Low fruit consumption and vitamin C intake increase the risk of RA (25). When the literature is examined, it has been determined in many studies investigating a diet rich in omega 3 fatty acids, olive oil, fish and vegetable consumption that this type of diet can reduce the risk of RA (21). However, excessive consumption of red meat increases the risk (24). Low vitamin D levels are among negative risk factors (18). It is also emphasized that excessive coffee drinking is also a risk factor (26). It has been suggested that there is an inverse correlation between the use of statin and responsible drinking and RA development (18).

2.4. Pathophysiology of Rheumatoid Arthritis

Rheumatoid Arthritis progresses with progressive erosions in cartilage and bone. The cause triggering the disease in RA is not exactly known. However, cellular and genetic factors are thought to have a contribution. Numerous signal networks and immune modulators play a role in this pathophysiological process. T and B cells manage RA pathophysiology. Immune responses increase activated CD4 cells (27). T lymphocytes are stimulated due to an unknown reason and a process, continuing microvascular damage, increased synovial membrane cells (macrophages and neutrophils), lymphocytic synovial infiltration, proliferation of fibroblasts and synovial cells, and production of various inflammatory cytokines increasing angiogenesis, starts. Synovitis and synovial macrophages also participate in these cellular activities by leading to cartilage and bone erosions by producing enzymes causing tissue destruction. The synovial membrane undergoes hypertrophy due to cell proliferation and join cartilage cannot protect itself from the detrimental effects of this hypertrophic synovium. The part of this synovium that causes damage in cartilage, bones and ligaments is called as pannus. If the disease is not controlled, it cannot be prevented from continuing with progressive joint damage (15, 17, 28).

2.5. Clinical Features

The most frequent symptoms and signs seen in RA are pain, swelling, and morning stiffness in the peripheral joints. Swelling usually starts in the upper limb joints and is mostly symmetrical (9). It causes not only joint involvement but also extraarticular involvements. It mostly involves the wrist, metacarpophalangeal (MCP) and proximal interphalangeal (PIP) joints as well as ankle and metatarsophalangeal joints (29). Distal Interphalangeal (DIP) joints and sacroiliac joints are not affected. Morning stiffness continues at least 45 minutes after starting to move. In most patients, symptoms appear in the process, begin with a joint, and are often accompanied by prodromal symptoms such as weight loss, fever, weakness, or fatigue. While the onset occurs faster between days and weeks in about 15% of patients, the symptoms begin within a few days of a particular triggering event such as an infectious disease in 8% and 15% of the patients (30).

2.5.1. Joint Involvement

The most frequently affected joints are those with the highest rate of synovial/articular cartilage. The wrists, proximal interphalangeal and metacarpophalangeal joints are frequently involved (30).

Hand: Hand involvement often occurs with pain and swelling of MCP and PIP joints. The results are generally symmetrical and patients complain about pain and stiffness in the joints (31). Soft tissue swelling, effusion, temperature increase felt with palpation and erythema develop around MCP and PIP joints. Grip strength decreases (9, 31). There are anatomical disruptions in the integrity of joint surfaces, ligaments and tendons causing visible joint deformations like buttonhole and swan neck deformities in the advancing stages. In 55% of patients, tenderness, fever and swelling are seen along the flexor or extensor digital tendon (9). Rheumatoid nodules can be seen in tendons, and painless breaks and tenosynovitis can be seen in flexor or extensor tendons due to biomechanical wear of tendons due to anatomical distortions that occur in joint surfaces. The most common deformities are swan neck and buttonhole deformities. Hyperflexion in the DIP joint and hyperextension in the PIP joint are characterized by swan neck deformity. There are hyperflexion in the PIP joint and hyperextension in the DIP joint in buttonhole deformity (31).

Wrist: Wrist involvement is seen in about 50% of patients within the first 2 years after the disease onset. The rate of patients affected by involvement increases to 90% in 10 years. Bilateral involvement occurs in 95% of patients (32). Along with the classical findings of rheumatoid arthritis, swelling, which is a prominent and typical feature dorsally, is seen on the ulnar styloid. Thickening may occur in the extensor carpi ulnaris tendon sheath. There is a limitation in wrist extension. Chronic inflammation can cause erosion, tenosynovitis and nerve compression, deformations affecting tendons, loss of function, tendon rupture and atrophies (9, 31).

Elbow: Involvement is seen in one or both elbows in 20%-65% of patients with rheumatoid arthritis (33). Extension loss is seen in the elbow. However, patients may compensate this condition and may not be aware of extension loss. As a result of chronic inflammation, valgus curvature and flexion contractures causing functional limitation may occur. Erosional changes are most frequently observed in the capitellum, lateral epicondyle, and olecranon (9, 31).

Shoulder: The involvement of the articular and periarticular tissues of the shoulder is quite common in patients with RA. Shoulder involvement may arise with awakening pain, stiffness, reduced range of motion, sleep difficulty, and edematous joints with increased temperature (9, 31, 34). The shoulder joint, rotator cuff muscles and shoulder bursa can be affected by initial symptoms as a result of a combination of synovitis, tendonitis, and bursitis in general. Synovitis can develop with a mass-like anterior effusion. Subdeltoid, subacromial and scapulothoracic bursitis can be seen. Atrophies in the rotator cuff muscles, contraction in the biceps tendon and subluxations in the shoulder joint may occur (9, 31).

Spine: Spinal involvement can be seen sometimes, although rare. While deformities of thoracolumbar and sacral joints are rarely seen in RA patients, cervical involvement is generally encountered (9). The most affected joints in the cervical region are occipito-atlantal and atlanto-axial (C1–C2) joints. Chronic inflammation of the cervical spine causes bone erosion and looses ligaments. Atlanto-axial subluxation, subaxial subluxation, cranial erosion, and basilar invagination can be seen. As a result of these conditions, cervical spinal instability may occur. If the cervical spine involvement is not treated, it can lead to important neurological diseases. It worsens the quality of life. It may cause sudden death due to stroke, hydrocephalus or cardiac arrest (35, 36).

Hip: Early involvement of the hip joint is rare. As the disease duration progresses, the incidence of involvement increases. Limitation of movement and pain reduce the quality of life by preventing the mobilization of the patient (37). The destruction of the hip joint is more evident in those who have a prolonged disease period and are female. Depending on the inflammation, erosive destruction and long-term corticosteroid use, osteonecrosis or avascular necrosis can be seen (31).

Knee: Knee involvement may be seen in 70% to 80% of RA patients (9). Continuous inflammation of the knee causes progressive cartilage damage, ligament loose, quadriceps muscle atrophy, contractures, and gait disturbance (9, 31). Along with increasing erosions, valgus or varus deformities may occur as the disease progresses. There is a possibility of incidence of popliteal or baker's cysts (9).

Foot and Ankle: 90% of RA patients experience foot and ankle involvement during their disease (9). In addition, symptoms develop in the feet as the first sign of the disease in 13% of the patients. 90% of these patients have forefoot involvement, 66% have subtalar involvement, and 9% have ankle involvement (31). Metatarsophalangeal joint involvement is painful and disabling. Valgus deformities and flatfoot are common results in later stages (37). Tenosynovitis can be commonly seen in the peroneal and tibialis posterior tendons. Swelling of the soft tissues of the synovium and metatarsophalangeal joints, hallux valgus, hammer toe, claw hand, and deformities in the ankle and subtalar joints can be seen (31). Along with all these deformities, pain due to weight carrying and walking also seriously affects the quality of life (9).

Other Joint Involvements:

Sternoclavicular involvement is seen usually with arthritis in other joints in approximately one-third of RA patients. Symptoms are usually asymmetrical, but can be bilateral and include swelling, crepitus, tenderness, hypertrophy, pain, or limitation of movement.

Manubriosternal joint involvement is common and is often associated with severe cervicodorsal-spinal erosion, and deformity; erosion, reactive sclerosis, and ankylosis of the manubriosternal joint may occur. It is usually a minor clinical problem and only rarely cases of subluxation or dislocation have been reported (31).

The frequency of temporomandibular joint (TMJ) varies between 4.7% and 84% in various studies. However, the rate of patients who need treatment for TMJ symptoms are seen much less. TMJ arthritis clinically shows itself with signs of pain, swelling, crepitation, and limitation of movement as well as stiffness upon mouth opening. The development of this involvement is more likely in severe and prolonged disease period (31, 37).

26% to 86% of RA patients show cricoarytenoid involvement, but complications are rarely seen (31). Hoarseness, upper respiratory tract obstruction, sore throat, dysphagia, and stridor may occur (37).

2.5.2. Extraarticular Findings

Extraarticular symptoms are estimated to develop in 40% of RA patients (38). These findings may occur as cardiovascular, pulmonary, ocular, neurological, skin involvement, hematological, renal, and hepatic. The most common extraarticular findings are rheumatoid nodules, secondary sjogren's syndrome, and pulmonary fibrosis (9).

Skin Involvement: Rheumatoid nodules are the most commonly seen skin symptoms at the rate of 20% in RA (39). Subcutaneous nodules are mostly seen in RA patients who are seropositive for Rheumatoid Factor (RF). Rheumatoid nodules mostly develop in pressure areas such as elbow, finger joints, ischial and sacral protrusions, occipital scalp, and achilles tendon. However, they can also develop in internal organ tissue such as myocardium, meninges, and lung tissue (40).

Hematological Involvement: Often anemia occurs advancing with mild, moderate inflammation along with low iron (41). Symptoms such as lymphadenopathy anemia, Felty syndrome, leukopenia, thrombocytosis, granulocytopenia, eosinophilia, cryoglobulinemia, and hyperviscosity can be seen (9, 38, 40).

Vasculitis: It has a heterogeneous clinical picture such as rheumatoid vasculitis involving small vessels, infarcts in the skin fold surrounding the lower and lateral edges of the nail, skin ulcers, rash, gangrene, purpura, structural symptoms, sensorimotor neuropathy, and visceral arteritis. Systemic vasculitis may be seen sometimes, although rare. Necrotizing vasculitis is associated with serious illness and associated mortality (37).

Cardiac Involvement: Cardiovascular diseases are important causes of RA-related early mortality (42). All heart structures can be involved and pericarditis, myocarditis, valve disease, arrhythmia, and ischemic heart disease can be seen. The most common complication is pericarditis; whereas, symptomatic myocarditis, endocarditis, coronary arteritis and aortitis are rarely seen. Cardiac involvement is associated with a negative prognosis (43).

Pulmonary Involvement: Pulmonary complications are the second most common cause of RA-related mortalities. It also constitutes 10-20% of all mortalities (42). Lung findings in RA include rheumatoid pleuritis, interstitial pneumonia, cryptogenic organized pneumonia, obliterative bronchiolitis and intrapulmonary rheumatoid nodules (40).

Liver Involvement: An increase can be seen in liver enzymes due to chronic inflammation and drug use (37, 38).

Renal Involvement: Renal involvement is rare in RA. Renal damage can be triggered by drugs. Glomerulonephritis is the most common one and occurs in about 60% of renal involvement cases. While the incidence rate of renal involvement of secondary amyloidosis is 25%, interstitial nephritis is rare. Secondary amyloidosis detected in patients with severe proteinuria and nephrotic syndrome significantly affects the results of these patients (43).

Ocular Involvement: In RA, ocular involvement occurs in 27% of patients. Ophthalmic rheumatological involvements are secondary Sjogren's syndrome, episcleritis, scleritis, keratitis, and retinopathy. Secondary Sjogren's syndrome and scleritis are the most common ophthalmic involvements (43).

Neurological Involvement: Neurological problems in RA affect 1% of patients. However, these problems can be caused by both peripheral and central nervous system. Compression neuropathies such as carpal tunnel syndrome or nervous system involvement such as cervical myelopathy due to atlanto-axial subluxation are frequently seen in patients with disease continuing for a long time. Central nervous system vasculitis is extremely rare in RA (43).

Musculoskeletal Involvement: Periarticular osteopenia, diffuse bone loss and periarticular osteoporosis can be seen. Muscle weakness and atrophy are frequently seen

in RA patients. Movement disorder may occur due to prolonged peripheral nerve compression, and corticosteroid therapy (37).

2.6. Diagnosis in Rheumatoid Arthritis

The diagnosis of RA is established by taking the patient's anamnesis, performing a physical examination, and benefiting from laboratory results and imaging techniques (44). In addition, in 2010. the American College of Rheumatology/European Collaboration Against Rheumatism published RA Classification Criteria. These new criteria were introduced to diagnose RA earlier in patients who do not meet the classification criteria of American College of Rheumatology established in 1987 (45).

Without a situation that more effectively explains synovitis, it is necessary to get six or more points from the following criteria with synovial inflammation in one or more joints. These criteria are:

- Number of joints involved
- Serology (Presence of Rheumatoid Factor or anti-cyclic citrullinated protein antibody)
- Acute Phase Reactants (Increase in Erythrocyte sedimentation rate or C-reactive protein)
- Duration of symptoms (46)

2.7. Treatment Approaches in Rheumatoid Arthritis

Arthritis treatment includes pharmacological and non-pharmacological approaches. Non-pharmacological treatment includes both pain management and active exercise (47). In general, the goal of RA Therapy is thought to achieve a state of remission with optimal early treatment. With early intervention, RA has become a disease that inhibits the quality of life less. If treatment is started immediately, functional impairment may not occur and structural integrity can be preserved (48).

2.7.1. Pharmacological Treatment

Drug treatment of Rheumatoid Arthritis is composed of 4 main groups (49). Analgesics and Non-Steroid Anti-Inflammatory Drugs (NSAID) are frequently used in the symptomatic treatment of RA (12). Disease modifying antirheumatic drugs (DMARDs) can enhance the quality of life by ensuring the preservation of current condition in patients receiving early treatment (47, 49). Although the most commonly

used DMARD is methotrexate, corticosteroids and biologic DMARDs are also among the pharmacological treatment methods (12, 49).

2.7.2. Surgical Treatment

Reconstructive surgical intervention may be appropriate for severe pain, progressive deformities, limitation of motion, loss of function, and persistent localized synovitis occurring as a result of identifiable damage to the joint or soft tissue that occurs during the disease and do not respond to other treatment methods (50. 51). The main benefits expected from surgery are the prevention of pain, disorders of progressive joint function, and deformities (50).

2.7.3. Physical therapy and rehabilitation

The purpose of RA physiotherapy is generally to reduce pain, prevent joint destruction, prevent loss of function in activities of daily living, and enhance the quality of life. Physiotherapy also helps medical and surgical treatment. In order to ensure the effectiveness of physiotherapy optimally, the patient should be evaluated clinically and the treatment plan should be prepared appropriately (52). Physiotherapy not only helps patients with arthritis to relieve pain, reduce disability, improve functions, or maintain this development, but also trains the patient to be an effective self-manager (53). Applied physiotherapy approaches may vary depending on whether or not the disease is in active or passive period. Physiotherapy practices can be listed as exercises (aerobics, strength training, flexibility exercises, aquatic exercises, relaxation exercises) (54), electrotherapy modalities, thermotherapy agents, hydrotherapy, and balneotherapy applications (53), patient training (55), splint assistive device applications (orthosis, corsets, and ambulation devices) and training, teaching of compensatory techniques to maintain daily life for patients with permanent functional impairment and mobilization techniques (traction, manipulation, medical massage) (53).

2.7.4. Psychological Treatment

While rheumatoid arthritis patients face many physiological problems, they also experience many psychological difficulties. Some of the problems are anxiety, depression, social difficulties related to the challenges experienced in fulfilling social roles. The studies have indicated that 14% to 62% of patients with RA are affected by depression (5). Therefore, adding psychological therapy methods to multidisciplinary RA treatment becomes important. The Arthritis Self-Management Program developed for RA

patients is widely applied to help individuals (56). Treatments such as cognitive behavioral therapy, conscious awareness therapy, acceptance and attachment therapy, and stress management are some of the psychological approaches that are applied and considered effective in RA (57).

2.8. Biopsychosocial Approach

The biopsychosocial model is a scientific model prepared to complement the missing dimensions in the biomedical model. The word patient expresses the person in terms of a wider social system. Defining the patient according to his/her demographic information and the residence environment, also defines other systems that affect the patient and are a part of his/her environment (58). In 1977, George Engel concluded that the social context where the individual is in should be taken into account in providing the necessary medical approaches to figure out the disease symptoms and to reach the correct treatment and healthcare models. He supported biopsychosocial approach. Biopsychosocial approach is based on the opinion of "Human beings are biopsychosocial organisms where biological, psychological and social dimensions are inseparably intertwined" (59).

2.8.1. Biopsychosocial Approach in Rheumatoid Arthritis

Rheumatoid Arthritis is a chronic disease that affects all the daily life activities and functions of the individual. It is important that the patient uses effective coping skills to prevent the negative effects of RA on physical and psychological wellbeing.

Figuring out the patients' beliefs, feelings, thoughts and health behaviors is believed to be necessary in order to figure out their condition as a whole. In the literature, the importance of applying the biopsychosocial approach, which accepts the importance of psychological and social factors along with biological factors has been pointed out. With the application of the Biopsychosocial Approach, the variety of treatments applied in RA has increased. Adopting the biopsychosocial care model increases the effectiveness of the treatment by ensuring to define and address, if possible, all factors affecting the patients' ability to manage their condition and cope (60, 61).

2.9. Definition of Pain

The International Association for the Study of Pain (IASP) describes pain as an unpleasant emotional and sensory experience due to existing or possible tissue damage

(1). Pain can be classified in different ways depending on its mechanisms, duration, or region of origin (62).

Depending on its duration, the pain is divided into two as acute pain and chronic pain.

Acute pain: It occurs as a result of post-traumatic or post-operative physiological tissue damage. It has the feature of protecting the organism. It usually disappears between three and six months.

Chronic pain: It is a complex table that lasts for more than three months, continues differently from the biological recovery process and requires a multidisciplinary treatment causing a biopsychosocial impairment (63).

The pain is divided into three as somatic, visceral, and neuropathic pain according to its origin region.

Somatic pain: It occurs by activating the receptors in the skin or musculoskeletal system. It is usually localized in the region where the stimulation occurs. It can be described as throbbing, dull, and aching.

Visceral pain: It is the pain type seen in internal organs. It is not well localized. It is generally felt as dull, aching, and squeezing.

Neuropathic pain: They are the pain affecting the nervous system. It is often felt by patients in burning and tingling style (64).

The pain is examined in 4 ways according to its mechanisms.

Nociceptive pain: It is formed by the stimulation of neuroceptors, which are neurons located in places such as the skin, musculoskeletal system, and viscera.

Neuropathic pain: It occurs in cases such as trauma, damage related to peripheral nerve structures.

Deafferentation pain: Depending on the damage in the nervous system, somatosensory senses are disconnected from the central nervous system. Pain occurring due to this condition is called as deafferentation pain.

Reactive pain: Motor and sympathetic afferents can stimulate nociceptors by reflex activation. Pain caused by this condition is called as reactive pain.

Psychosomatic pain: It is the emotions causing the feeling of pain that occur in psychological state disorders (63).

2.9.1. Pain Transmission and Inhibition

Pain is carried by A delta and C fibers. Central terminals of these neuroceptive nerve tips synapse with neurons in Lamina I and II. The first neuron carrying the sensation of pain is localized in the posterior root ganglion. The nerve fibers located here synapse with the 2nd neuron cells in the dorsal horn in the Substantia gelatinosa (SG) in the spinal cord. There are enkephalinergic intermediate neurons in SG. The third neuron is localized in the thalamus. There are projection neurons that transmit the dorsal horn impulses from the anterolateal system to the upper centers, inhibitory neurons that inhibit the projection neurons when stimulated with large-diameter fibers, and excitatory fibers that transmit and excite pain stimuli to the projection neurons. Neuroreceptors transmitting these stimuli to the upper centers are involved in pain transmission. The most important ones are glutamate and neuropeptides. As a result, nociceptive impulses perceived from periphery stimulate excitatory intermediate neurons. In this way, inhibitory intermediate neurons are inhibited, the projection neurons are excited, and painful stimulus reaches to the central nervous system (63, 65, 66). There are 4 basic pathways to provide pain transmission in the afferent system. These paths are:

Spinothalamic Pathway: It originates from the neurons located in laminae I, V, and VII. It ends in the ventral posterolateral nucleus in the thalamus. It provides perception of discriminative aspects of pain.

Spinoreticular Pathway: It progresses through the anterolateral ascending system and extends to the reticular nuclei groups in the bulbus and pons. It generates a general alarm condition when there is a harmful stimulus.

Spinomesencephalic Tract: It extends from the lamina I and V to the mesencephalic periaqueductal gray matter. It establishes a connection with parabrachial nucleus in the forebrain, the amygdala, hypothalamus and the limbic system. It also has connection with periaqueductal hosting the enkephalinergic neurons.

Spinohypothalamic Pathway: It does not synapse in reticular formation. This pathway directly carries emotionally important information from skin, lips, genital organs, gastrointestinal tract, intracranial blood vessels, tongue and cornea to the hypothalamus. (65).

When the nociceptive system is activated, it is also under the control of the inhibitory system. While afferent impulse causes excitation, it also initiates inhibition at the spinal and supraspinal levels. Inhibition, which starts with a little delay in the periphery, also contributes to analgesia. The inhibitory system is divided into three;

Supraspinal Inhibition: The periaqueductal gray matter in the midbrain takes cortical system based inhibitory impulses from the rostral structures and sends the inhibitory impulses coming to the spinal cord posterior horn. Serotonin and adrenaline are important inhibitory neurotransmitters in this system.

Spinal Inhibition: It forms through inhibitory interneurons in the dorsal horn of the spinal cord. Important neurotransmitters that provide spinal inhibition are GABA, opioid peptides, and glycine.

Peripheral Inhibition: It is realized by sensorial neuron interaction with the immune system. Immune cells constituting the proinflammatory cytokine in the early period of inflammation produce analgesic mediators in later stage and contribute to inhibition. These mediators are opioid peptides, anti-inflammatory cytokines, and somatostatin (67).

2.10. Pain Theories

There are many theories arising from the effort to make sense of pain and figure out its mechanism. The main ones of these theories are specificity theory, pattern theory, and gate control theory.

2.10.1. Specificity Theory

It expresses the existence of special pathways for each somatosensory sensation. The basic principle of this theory is that each sense has a specific receptor and a sensory fiber associated with specific stimulation sensitive primary afferent. It is also a theory stating that these stimuli end up in special areas in the central nervous system. It was experimentally tested by physiologists in Western Europe in the 19th century and officially recognized as a theory.

2.10.2. Pattern theory

The duration and totality of the stimulus is the final determinant for the sense of pain. It is the theory expressing that the stimulus should accumulate in order for the sense of pain to begin after the impulse is carried to the dorsal horn in the spinal cord (68).

2.10.3. Gate Control Theory

Dorsal horn is divided into laminae. Laminae have many connections between each other. Lamina II is known as substantia gelatinosa (SG) and this extends from the trigeminal nucleus in the medulla to the phylum terminal in the caudal part of the spinal cord. Lamina II and V are important in terms of the modulation and localization of pain. C fibers end in lamina II and A delta fibers end in laminae I and V (65). Pain impulses are carried with afferent thick, myelinated, fast A delta and thin, slow, unmyelinated C fibers (69, 70). A beta fibers carry senses such as touching and vibration and progress to the dorsal columns without snapping (65). The stimuli coming from A delta and C fibers synapse with Substantia gelatinosa associated with Laminae I and II in the posterior horn of the spinal cord and transmission cells (T cells) located in the middle part of the posterior horn. Temporary activation of big fibers reduces the transition to T cells by presynaptic transition in SG (71). In this theory, advocated by Mcgill and Wall in 1965, there is the activation of inhibitory interneurons in Lamina II by the stimulation of large sensory afferents (A beta fibers) which are not harmful in the skin. Pain is prevented in C fibers. This theory is also the working principle of Transcutaneous Electrical Nerve Stimulation (TENS) current used in the treatment of pain (65).

2.11. Chronicization Process of Acute Pain

Long-term pain experience leads to neuroplastic changes, distortion of the balance between the excitation and inhibition, thus transformation of physiological pain into chronic and pathological pain (72). Prolonged neurogenic inflammation affects the perception process of pain by changing peripheral sensitization, central sensitization, and pain transmission and processing periods. When inflammation is not treated, inflammatory and algogenic mediators that are present in the medium cause sensitization. It also causes changes on the nociceptors. Inflammatory substances increase neural stimulation and make the nociceptors more sensitive. This problem is clinically called as hyperalgesia. Pain processing disorder occurs as a result of central sensitization and continuous activation of spinal and supraspinal neurons. As a result, allodynia, hyperalgesia, and spontaneous pain sensation may occur. In the late stages of central sensitization, overstimulation may also occur in the spinal cord. This problem causes pain to be felt in a larger area than normal. In addition, due to the deterioration in the inhibitor and excitatory balance in the spinal cord, stimuli that are not perceived normally begin to be felt and normal senses become painful (73). It is known that both biological and

psychosocial factors (depression, somatization, insufficient coping methods, social stresses, etc.) cause the pain to become chronic (72).

2.12. Rheumatoid Arthritis and Pain

Pain is the most common symptom in rheumatoid arthritis as in other rheumatic disorders (74). It is more after a long rest and seen with joint stiffness generally in the morning (15). It may occur due to inflammatory or non-inflammatory reasons (74). The sensory and emotional components of the pain experience in rheumatoid arthritis make this situation more complicated and make its treatment more difficult (75). Disorders in peripheral pain mechanisms and central sensitization, sleep disorders, fatigue, depression and anxiety, and psychosocial disturbances both contribute to pain and arise as a result of pain. These interactions continue in a circulation and negatively affect the quality of life of the person (76). Chronic common pain is also a problem that should not be ignored in individuals with rheumatoid arthritis and arises as a result of central sensitization. In addition, when compared with the general population, the prevalence of fibromyalgia was found to be high in individuals with RA (77). For the treatment of this multidimensional pain, non-inflammatory pain along with inflammatory pain should be evaluated and multidisciplinary treatment approaches should be applied (75).

2.13. Pain Coping Skills

There are different ways to regulate pain coping and emotional states related to chronic diseases. Since most of patients with chronic illnesses cannot recover ongoing pain on their own (healing, repairing) and prevent negative feelings associated with pain, they need to find strategies to adapt to the course of the chronic disease (78). Some patients are able to effectively cope with chronic pain, adapt emotionally well, and maintain their active and full lifestyles. Some patients cope with chronic pain badly. This situation causes considerable depression and psychologically distressed, very motionless and limited lifestyles (79). The variability of the duration and intensity of chronic pain in rheumatoid arthritis, its course with exacerbations and uncertainty of when the pain will pass or will start make especially coping with this situation difficult for patients (80).

2.13.1. Coping

Coping is defined as the continuously changing cognitive and behavioral efforts that the individuals impose to overcome the internal or external demands threatening their resources (81). Coping with chronic pain can be defined as thoughts and actions that

patients use in their efforts to manage pain on a daily basis (82). Methods of coping with pain in rheumatoid arthritis are basically divided into two including active and passive coping. Active coping is called as methods used to directly control pain or pain-related dysfunction. Passive coping is the method causing the patient to leave control to others or limit his/her activities. While active coping is generally seen as an adaptive method in the literature, passive coping is defined as a maladaptive method (83). There are also coping strategies that specialize differently from these two main distinctions or which are sub-groups of these basic titles. These strategies in Vanderbilt Multidimensional Pain Coping Inventory have an important place in the literature to describe the coping with pain methods.

Planful Problem Solving: Defines the actions focused directly on the problem solving using analytical approaches to solve the problem.

Positive Reappraisal: Focuses on personal development and progress. It defines efforts of taking positive meanings from the experienced situation.

Confrontive Coping: Explains the aggressive behaviors exhibited to solve the problem and the aggressive condition of the situation. It can be exemplified as giving verbal and physical sudden reactions (84).

Distraction: It is defined as directing the attention from pain to different things.

Distancing: It is associated with the individual's thinking that the pain is outside the body and ignoring the pain. It also includes attitude with pain reinterpretation (eg: Numbness) (83).

Stoicism: It is the belief that the individuals should hide their problems and feelings from others, endure physical pain without complaining and control his/her emotions and behaviors under stress. It is believed that the patients following this strategy may be more likely to avoid or delay seeking professional medical intervention for serious symptoms and signs of the disease (85). In addition, stoicism can also reflect a passive aggressive communication way that has negative interpersonal effects (86).

Using Religion: It is defined as using religious beliefs or behaviors by patients to heal pain or prevent and reduce the negative emotional consequences of stressful situations (87).

Self-Blame: It includes taking responsibility for negative events including pain. When the literature is reviewed, it is seen to be associated with depression in patients with chronic pain.

Seeking social support: It refers to the patients' desire to be together with those who will support them financially or emotionally (82).

Wishful thinking: This strategy does not expose a person to stress but temporary denial forms a limit between the reality and the experience of the person. Despite the purpose of avoiding a problem, it is generally ineffective in reducing the problem if considered for a long term since no steps are taken to solve the problem.

Disengagement: It is the coping method aiming to avoid being exposed to stress or distressed feelings (88).

Acceptance: Accepting the pain includes responding to pain-related experiences without attempting to control or avoid when the patient's quality of life is limited and in case of doing valuable activities and achieving personal goals, regardless of these experiences (89).

Venting: They are the strategies for trying to relax by expressing negative feelings to others. It is an emotion-oriented method. This method is thought to be in the tendency of increasing the negative effects of negative emotions on a person's performance (90).

Self-Isolation: The individual exhibits distinctive and discriminating attitudes and behaviors from other individuals (91).

Catastroping: It is a method of cognitive coping with pain characterized by negative self-expressions and negative thoughts about the future. When this method is used as a coping skill, the patient thinks that the worst unrealistic possible outcome will arise. In the literature, it is seen that the reduction of the use of catastroping strategy occurring in the behavioral treatment process is associated not only with the reduction of pain intensity but also with the improvements in physical and psychological disability (92, 93).

3. MATERIALS AND METHODS

3.1. Purpose of the Study

This postgraduate thesis was designed to investigate Turkish adaptation, cross-cultural adaptation, validity, and reliability of Vanderbilt Multidimensional Pain Coping Inventory.

3.2. Location and Period of the Study

This study was conducted between June 2019 and December 2019 in Rheumatology Outpatient Clinic of Istanbul Haydarpasa Numune Training and Research Hospital.

3.3. Sample of the Study

As stated in the literature, the sample of the study was determined by following the rule that it should be five to ten times of the minimum number of observed variables (94). The sample size was calculated as 350 patients diagnosed with rheumatoid arthritis.

Individuals, whose native language was Turkish and who were literate, over the age of 18 years, diagnosed with rheumatoid arthritis, had no cognitive impairment and communication problem and agreed to participate in the study, were included in the study. Individuals who did not meet the inclusion criteria were not included in the study.

3.4. Ethical Considerations

In order to conduct the validity and reliability study of the original version of the inventory, the necessary permission was obtained from Craig A. Smith, the author of the inventory through e-mail (APPX. 1). In order to conduct the study, approval dated 30/05/2019 and numbered 37068608-6100-15-1685 was obtained from T.R. Yeditepe University Clinical Trials Ethics Committee (APPX. 2). In addition, the participants were informed about the purpose of the study and their written consents were obtained through “Informed Consent Form” (APPX. 3).

3.5. Data Collection

Those, who met the inclusion criteria among the individuals who were diagnosed with rheumatoid arthritis and receiving treatment in Istanbul Haydarpasa Numune Training and Research Hospital, Rheumatology Outpatient Clinic, were included in the study after explaining the purpose of the study and that the confidentiality of their personal information would be protected. The researcher completed the questionnaires by

conducting face-to-face interview with individuals. No intervention or practice was applied to the volunteers participating in the study.

3.6. Data Collection Tools

3.6.1. Demographic Data Form

This form prepared by the researcher includes the socio-demographic characteristics, disease history, and pain and exacerbation-related properties of the participants (APPX. 4).

3.6.2. Health Status Assessment (SF36)

SF-36 scale (APPX. 5), is a quality of life questionnaire which is most frequently used to evaluate the health-related quality of life and includes the self-report of the individual. It was developed in 1988 and its standard form was created in 1992. It is not specific to a specific disease, age, treatment group, and covers basic health-related concepts. It was prepared to be used in developing health policies along with determining the quality of life, effectiveness of treatment and the psychosocial aspects of the disease. The questionnaire has a total of 36 items evaluating 8 subscales of health including physical functioning, role function-physical, bodily pain, general health, vitality, social functioning, role function-emotional, and mental health. Cronbach's alpha value of SF-36 subscales varies between 0.792-0.992 and it is valid and reliable for use in rheumatoid arthritis patients, as well (95).

3.6.3. McGill-Melzack Pain Questionnaire

This scale was developed in 1971. It has Turkish validity and reliability. It consists of four parts. In the first part, it is asked to mark the location of pain on the body over the figure and use the capitals "D" if deep pain is felt, "S" if the pain is superficial and "D-S" if the two conditions are experienced at the same time. In the second part, there are twenty word groups defining pain in terms of sensory, perceptual and evaluation. Each of the word groups consists of two-six words that describe pain in different ways. Time relationship of pain is in the third part. It includes phrases for determining the conditions to figure out the continuity and frequency of pain and increasing and decreasing pain. The last section contains words indicating the intensity of pain (96). With this questionnaire used in the study, it was aimed to determine the location of the pain, the feeling of the patient, the pain-time relationship, pain intensity, and the pain level bearable for the patient (APPX. 6).

3.6.4. Pain Coping Questionnaire

It was developed in 1992 to determine the affection and behavior patterns related to pain. The scale (APPX. 7) determines how patients with chronic pain cope with organic or psychogenic pain. The validity and reliability study of the scale was conducted in 1996 and it was adapted to Turkish. It is composed of self-management, helplessness, conscious cognitive attempts and medical remedies subscales (97).

3.6.5. Pain Coping Inventory (PCI)

This scale (APPX. 8) evaluates how often patients with chronic pain use behavioral and cognitive methods in coping with pain. It has six subscales including active subscales (transformation, distraction, and reducing demand) and passive subscales (retreating, worrying, and resting). Patients can select the one that suits them the best from 1 (almost none) to 4 (very often). It has Turkish validity and reliability (98).

3.6.6. Vanderbilt Multidimensional Pain Coping Inventory

Vanderbilt Multidimensional Pain Coping Inventory (VMPCI) (APPX. 9) was developed by C. A. Smith et al., in 1995. It was consisted of 11 subscales when it was first developed. The inventory was then revised and some items were added and some were omitted. It currently consists of 16 subscales and contains a total of 69 items. When the pain of patients is moderate or severe, they are asked to mark behaviors and thoughts they prefer to cope with the pain. The inventory is composed of Vanderbilt multidimensional pain management inventory (VMPI) active, VMPI passive, planful problem solving, positive reappraisal, distraction, confrontive coping, distancing, stoicism, using religion, self-blame, self-isolation, wishful thinking, disengagement, acceptance, seeking social support, and venting subscales (99).

3.7. Data Analysis Methods

The data obtained in this study were analyzed with SPSS 17 packaged program.

While investigating the normal distribution of variables, Kolmogorov-Smirnov and Shapiro Wilk's tests were benefited. While interpreting the results, it was stated that the level of 0.05 was used as the significance level and the variables exhibited normal distribution if it was $p<0.05$ and they did not if it was $p>0.05$.

While investigating the differences between groups, nonparametric Mann Whitney U and Kruskal Wallis-H Tests were used in cases where the variables did not show normal distribution.

When significant differences were observed in Kruskal Wallis-H Test, the groups having differences between each other were determined using Post-Hoc Multiple Comparison Test.

While examining the correlations between the variables, Pearson's Correlation Coefficient was used.

While interpreting the results, it was stated that the level of 0.05 was used as the significance level and there was a significant correlation if it was $p<0.05$ and there was no significant correlation if it was $p>0.05$.

While interpreting the results, it was stated that the level of 0.05 was used as the significance level and there was a significant difference if it was $p<0.05$ and there was no significant difference if it was $p>0.05$.

3.8. Validity and Reliability Study of VMPCI

In order to ensure many scales, which are not adapted to most native languages, to be used by different societies both linguistically and culturally through increasing international studies and collaborations, cultural adaptation must be ensured. The use of adapted scales not only ensures efficient use of time, but also contributes to the generalization of data and revealing similar and different aspects internationally. The population structure, social background, and language structure of the society in which the scale is intended to be adapted must be absolutely taken into consideration. Therefore, necessary steps must be absolutely taken in order. These steps should be completed in the order of translation into the target language, synthesizing the translation, obtaining expert opinions, back-translation of the scale into the original language, reviewing and finally the pilot study, respectively. Thus, all stages would be completed to ensure cultural adaptation (100).

3.8.1. Scale Validity

Validity is defined as level of measuring the property, that the scale wants to measure, correctly without mixing with properties other than this property. The highness of the validity depends on the expression of the variable intended to be measured. The validity of a scale is understood by evaluating its validity coefficient. Validity coefficient

is the correlation coefficient between the criteria or criterion determined in accordance with the goal of the scale and the values obtained with the scale. This coefficient takes values ranging from –1.00 to +1.00. As the coefficient increases, the scale validity increases, as well (94, 101). There are some techniques determining the validity of the scale. In this context, there are 4 types of validity including face, content, construct and criterion validity (101).

3.8.2. Language and Content Validity of the Scale

The original language of the scale is English. Its translation to Turkish, the target language, was made by three faculty members working at School of Health Sciences in Istanbul Gelişim University. These three translations were reviewed and a draft form was obtained by blending the appropriate items. The back-translation process of the scale was conducted by a certified translator who speaks English (APPX. 10). The items in the form prepared with the original version and back-translation of the scale were compared by a team consisting of the advisor, researcher, two physiotherapists who have a good command of English and one occupational therapist and the items that were found inappropriate were reviewed. Thus, the second draft form was prepared and it was found to be appropriate for getting expert opinion. The draft was then presented to an expert team consisting of physiotherapists, occupational therapist, physician, nurse, dietician, psychologist, and social service experts. The form was finalized after examining and analyzing expert opinions.

3.8.3. Preliminary Application of the Study

In the preliminary application, the scale was applied to 10 people with various socioeconomic and educational levels at different genders and ages in order to examine the understandability of the scale, prepared in accordance with expert opinions, by individuals. They were asked to mark the words/sentences they understood or did not understood in the scale. After this process, the scale was read by 30 individuals with rheumatoid arthritis so that the comprehensibility of the items was investigated. The scale was put into final form with the feedback received from the patients.

3.8.4. Construct Validity of the Scale

It shows how accurately the measuring tool measures the intended value. In order to prepare the construct validity of the scale, the correlation between the variables must be specified correctly (102).

Exploratory Factor Analysis (EFA):

It is a technique ensuring to find less number of new variables that are significant conceptually by bringing more than one variables that are related to each other together. Factor load value is called as the coefficient explaining the correlation between items and factors. For factor loads, load values of 0.60 and above are defined as high and those between 0.30 and 0.59 are defined as medium values. These ranges are important because they constitute criteria for variable derivation (103). In this study, 69 items in the original version were used to adapt "Vanderbilt Multidimensional Pain Coping Inventory" in Turkey. Exploratory factor analysis was applied to determine the subscales of the inventory. In order to decrease the variances that may occur between the dimensions and also increase the total explanation rate, the items with factor load values of < 0.4 were omitted after exploratory factor analysis. As a result of exploratory factor analysis, an 8-factor inventory was formed as a result of the construct necessary for the use of its original version with 16 subscales in Turkey. Kaiser-Meyer-Olkin (KMO) test was applied to determine the adequacy of the sample size in the study. By examining the result of KMO test, the sample size was found out to be sufficient. (KMO=0.819; $p<0.01$).

Confirmatory Factor Analysis (CFA):

It is the technique that evaluates how much a factorial model, consisting of factors formed by many observable variables, fits with the actual data. The model intended to be examined defines a structure determined by using the data of empirical study or constructed based on a certain theory. In this technique, multiple fit index is used to evaluate the validity of the model. The most commonly used ones of these indices are Chi-Square Fit Test, Average Square Root of Approximate Errors, Increasing Fit Index, Comparative Fit Index, and Goodness of Fit Index.

The values observed in the scale model between the range of

- $\chi 2/sd<3$; $0<RMSEA<0.05$; $0.95\leq IFI\leq 1$; $0.95\leq CFI\leq 1$ and $0.95\leq GFI\leq 1$ show that there was a perfect fit and the values between
- $3<\chi 2/sd<5$; $0.05<RMSEA<0.08$; $0.90\leq IFI\leq 0.95$; $0.90\leq CFI\leq 0.95$ and $0.90\leq GFI\leq 0.95$ show that there is an acceptable fit (104).

The validity of the construct forming after EFA was examined using CFA.

3.8.5. Scale Reliability

The indicator of consistency of the values obtained from the repeated measurements under the same conditions is called as reliability. Additionally, reliability is a concept explaining that all the items in the measurement tool are consistent with each other and that the formation in the previous studies is measured homogeneously and adequately. Reliability is a concept that concerns both the measurement tool and its results. Reliability analyses are divided into four including internal consistency, test-retest, parallel forms and finally interobserver reliability (101).

Internal Consistency:

In this method, the scale is applied to a group once and the internal consistency of the scale is examined. The consistency of the items in Likert type scales is determined by using the Cronbach's alpha coefficient (α). The main benefit of Cronbach's alpha coefficient is to determine internal consistency (104). Cronbach's alpha coefficient of the scales consisting of items with high correlation is high. Table 3.1 shows the evaluation criterion of Cronbach's alpha coefficient.

Table 3.1. Evaluation Criterion of Cronbach's Alpha Coefficient

Cronbach's alpha coefficient	Scale Reliability Value
0.80≤ α≤1.00	The scale is highly reliable
0.60≤ α≤0.80	The scale is very reliable
0.40≤ α≤0.60	The scale has low reliability
0.00 ≤ α≤0.40	The scale is not reliable

Source: (105)

Test-Retest (Time Invariance) Reliability:

This method is to apply the inventory to the same volunteer group and by the same researcher. The time between two applications is important in test-retest method. While early application may cause individuals to show sensitivity to the test, late application may cause differentiation of the situation intended to be measured by changes that may occur over time. In the literature, it is stated that a period of two to four weeks is suitable for this method. Since every scale is not an easy-to-apply method, it is applied in the scales required to be standardized in particular (94, 106). For the test-retest reliability of the scale, the correlation between the scores after the application is checked through Pearson Moment Product Correlation Equation. In this study, test-retest method was applied to 30 patients at three-week intervals.

Parallel Forms Reliability:

It is a method in which the equivalent scales are applied to the same sample and under the same conditions. The correlation coefficient value between the values obtained from the scales is found through Pearson Moment Product Correlation Equation (107).

3.9. Limitations of the Study

The limitations of the study are that the study was a single-centered study and the sample was kept in minimal level. The data were obtained by filling the forms by the researcher during the interview. For this reason, the accuracy of the data is limited to the reports of the patients.

4.RESULTS

4.1. Distribution of Sociodemographic Data

Table 4.1 and Table 4.2 show distributions of the sample in terms of socio-demographic characteristics. The sample was composed of 352 people. The mean age of the patients was 54.72 ±13.93 years and Table 4.1 shows the distribution of age groups. In gender distribution it was observed that 70.7% of them (n=249) were female and 29.3% (n=103) were male. In distribution of education level, 13% were literate, 45.3% were primary school, 17% were high school and 13.1% university. The graduate education level was quite low with the rate of 1.1%. When the marital status of the patients was examined, it was analyzed that 72.9% were married, 19.1% were single, 6.3% were widowed and 1.7% were divorced. When the family's total monthly income was examined, it was determined that 65.5% were involved in middle income group, 31.9% were involved in low income group, and 2.6% were involved in high income group. While 74.4% of the patients did not have harmful habits, 25.3% were smokers, and 0.3% were using alcohol. Duration of alcohol use in those who were using alcohol was not stable and they were social drinker. The smoking period is present in Table 4.2 and it was determined as 25.28 ±12.85 package per year. Only 7.4% (n=26) of the patients stated that they participated in physiotherapy treatment due to rheumatoid arthritis and 92.7% (n=326) did not receive any physiotherapy treatment due to this disease. While 63% of the patients (n=227) stated that they did not have sufficient information about RA, only 36.1% (n = 127) stated to have sufficient knowledge about RA. Table 4.1 shows the disease duration of the sample in months and the average disease duration was 8.1 ±9.8 years.

Table 4.1. Distribution of Sociodemographic Characteristics

		n	%
Gender	Female	249	70.7
	Male	103	29.3
Age Group	18-65 Years	278	79.0
	66-74 Years	51	14.5
	75 Years and older	23	6.5
Education Level	Literate	48	13.6
	Primary School	159	45.3
	Secondary School	35	9.9
	High School	60	17.0
	University	46	13.1
	Master / Doctorate	4	1.1
Marital Status	Single	67	19.1
	Married	255	72.9
	Divorced	6	1.7
	Widow	22	6.3
Family Income Level	Low	110	31.9
	Middle	226	65.5
	High	9	2.6
Harmful Habit	No	262	74.4
	Smoking	89	25.3
	Alcohol	1	.3
Disease Duration (year)	0-2 Years	129	36.6
	2-7 Years	97	27.6
	7 Years and more	126	35.8
Do you have any disease other than rheumatoid arthritis?	No	155	44.0
	Yes	197	56.0
Have you ever had physical therapy due to your rheumatoid arthritis?	No	326	92.6
	Yes	26	7.4
Do you have knowledge about rheumatoid arthritis?	No	225	63.9
	Yes	127	36.1

Table 4.2. Descriptive Statistics Table for Numerical Variables

	n	Mean	sd.	Min	Max
Age	352	54.72	13.93	18	92
Smoking duration	352	25.28	12.85	1	56
How many months have you had rheumatoid arthritis ?	352	97.20	115.05	3	600

When exacerbation period was examined, it was observed that 27.6% of the patients responded as winter, 24.4% as does not matter, 15.1% as mid season, 6.5% as summer, and 4.8% as fall.

Table 4.3. Frequency and Distribution Table for the Exacerbation Period

Exacerbation Period	n	%
Winter	97	27.6
Does not matter	86	24.4
Mid Season	53	15.1
Summer	23	6.5
Fall	17	4.8

When the areas with involvement were examined, it was determined that the top three areas were hands and hand joints (40.9%), knee, patellae, and legs (35.2%), and feet (26.4%). Table 4.4 lists the other data.

Table 4.4. Frequency and Distribution Table for Patients' Most Involved Body Regions

Regions with Involvement	n	%
Hands and Hand Joint	144	40.9
Knees and Legs	124	35.2
Feet	93	26.4
Shoulders and Arms	65	18.5
Wrist	64	18.2
Ankles	55	15.6
Fingers	46	13.1
Elbow	46	13.1
Waist	30	8.5
Other Involvements (eye, hip, lung, etc…)	28	8.0
Spinal Cord	23	6.5

When the comorbid disease variables of the participants were examined, the data are present in Table 4 and the top 5 included hypertension (31.3%), diabetes (13.4%), hypothyroidism (4%), cardiovascular disorders (2.8%), and high cholesterol (2%).

Table 4.5. Frequency and Distribution Table for Variables of Additional Comorbid Diseases in Rheumatoid Arthritis

Additional Comorbid Diseases in Rheumatoid Arthritis	n	%
Hypertension	110	31.3
Diabetes	47	13.4
Hypothyroidism	14	4.0
Cardiovascular Disorders	10	2.8
High Cholesterol	7	2.0

When the participants' coping methods they used to alleviate the effects of their diseases were examined, the top five coping methods included the use of DMARD (44.3%), the use of NSAID (37.8%), cold compress application (27.8%), resting (23%), and ointment use (11.4%).

Table 4.6. Frequency and Distribution Table for the Variable of Alleviation of Disease Effects

Coping Methods of the Patients	n	%
DMARD use	156	44.3
NSAID use	133	37.8
Cold compress application	98	27.8
Resting	81	23.0
Ointment use	40	11.4

Table 4.7 shows professions of the patients. When the data were examined, it was determined that the top five professions were housewives (46%), retired (9.4%), self-employed (5.1%), teacher (4.5%), and civil servant (3.1%).

Table 4.7. Frequency and Distribution Table for Professions

Profession	n	%
Housewife	162	46.0
Retired	33	9.4
Self-employed	18	5.1
Teacher	16	4.5
Civil servant	11	3.1

4.2. Examining the Data on the Quality of Life of the Participants

Table 3 shows descriptive statistics of the subscale scores of SF-36 questionnaire. The mean scores of the subscales of SF-36 questionnaire were calculated as 56.22± 26.17 points for Physical Functioning, 37±37.07 for Role Function- Physical, 46.69 ± 42.42 points for Role Function-Emotional, 42.87±17.66 points for Energy-Vitality, 61.07±13.29 points for Mental Health, 68.64±22.90 points for Social Functioning, 57.76±20.56 points for Bodily Pain, and 41.65±18.12 points for General Health.

Table 4.8. Descriptive Statistics Table for Subscale Scores of SF-36 Questionnaire

	n	Mean	sd.	Min	Max
Physical Functioning	352	56.22	26.17	0	100
Role Function-Physical	352	37.00	37.07	0	100
Role Function-Emotional	352	46.69	42.42	0	100
Energy/Vitality	352	42.87	17.66	5	90
Mental Health	352	61.07	13.29	16	96
Social Functioning	352	68.64	22.90	0	100
Bodily Pain	352	57.76	20.56	0	100
General Health	352	41.65	18.12	0	90

Correlation test was carried out to investigate the relationship between the subscale scores of SF-36 questionnaire and "Age" and "Disease duration". Table 4.9 shows the results of this test.

Table 4.9. Correlation Test Results for the Correlation between "Age" and "Disease Duration" and Subscale Scores of SF-36 Questionnaire

		Age	Disease duration
Physical Functioning	r	-.266**	-.219**
	p	.000	.000
Role Function- Physical	r	-.194**	-.174**
	p	.000	.001
Role Function-Emotional	r	-.119*	-.176**
	p	.026	.001
Energy / Vitality	r	-.172**	-.147**
	p	.001	.006
Mental Health	r	-.069	-.067
	p	.198	.210
Social Functioning	r	-.091	-.097
	p	.087	.069
Bodily Pain	r	-.115*	-.142**
	p	.031	.007
General Health	r	-.053	-.159**
	p	.320	.003

These results were examined in the following paragraph.

It was observed that there was a statistically significant negative correlation between "Physical Functioning" Subscale score of SF-36 and age and disease duration variables (r=-0.266; p<0.01); (r=-0.219; p<0.01). Additionally, there was a statistically significant negative correlation between the Role Function-Physical subscale score and the variables of age and disease duration (r=-0.194; p<0.01); (r=-0.174; p<0.01). Role Function-Emotional subscale score and the variables of age and disease duration showed a statistically significant negative correlation (r=-0.119; p<0.05); (r=-0.176; p<0.01). When the correlation between the SF-36 questionnaire "Energy / Vitality" subscale scores and the variables of age and disease duration was examined, there was a negative and statistically significant correlation was observed (r=-0.172; p<0.01); (r=-0.147; p<0.01). A negative and statistically significant correlation was determined between SF-36 scale "Bodily Pain" subscale score and the variables of "Age" and disease duration (r=-0.115; p<0.05); (r=-0.142; p<0.01). The correlation between General Health subscale score and disease duration variable was negative and statistically significant (r=-0.159; p<0.01).

In addition, in order to determine the statistical method to be used primarily to compare the SF-36 subscale scores according to variables of age groups, disease duration and gender, it was tested whether or not the related variables fit the normal distribution. At this stage, Kolmogorov-Smirnov and Shapiro-Wilk tests were used. The value of p=0.05 was taken as the critical value. It was accepted as a result of the test that when the p values obtained for the related variables were greater than 0.05, the data were normally distributed and when these values were less than 0.05, they were not normally distributed. Since the data set did not fit the normal distribution, non-parametric methods "Mann-Whitney U" and "Kruskal-Wallis" tests were used in the comparisons between groups. Table 10, Table 11, and Table 12 show the analysis of the data sets. There was a statistically significant difference between the Physical Functioning scores of the patients in terms of age groups ($p<0.01$). The value of the patients in the age group of 18-65 years was significantly higher than the other age groups (59.30 ± 25.79). There was a statistically significant difference between the Role Function-Physical scores ($p<0.01$); and it was also significantly higher than the values in the other two age groups. There was also a statistically significant difference between "Energy/Vitality" scores according to the age groups ($p<0.05$). When this difference was examined, it was seen that the value of the patients in the 18-65 age group (43.79 ± 17.55) was significantly higher than the other groups. There was a statistically significant difference between the "Social Functioning" scores and "Bodily Pain" scores of the patients according to the age groups ($p<0.05$). The value of the patients in the age group of 18-65 years was significantly higher than the other age groups in both subscales. However, no statistically significant difference was observed between the Role Function-Emotional, Mental Health and General Health scores of the patients in terms of the age groups ($p>0.05$).

Table 4.10 shows results of Kruskal-Wallis Test for Comparison of SF-36 Subscale Scores with Age Groups.

Table 4.10. Results of Kruskal-Wallis Test for Comparison of SF-36 Subscale Scores in Terms of Age Groups

	Age Group	n	Mean	sd.	Min	Max	Chi-square	P	Difference
Physical Functioning	18-65 Years	278	59.30	25.79	0	100	19.129	0.001*	1-2 1-3
	66-74 Years	51	46.37	24.60	0	100			
	75 Years and older	23	40.87	24.25	5	80			
Role Function-Physical	18-65 Years	278	41.01	37.46	0	100	15.259	0.001*	1-2 1-3
	66-74 Years	51	24.02	34.26	0	100			
	75 Years and older	23	17.39	24.35	0	75			
Role Function-Emotional	18-65 Years	278	49.16	41.79	0	100	4.533	0.104	-
	66-74 Years	51	37.91	44.23	0	100			
	75 Years and older	23	36.23	43.71	0	100			
Energy / Vitality	18-65 Years	278	43.79	17.55	5	90	7.899	0.019*	1-3
	66-74 Years	51	41.86	18.52	10	90			
	75 Years and older	23	33.91	14.92	10	65			
Mental Health	18-65 Years	278	61.31	13.04	16	92	1.426	0.49	-
	66-74 Years	51	61.49	13.19	20	96			
	75 Years and older	23	57.22	16.25	16	88			
Social Functioning	18-65 Years	278	70.46	23.01	13	100	8.591	0.014*	1-2
	66-74 Years	51	61.27	21.25	25	100			
	75 Years and older	23	63.04	21.81	0	100			
Bodily Pain	18-65 Years	278	59.33	20.80	0	100	9.053	0.011*	1-2 1-3
	66-74 Years	51	52.35	19.11	0	90			
	75 Years and older	23	50.87	17.97	10	80			
General Health	18-65 Years	278	42.01	18.57	0	90	0.788	0.674	-
	66-74 Years	51	39.51	16.32	5	80			
	75 Years and older	23	41.96	16.84	10	65			

There was a statistically significant difference between the "Physical Functioning" scores of the patients in terms of gender ($p<0.01$) and the value of the male patients (62.82 ± 25.98) was significantly higher than the value of the female patients. A statistically significant difference was also found between the "Role Function- Physical" mean scores of the patients according to their genders ($p<0.05$) and the value of the male patients (44.42 ± 36.20) was significantly higher than the value of the female patients. A statistically significant difference was also determined between Role Function-Emotional scores ($p<0.01$). Again, the value of the male patients (57.93 ± 40.95) was significantly higher than the value of the female patients (42.03). There was a statistically significant difference between General Health scores ($p<0.05$). The mean value of the male patients (44.47 ± 19.02) was significantly higher than the value of the female patients. However, there was no statistically significant difference between Energy/Vitality, Mental Health, Social Functioning, and Bodily Pain scores ($p>0.05$).

Table 4.11. Results of Mann-Whitney Test for Comparison of SF-36 Subscale Scores in Terms of Gender Variable

	Gender	n	Mean	sd.	Min	Max	Z	p
Physical Functioning	Female	249	53.49	25.81	0	100	-3.193	0.001*
	Male	103	62.82	25.98	0	100		
Role Function-Physical	Female	249	33.94	37.07	0	100	-2.44	0.015*
	Male	103	44.42	36.20	0	100		
Role Function-Emotional	Female	249	42.03	42.23	0	100	-3.111	0.002*
	Male	103	57.93	40.95	0	100		
Energy / Vitality	Female	249	42.29	17.45	5	90	-1.129	0.259
	Male	103	44.27	18.18	5	85		
Mental Health	Female	249	60.92	13.36	16	96	-0.788	0.431
	Male	103	61.44	13.16	20	80		
Social Functioning	Female	249	68.32	22.92	0	100	-0.413	0.68
	Male	103	69.42	22.94	13	100		
Bodily Pain	Female	249	56.53	20.38	0	100	-1.919	0.055
	Male	103	60.75	20.79	10	100		
General Health	Female	249	40.48	17.65	5	90	-2.022	0.043*
	Male	103	44.47	19.02	0	80		

There was a statistically significant difference between the "Physical Functioning" scores in terms of the disease duration ($p<0.01$). The value of the patients with a disease duration of more than 7 years (49.64 ± 27.91) was significantly lower than the mean values of the other groups. There was a statistically significant difference between the "Role Function-Physical" mean scores in terms of the duration of the disease ($p<0.01$). In addition, the value of the patients with a disease duration of more than 7 years (27.38 ± 27.38) was significantly lower than the values of the patients with a disease duration between 0-2 years and 2-7 years. There was a statistically significant difference in the scores of Role Function-Emotional, Bodily Pain, and General Health ($p<0.01$) and the value of the patients with a disease duration of more than 7 years was significantly lower than the values of the patients with a disease duration between 0-2 years and 2-7 years. There was a statistically significant difference between the "Social Functioning" mean scores according to the duration of the disease ($p<0.05$). The value of the patients with a disease duration of more than 7 years was significantly lower than the value of the patients with a disease duration of 0-2 years. However, there was no statistically significant difference between Energy/Vitality and Mental Health scores ($p>0.05$). These results are present in Table 4.12.

Table 4.12. Results of Kruskal-Wallis Test for the Comparison of SF-36 Subscale Scores in Terms of Disease Duration

	Disease Duration (years)	n	Mean	sd.	Min	Max	F	P	Difference
Physical Functioning	0-2 Years	129	60.43	25.94	0	100	10.943	0.004*	1-3 2-3
	2-7 Years	97	59.18	22.43	10	100			
	7 Years and more	126	49.64	27.91	0	100			
Role Function-Physical	0-2 Years	129	44.38	38.56	0	100	13.817	0.001*	1-3 2-3
	2-7 Years	97	39.69	35.68	0	100			
	7 Years and more	126	27.38	34.70	0	100			
Role Function-Emotional	0-2 Years	129	54.52	42.89	0	100	10.591	0.005*	1-3
	2-7 Years	97	48.45	40.55	0	100			
	7 Years and more	126	37.30	41.87	0	100			
Energy/ Vitality	0-2 Years	129	44.92	17.24	5	90	3.339	0.188	-
	2-7 Years	97	43.09	17.09	10	90			
	7 Years and more	126	40.60	18.38	5	85			
Mental Health	0-2 Years	129	62.98	13.42	16	96	5.801	0.055	-
	2-7 Years	97	59.96	13.40	16	92			
	7 Years and more	126	59.97	12.94	20	92			
Social Functioning	0-2 Years	129	72.48	24.92	13	100	6.351	0.042*	1-3
	2-7 Years	97	67.14	21.67	0	100			
	7 Years and more	126	65.87	21.24	25	100			
Bodily Pain	0-2 Years	129	61.98	21.56	10	100	11.763	0.003*	1-3
	2-7 Years	97	57.58	19.22	10	90			
	7 Years and more	126	53.59	19.80	0	100			
General Health	0-2 Years	129	45.39	19.27	5	90	9.856	0.007*	1-3
	2-7 Years	97	41.19	16.70	5	80			
	7 Years and more	126	38.17	17.35	0	80			

4.3. Determining the Participants' Characteristics about their Pain Conditions

Severity, duration, and intensity of the pain experienced by the patients were determined with Mcgill-Melzack pain questionnaire and their characteristics are presented in Table 4.13.

Table 4.13. Characteristics of Pain Experienced by the Patients

	Definition	n	%
The relationship of pain with time	Rhythmic, periodic, intermittent	235	70.8
	Continuous, Persistent, stable	68	20.5
	Short, Instant, Temporary	29	8.7
Current pain status	Mild	100	29.5
	Severe	96	28.3
	Disturbing	88	26.0
	Very Severe	50	14.7
	Unbearable	5	1.5
The worst condition of your pain	Unbearable	241	70.7
	Very Severe	70	20.5
	Severe	27	7.9
	Disturbing	2	.6
	Mild	1	.3
The lowest condition of your pain	Mild	271	79.9
	Disturbing	64	18.9
	Severe	4	1.2

In addition, the characteristics related to the pain of the patients were analyzed with McGill and Melzack Pain Questionnaire and the results are given in Table 4.14. In accordance with the instructions in the McGill questionnaire, the patients chose a characteristic suitable for their pain feeling from each word group while selecting the pain

characteristics and did not answer the word groups that were not suitable for the pain feeling. While calculating the percentages, the number of people responding to word group was considered and calculated among themselves. The most preferred responses of the patients were listed as aching (n= 202), throbbing (n=152), (unbearable n=120), tense (n=115), cramp like pain (n= 113), burning (n=81), hurting (n=68), sharp (n=56), narcotized (n=56), tiring (n=54), needle like (n=52), numb (n=40), dispersed (n=40), and stabbing (n=40), respectively.

Table 4.14. Frequency and Distribution Table for the Pain Characteristics

MCGILL – CHARACTERISTICS OF PAIN		n	%
	Throbbing	152	81.3
Characteristic of your pain 1	Hitting	14	7.5
	Trembling	7	3.7
	Stabbing	40	38.8
Characteristic of your pain 2	Pricking	19	18.4
	Like a lightning flash	17	16.5
	Cramp like	113	63.8
Characteristic of your pain 3	Gnawing	38	21.5
	Repressive	14	7.9
	Aching	202	85.6
Characteristic of your pain 4	Severe	15	6.4
	Hurtful	9	3.8
	Dispersed	40	33.9
Characteristic of your pain 5	Spreading	32	27.1
	Inward	26	22.0
	Tense	115	58.7
Characteristic of your pain 6	Sharp	56	28.6
	Sensitive	22	11.2
	Burning	81	65.9
Characteristic of your pain 7	Hot	31	25.2
	Etchant	9	7.3
	Hurting	68	42.8
Characteristic of your pain 8	Needle like	52	32.7
	Fuzzy	27	17.0
	Spraining	28	63.6
Characteristic of your pain 9	Tugging	11	25.0
	Drafting	5	11.4
Characteristic of your pain 10	Miserable	34	89.5
	Blinding	4	10.5
Characteristic of your pain 11	Tiring	54	72.0
	Consuming	21	28.0
Characteristic of your pain 12	Choking	24	64.9
	Disgusting	10	27.0
	Narcotized	56	40.9
Characteristic of your pain 13	Numb	40	29.2
	Compressive	25	18.2
	Exhausting	20	47.6
Characteristic of your pain 14	Punishing	9	21.4
	Cruel	9	21.4
	Like torture	25	32.1
Characteristic of your pain 15	Anguished	20	25.6
	Wretched	19	24.4
	Unbearable	120	68.6
Characteristic of your pain 16	Annoying	22	12.6
	Dense	15	8.6
	Frightening	17	42.5
Characteristic of your pain 17	Terrifying	12	30.0
	Terrible	11	27.5
	Very sharp	24	46.2
Characteristic of your pain 18	Cutting	20	38.5
	As it tears	8	15.4
	Horrifying	23	59.0
Characteristic of your pain 19	Chilling	11	28.2
	Freezing	5	12.8
	Like a bullet	13	38.2
Characteristic of your pain 20	Flashing	11	32.4
	Bouncing	10	29.4

4.4. Results Related to Validity and Reliability of Vanderbilt Multidimensional Pain Coping Inventory

4.4.1. Validity Analyses of Vanderbilt Multidimensional Pain Coping Inventory

Content Validity of Vanderbilt Multidimensional Pain Coping Inventory

Content Validity Index was used for language adaptation of Vanderbilt Multidimensional Pain Coping Inventory. In order to evaluate the scale in terms of content validity, the items were presented to the expert opinion and the scale was shaped in accordance with the expert opinions.

Construct Validity of Vanderbilt Multidimensional Pain Coping Inventory

Factor construct validity was used for the validity of the measurement tool. Whether or not the data of the inventory investigated with "Exploratory Factor Analysis" fit the factor analysis was determined through KMO value and Bartlett's test. After these processes, "Confirmatory Factor Analysis" was applied to confirm the construct validity. Table 4.15 shows the results of the KMO test and Bartlett's Test of Sphericity.

Table 4.15. Results of KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.819**
Bartlett's Test of Sphericity	Approx. Chi-Square	5282.180
	df	595
	Sig.	.000

Exploratory Factor Analysis (EFA): In order to discover the subscales thought to be effective in pain coping methods of the participants, EFA was applied. At this stage, the items with a factor load of less than 0.4 were omitted in order to reduce the variances between the possible dimensions and to increase the total variance explanation rate. A total of 37 items were omitted as a result of the EFA. A structure with 8 factors was formed and this structure explained 60.880% of the total variance. Table 4.16 shows results of explained variance related to the inventory. Figure 4.1 shows Scree Plot regarding the factor structure forming as a result of the analysis.

Table 4.16. Explained Variance

Factor	Total Factor Load	Explained Variance %	Cumulative Explained Variance %
1	3.446	9.847	9.847
2	3.097	8.848	18.694
3	2.931	8.375	27.070
4	2.632	7.520	34.589
5	2.550	7.286	41.875
6	2.412	6.890	48.766
7	2.346	6.704	55.469
8	1.894	5.411	60.880

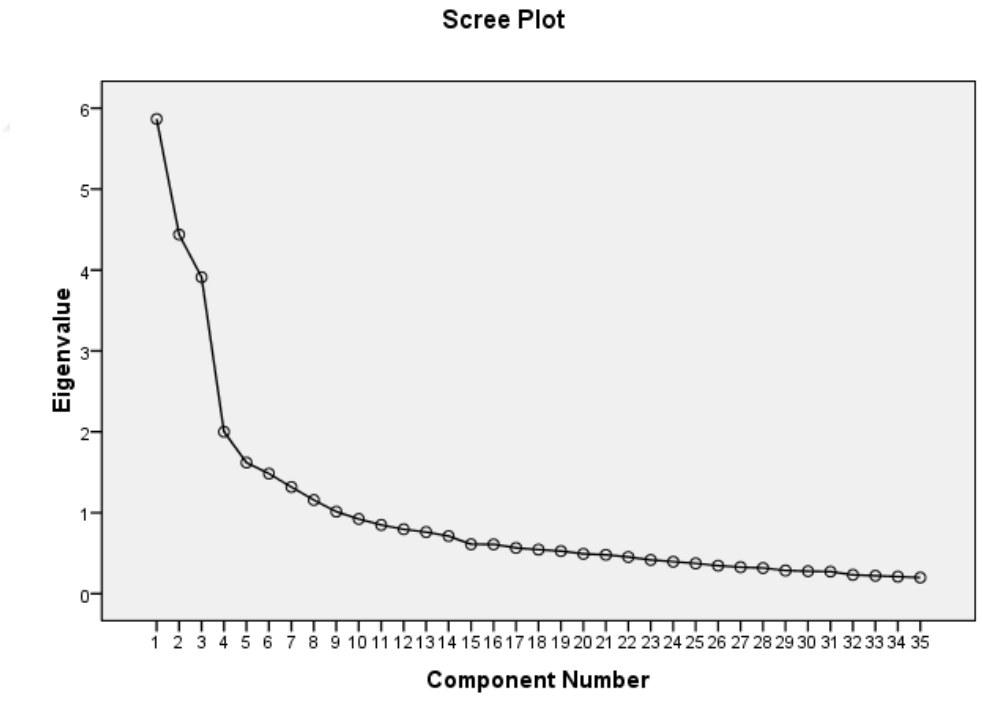

Figure 4.1. Scree Plot

As a result of the Exploratory Factor Analysis, an 8-factor structure formed.

- 1st Subscale includes the items 27, 34, 39, 43, 57, and 67. When the items in this group are evaluated, this subscale is named as “Passive”.
- 2nd Subscale includes the items 5, 31, 61, and 69. When the items in this group are evaluated, this subscale is named as “Seeking Social Support”.
- 3rd Subscale includes the items 4, 7, 16, 26, 33, 42, and 47. When the items in this group are evaluated, this subscale is named as “Active”.
- 4th Subscale includes the items 30, 53, 58, and 68. When the items in this group are evaluated, this subscale is named as “Acceptance”.
- 5th Subscale includes the items 17, 48, and 65. When the items in this group are evaluated, this subscale is named as “Self-Blame”.
- 6th Subscale includes the items 37, 46, and 56. When the items in this group are evaluated, this subscale is named as “Stoicism”.
- 7th Subscale includes the items 15, 41, and 66. When the items in this group are evaluated, this subscale is named as “Self-isolation”.
- 8th Subscale includes the items 18 and 60. When the items in this group are evaluated, this subscale is named as “Using Religion”.

Table 4.17 shows factor load of these items.

Table 4.17. Factor Loads of VMPCI

	FACTOR							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
V43	.758							
V27	.714							
V34	.690							
V39	.688							
V67	.675							
V57	.670							
V61		.849						
V69		.831						
V31		.822						
V5		.694						
V33			.748					
V26			.683					
V47			.595					
V7			.575					
V42			.562					
V16			.533					
V4			.489					
V30				.805				
V58				.784				
V68				.664				
V53				.639				
V65					.841			
V48					.838			
V17					.823			
V46						.779		
V37						.702		
V56						.611		
V15							.737	
V66							.710	
V41							.694	
V18								.818
V60								.791

Confirmatory Factor Analysis: The scale titled as Vanderbilt Multidimensional Pain Coping Inventory has an 8-factor (subscale) structure. The confirmation status of the structures, finalized with the EFA results, was investigated through CFA Level I. Figure 4.2 shows the path diagram of the factor loads between the factors (subscales) obtained as a result of CFA and related items.

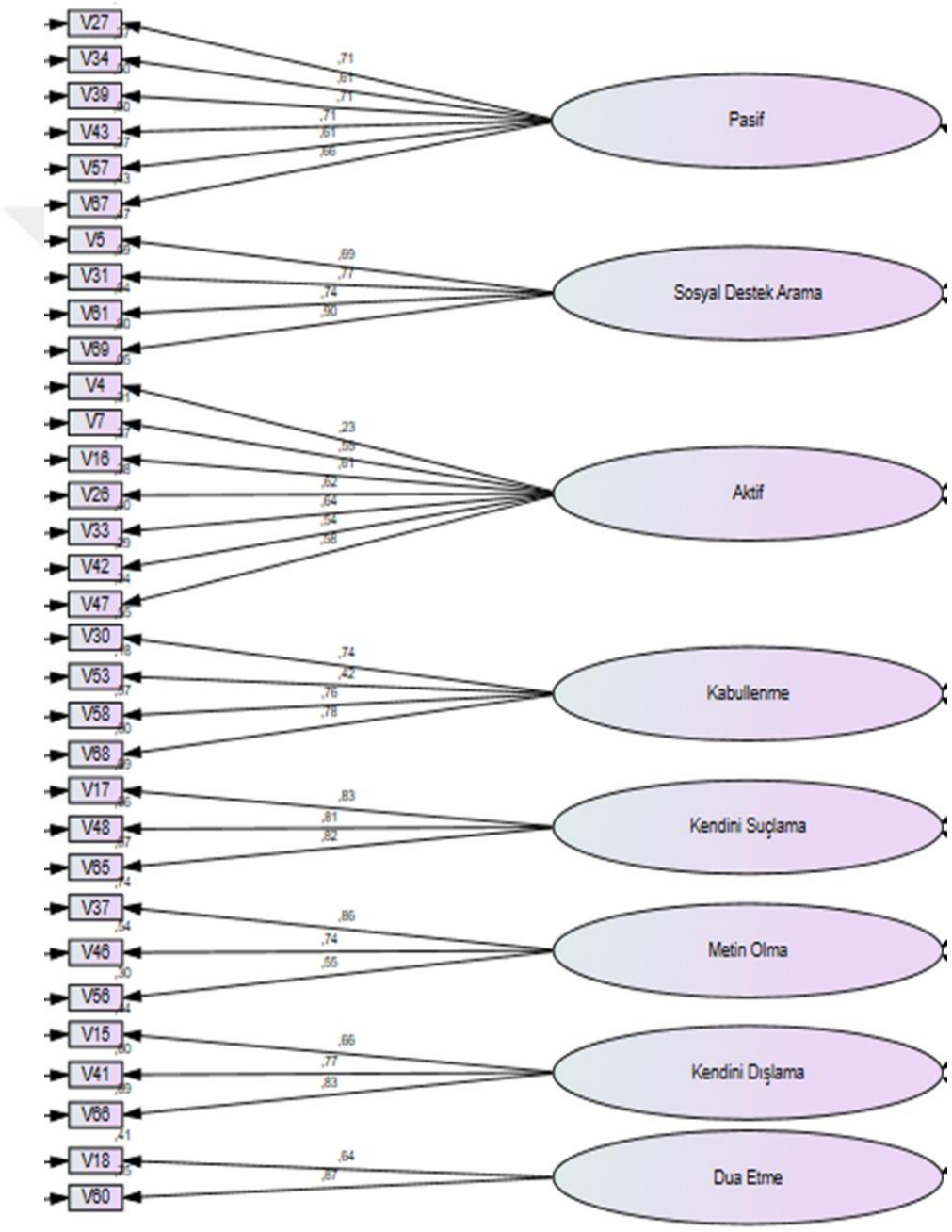

Figure 4.2. Path Diagram of Confirmatory Factor Analysis of VMPCI

Table 4.18. Regression and "t" Values for the Correlation Between Factors and Items of VMPCI

		Regression Values	t Values
V43	Passive	0.709	13.953
V27	Passive	0.706	13.597
V34	Passive	0.609	11.711
V39	Passive	0.706	14.088
V57	Passive	0.611	11.515
V67	Passive	0.658	12.671
V69	Seeking social support	0.896	19.805
V61	Seeking social support	0.736	14.949
V31	Seeking social support	0.765	15.921
V5	Seeking social support	0.685	14.004
V33	Active	0.636	11.741
V26	Active	0.616	11.568
V16	Active	0.611	11.473
V4	Active	0.233	4.079
V7	Active	0.553	10.143
V42	Active	0.538	9.941
V47	Active	0.584	10.395
V68	Acceptance	0.778	15.903
V58	Acceptance	0.757	15.324
V53	Acceptance	0.423	7.439
V30	Acceptance	0.738	14.797
V65	Self-Blame	0.819	17.603
V48	Self-Blame	0.813	17.64
V17	Self-Blame	0.832	18.094
V56	Stoicism	0.55	8.066
V46	Stoicism	0.738	14.366
V37	Stoicism	0.862	17.097
V66	Self-isolation	0.83	17.552
V41	Self-isolation	0.773	15.787
V15	Self-isolation	0.664	13.054
V60	Using Religion	0.867	11.988
V18	Using Religion	0.643	10.196

At the stage in which the scale structure forming after EFA is tested with CFA, it is checked whether there is a statistically significant correlation between the factors and the related items. If the "t" values are greater than 1.96, there is a statistically significant correlation between the factors and the related items. Table 4.18 shows "t" values calculated as a result of CFA. When Table 4.18 was examined, the presence of a

statistically significant correlation between the related items and factors was confirmed since all of "t" values were greater than 1.96.

In order to determine the accuracy of the resultant factorial structure and the level of fit, "Fit Indices" should be checked. Table 4.19 shows the criteria and results of fit indices. When the fit statistics calculated through CFA were analyzed, it was determined that the previously determined structure of the inventory fit well with the collected data.

Table 4.19. Fit Indices of Confirmatory Factor Analysis

Fit Measures	Good Fit	Acceptable Fit	Results of the Model
RMSEA	0<RMSEA<0.05	0.05<RMSEA<0.10	0.044
GFI	0.95<GFI<1	0.90<GFI<0.95	0.901
AGFI	0.90<AGFI<1	0.85<AGFI<0.90	0.865
CFI	0.95<CFI<1	0.90<CFI<0.95	0.937
χ^2/df	χ^2/df<3	3<χ^2/df<5	1.688

4.4.2. Reliability Analysis of VMPCI

Determination of Internal Consistency of VMPCI

While testing the reliability of VMPCI, Cronbach's alpha coefficient (α) was used. The data collected from 352 volunteers were benefited in the analyses. In addition, the Coefficient's Alpha If Item Deleted was calculated to determine how much and how the questions affected the alpha coefficient.

Cronbach's alpha values were calculated for all subscales with Exploratory Factor Analysis. Table 4.20 shows the reliability values of 8 subscales.

Table 4.20. Subscales and Total Reliability Analyses

	Cronbach's Alpha
Passive	0.655
Seeking social support	0.862
Active	0.715
Acceptance	0.728
Self-Blame	0.861
Stoicism	0.803
Self-isolation	0.761
Using Religion	0.738
SCALE TOTAL	0.828

Cronbach's Alpha values of 8 subscales forming as a result of the factor analysis ranged between 0.655 and 0.862. Cronbach's Alpha value of the overall inventory was 0.828. Therefore, the determination of the scale is "highly reliable" was performed. Table 4.21 shows "Cronbach's Alpha If Item Deleted" Values of the Questions.

The values in "Cronbach's Alpha if Item Deleted" column in Table 4.20 show what Cronbach's alpha value would be if the related item is deleted. The values in this column are expected not to be significantly higher than the Cronbach's alpha value of the overall inventory. When the values were examined, it was observed that they varied in the range of 0.817-0.833. Since these values were not significantly higher than the Cronbach's Alpha value (0.828) of the overall inventory, it was found that there was no item that disrupted the structure occurring after factor analysis.

Table 4.21. "Cronbach's Alpha If Item Deleted" Values of the Items

	Cronbach's Alpha if Item Deleted
V15	.826
V16	.825
V17	.820
V18	.824
V4	.828
V26	.829
V27	.822
V30	.820
V31	.822
V33	.830
V34	.826
V37	.820
V39	.821
V41	.820
V42	.833
V43	.821
V46	.822
V47	.828
V48	.820
V5	.827
V53	.824
V56	.824
V58	.820
V57	.823
V60	.823
V61	.825
V65	.820
V66	.822
V67	.819
V68	.819
V69	.826
V3	.817
V24	.826
V29	.828

Test-Retest Reliability of VMPCI

Table 4.22 shows Test-Retest correlation of VMPCI. For Test-Retest Reliability, the same scale was applied to the same patient group with three-week interval and the correlation between the results was evaluated.

Table 4.22. Results of Correlation Test of the Correlation Between Scale Total and Subscale Scores Obtained After Test-Retest

		Passive (T)	Seeking social support (T)	Active (T)	Acceptance (T)	Self-Blame (T)	Stoicism (T)	Self-isolation (T)	Using Religion (T)	VMPCI Total (T)
Passive	r	.606**								
	p	.001								
Seeking social support	r		.985**							
	p		.000							
Active	r			.780**						
	p			.000						
Acceptance	r				.946**					
	p				.000					
Self-Blame	r					.962**				
	p					.000				
Stoicism	r						.932**			
	p						.000			
Self-isolation	r							.749**		
	p							.000		
Using Religion	r								.863**	
	p								.000	
VMPCI Total	r									.953**
	p									.000

T= Repeat

As a result of retest; it was observed that

- There was a positive, moderate, and statistically significant correlation between the test-retest scores of “Passive” subscale of VMPCI ($r=0.606$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Seeking Social Support” subscale of VMPCI ($r=0.985$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Active” subscale of VMPCI ($r=0.780$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Acceptance” subscale of VMPCI ($r=0.946$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Self-Blame” subscale of VMPCI ($r=0.962$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Stoicism” subscale of VMPCI ($r=0.932$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Self-Isolation” subscale of VMPCI ($r=0.749$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest scores of “Using Religion” subscale of VMPCI ($r=0.863$; $p<0.01$).
- There was a positive, high, and statistically significant correlation between the test-retest total scores of VMPCI ($r=0.953$; $p<0.01$).

Parallel Forms Reliability of VMPCI

The scales measuring the same criteria and being used in Turkey were investigated and the scales that are most suitable to be used were taken as basis and Pain Coping Questionnaire and Pain Coping Inventory whose validity and reliability was conducted in Turkey were used as the parallel form.

Table 4.23. Correlation Test Results Related to the Correlation of VMPCI Total and Subscale Scores with "PCQ" and "PCI" Scores

		Pain Coping Inventory	**Pain Coping Questionnaire**
Passive	r	.224**	.142**
	p	.000	.008
Seeking social support	r	.271**	.246**
	p	.000	.000
Active	r	.073	.351**
	p	.171	.000
Acceptance	r	.331**	.208**
	p	.000	.000
Self-Blame	r	.309**	.001
	p	.000	.983
Stoicism	r	.198**	.087
	p	.000	.102
Self-Isolation	r	.238**	.125*
	p	.000	.019
Using Religion	r	.185**	.057
	p	.000	.288
VMPCI Total	r	.439**	.326**
	p	.000	.000

It was observed that there was a positive, weak, and statistically significant correlation between "Passive" subscale scores of VMPCI and "Pain Coping inventory" ($r=0.224$; $p<0.01$). In addition, there was a positive, weak, and statistically significant correlation between the "Passive" subscale scores of VMPCI and "Pain Coping Questionnaire" ($r=0,224$; $p<0,01$). There was a positive, weak, and statistically significant

correlation between the “Passive” subscale scores of VMPCI and “Pain Coping Questionnaire” ($r=0.142$; $p<0.01$).

It was observed that there was a positive, weak, and statistically significant correlation between “Seeking Social Support” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.271$; $p<0.01$). In addition, there was a positive, weak, and statistically significant correlation between “Seeking Social Support” subscale scores of VMPCI and “Pain Coping Questionnaire” ($r=0.246$; $p<0.01$).

It was determined that there was a positive, moderate, and statistically significant correlation between “Active” subscale scores of VMPCI and “Pain Coping Questionnaire” ($r=0.351$; $p<0.01$).

It was observed that there was a positive, moderate, and statistically significant correlation between “Acceptance” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.331$; $p<0.01$). In addition, there was a positive, weak, and statistically significant correlation between “Acceptance” subscale scores of VMPCI and “Pain Coping Questionnaire” ($r=0.208$; $p<0.01$).

There was a positive, moderate, and statistically significant correlation between “Self-Blame” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.309$; $p<0.01$).

It was seen that there was a positive, weak, and statistically significant correlation between “Stoicism” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.198$; $p<0.01$).

It was determined that there was a positive, weak, and statistically significant correlation between “Self-Isolation” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.238$; $p<0.01$). Also, there was a positive, weak, and statistically significant correlation between “Self-Isolation” subscale scores of VMPCI and “Pain Coping Questionnaire” ($r=0.125$; $p<0.05$).

It was observed that there was a positive, weak, and statistically significant correlation between “Using Religion” subscale scores of VMPCI and “Pain Coping Inventory” ($r=0.185$; $p<0.01$).

It was seen that there was a positive, weak, and statistically significant correlation between total scores of VMPCI and “Pain Coping Inventory” ($r=0.439$; $p<0.01$). In

addition, there was a positive, moderate, and statistically significant correlation between total scores of VMPCI and "Pain Coping Questionnaire" ($r=0.326$; $p<0.05$).

4.4.3. Examination of Subscales of Vanderbilt Multidimensional Pain Coping Inventory and Sample Descriptive Characteristics

Table 4.24 shows descriptive statistics regarding VMPCI subscales according to gender variable are given in. When the related table was analyzed, it was observed that the mean scores of the women for all subscales of VMPCI were higher than the mean scores of the men.

Table 4.24. Descriptive Statistics Table for the Subscales of VMPCI in Terms of Gender Variable

Gender		n	Mean	sd.	Min	Max
Passive	Female	249	1.20	.64	.00	3.33
	Male	103	1.07	.68	.17	4.00
Seeking social support	Female	249	2.33	.95	.00	4.00
	Male	103	2.13	.90	.00	4.00
Active	Female	249	2.10	.59	.00	4.00
	Male	103	2.05	.58	.57	3.71
Acceptance	Female	249	2.30	.78	.00	4.00
	Male	103	2.11	.75	.00	4.00
Self-Blame	Female	249	1.06	1.06	.00	4.00
	Male	103	1.01	1.04	.00	4.00
Stoicism	Female	249	1.05	1.06	.00	4.00
	Male	103	.99	1.01	.00	4.00
Self-Isolation	Female	249	.81	.93	.00	4.00
	Male	103	.71	.85	.00	4.00
Using Religion	Female	249	3.13	.83	.00	4.00
	Male	103	2.80	.94	.00	4.00

Table 4.25 shows descriptive statistics of the participants from VMPCI subscales according to the disease duration. It was seen that as the disease duration increased, the mean scores of passive, acceptance, stoicism, using religion subscales calculated according to the responses of patients in VMPCI increased. However, as the disease duration progressed, the mean scores of seeking social support subscale decreased. Data of all subscales are present in the related table.

Table 4.25. Descriptive Statistics Table for Subscales of VMPCI in Terms of Disease Duration

Disease Duration (year)		n	Mean	sd.	Min	Max
Passive	0-2 Years	129	1.10	.67	.00	3.33
	2-7 Years	97	1.20	.70	.00	4.00
	7 Years and more	126	1.19	.58	.33	2.67
Seeking social support	0-2 Years	129	2.33	.98	.00	4.00
	2-7 Years	97	2.23	.93	.00	4.00
	7 Years and more	126	2.24	.91	.00	4.00
Active	0-2 Years	129	2.10	.58	.43	4.00
	2-7 Years	97	2.11	.60	.00	3.57
	7 Years and more	126	2.05	.58	.57	3.57
Acceptance	0-2 Years	129	2.11	.71	.50	4.00
	2-7 Years	97	2.29	.83	.00	4.00
	7 Years and more	126	2.35	.79	.00	4.00
Self-Blame	0-2 Years	129	1.08	1.05	.00	4.00
	2-7 Years	97	1.14	1.14	.00	4.00
	7 Years and more	126	.94	.97	.00	4.00
Stoicism	0-2 Years	129	.96	1.05	.00	4.00
	2-7 Years	97	1.07	1.05	.00	3.67
	7 Years and more	126	1.07	1.03	.00	4.00
Self-Isolation	0-2 Years	129	.78	.92	.00	4.00
	2-7 Years	97	.76	.95	.00	4.00
	7 Years and more	126	.80	.88	.00	3.00
Using Religion	0-2 Years	129	3.00	.81	.50	4.00
	2-7 Years	97	2.97	.99	.00	4.00
	7 Years and more	126	3.12	.86	.00	4.00

Table 4.26 shows descriptive statistics of the participants regarding the subscales of VMPCI in terms of age groups.

Table 4.26. Descriptive Statistics Table for Subscales of VMPCI in Terms of Age Group Variable

Age Group		n	Mean	sd.	Min	Max
Passive	18-65 Years	278	1.18	.67	.00	4.00
	66-74 Years	51	1.05	.50	.17	2.00
	75 Years and over	23	1.18	.70	.33	2.67
Seeking social support	18-65 Years	278	2.28	.95	.00	4.00
	66-74 Years	51	2.22	.98	.00	4.00
	75 Years and over	23	2.23	.80	.50	3.50
Active	18-65 Years	278	2.11	.60	.00	4.00
	66-74 Years	51	1.98	.56	1.00	3.43
	75 Years and over	23	2.01	.53	1.14	3.57
Acceptance	18-65 Years	278	2.25	.82	.00	4.00
	66-74 Years	51	2.25	.65	1.00	4.00
	75 Years and over	23	2.23	.46	1.75	3.75
Self-Blame	18-65 Years	278	1.10	1.04	.00	4.00
	66-74 Years	51	.93	1.03	.00	4.00
	75 Years and over	23	.70	1.14	.00	4.00
Stoicism	18-65 Years	278	1.10	1.07	.00	4.00
	66-74 Years	51	.71	.79	.00	3.67
	75 Years and over	23	.93	1.11	.00	3.67
Self-isolation	18-65 Years	278	.82	.93	.00	4.00
	66-74 Years	51	.64	.78	.00	3.33
	75 Years and over	23	.65	.95	.00	3.00
Using Religion	18-65 Years	278	3.00	.90	.00	4.00
	66-74 Years	51	3.15	.87	1.00	4.00
	75 Years and over	23	3.26	.56	2.00	4.00

The mean scores of subscales of VMPCI ranged between 0-4 and the mean scores are present in Table 4.27. The coping with pain methods that were most frequently used by the patients were listed as Using Religion, Seeking social support, Acceptance, Active, Passive, Self-Blame, Stoicism, and Self-Isolation.

Table 4.27. Descriptive Statistics Table for Subscales of VMPCI

	n	Mean	sd.	Min	Max
Passive	352	1.16	.65	.00	4.00
Seeking social support	352	2.27	.94	.00	4.00
Active	352	2.08	.59	.00	4.00
Acceptance	352	2.25	.78	.00	4.00
Self-Blame	352	1.05	1.05	.00	4.00
Stoicism	352	1.03	1.04	.00	4.00
Self-isolation	352	.78	.91	.00	4.00
Using Religion	352	3.04	.88	.00	4.00

4.4.4. Results Concerning the Comparison of Vanderbilt Multidimensional Pain Coping Inventory and Quality of Life Characteristics of the Participants

The correlation between VMPCI subscales and SF-36 subscales was examined by correlation test. The data is present in Table 4.28 and they were evaluated by making below grouping.

When examining the correlation between VMPCI Passive Subscale and SF-36 subscales, it was determined that

- There was a negative and statistically significant correlation between passive subscale score and SF-36 Physical Functioning score ($r=-0.126$; $p<0.05$).
- There was a negative and statistically significant correlation between passive subscale score and SF-36 Role Function-Physical score ($r=-0.201$; $p<0.01$).
- There was a negative and statistically significant correlation between passive subscale score and SF-36 scale Role Function-Emotional score ($r=-0.251$; $p<0.01$).
- There was a negative and statistically significant correlation between passive subscale score and SF-36 Energy/Vitality score ($r=-0.145$; $p<0.01$).

- There was a negative and statistically significant correlation between passive subscale score and SF-36 Mental Health score ($r=-0.244$; $p<0.01$).
- There was a negative and statistically significant correlation between passive subscale score and SF-36 Social Functioning score ($r=-0.207$; $p<0.01$).
- There was a negative and statistically significant correlation between passive subscale score and SF-36 Bodily Pain score ($r=-0.229$; $p<0.01$).

When examining the correlation VMPCI Seeking Social Support subscale and the subscales of SF-36, it was determined that

- There was a negative and statistically significant correlation between Seeking Social Support subscale score and SF-36 Role Function-Physical score ($r=-0.157$; $p<0.01$).
- There was a negative and statistically significant correlation between Seeking Social Support subscale score and SF-36 Role Function-Emotional score ($r=-0.149$; $p<0.01$).
- There was a negative and statistically significant correlation between Seeking Social Support subscale score and SF-36 Social Functioning score ($r=-0.145$; $p<0.01$).
- There was a negative and statistically significant correlation between Seeking Social Support subscale score and SF-36 Bodily Pain score ($r=-0.134$; $p<0.05$).

When examining the correlation between VMPCI Active subscale and the subscales of SF-36 questionnaire, it was determined that

- There was a positive and statistically significant correlation between Active subscale score and SF-36 Physical Functioning score ($r=0.269$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 Role Function-Physical score ($r=0.302$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 Role Function-Emotional score ($r=0.286$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 Energy/Vitality score ($r=0.344$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 Mental Health score ($r=0.270$; $p<0.01$).

- There was a positive and statistically significant correlation between Active subscale score and SF-36 Social Functioning score ($r=0.153$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 Bodily Pain score ($r=0.195$; $p<0.01$).
- There was a positive and statistically significant correlation between Active subscale score and SF-36 General Health score ($r=0.231$; $p<0.01$).

When analyzing the correlation between VMPCI Acceptance subscale and the subscales of SF-36, it was found that

- There was a negative and statistically significant correlation between Acceptance subscale score and SF-36 Role Function-Physical score ($r=-0.104$; $p<0.05$).
- There was a negative and statistically significant correlation between Acceptance subscale score and SF-36 Social Functioning score ($r=-0.158$; $p<0.01$).
- There was a negative and statistically significant correlation between Acceptance subscale score and SF-36 Bodily Pain score ($r=-0.132$; $p<0.05$).

When analyzing the correlation between VMPCI Self-Blame subscale and the subscales of SF-36 questionnaire, it was determined

- There was a negative and statistically significant correlation between Self-Blame subscale score and SF-36 Role Function-Physical score ($r=-0.139$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Blame subscale score and SF-36 Mental Health score ($r=-0.307$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Blame subscale score and SF-36 Social Functioning score ($r=-0.290$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Blame subscale score and SF-36 Bodily Pain score ($r=-0.249$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Blame subscale score and SF-36 General Health score ($r=-0.133$; $p<0.05$).

When examining the correlation between VMPCI Stoicism subscale and the subscales of SF-36, it was observed that

- There was a negative and statistically significant correlation between Stoicism subscale score and SF-36 Social Functioning score ($r=-0.124$; $p<0.05$).

- There was a positive and statistically significant correlation between Stoicism subscale score and SF-36 General Health score ($r=0.156$; $p<0.01$).

When analyzing the correlation between VMPCI Self-Isolation subscale and the subscales of SF-36, it was determined that

- There was a negative and statistically significant correlation between Self-Isolation subscale score and SF-36 Mental Health score ($r=-0.184$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Isolation subscale score and SF-36 Social Functioning score ($r=-0.152$; $p<0.01$).
- There was a negative and statistically significant correlation between Self-Isolation subscale score and SF-36 Bodily Pain score ($r=-0.153$; $p<0.01$).

Table 4.28. Correlation Test Results of the Correlation Between the Subscales of VMPCI and SF-36 Questionnaire

		Physical Functioning	Role Function-Physical	Role Function-Emotional	Energy / Vitality	Mental Health	Social Functioning	Bodily Pain	General Health
Passive	r	-.126*	-.201**	-.251**	-.244**	-.207**	-.229**	-.097	-.097
	p	.018	.000	.000	.000	.000	.000	.068	.068
Seeking social support	r	-.016	-.157**	-.149**	-.074	-.145**	-.134*	-.064	-.064
	p	.767	.003	.005	.165	.007	.012	.232	.232
Active	r	.269**	.302**	.286**	.270**	.153**	.195**	.231**	.231**
	p	.000	.000	.000	.000	.004	.000	.000	.000
Acceptance	r	-.024	-.104	-.036	-.090	-.158**	-.132*	-.042	-.042
	p	.649	.050	.496	.091	.003	.014	.429	.429
Self-Blame	r	-.005	-.139**	-.133*	-.307**	-.290**	-.249**	-.133*	-.133*
	p	.919	.009	.012	.000	.000	.000	.012	.012
Stoicism	r	.157**	.042	.066	-.061	-.124*	-.070	.156**	.156**
	p	.003	.430	.216	.255	.020	.187	.003	.003
Self-isolation	r	.038	-.026	.020	-.184**	-.152**	-.153**	.011	.011
	p	.483	.626	.707	.001	.004	.004	.838	.838
Using Religion	r	-.041	-.066	-.042	-.029	-.082	-.086	.020	.020
	p	.440	.219	.431	.586	.126	.106	.708	.708

5.DISCUSSION AND CONCLUSION

Chronic pain is a problem that prevents all functions of the patient. Chronic pain affects the patient's life in all aspects, causes to both physical and emotional function loss, and negatively affects the activity levels of the patient. In addition, this can lead to important economic problems. Chronic pain also negatively affects the quality of life due to inappropriately administered pain management. In a study conducted on the quality of life of patients suffering from chronic pain in 2008, it was revealed that the rate of chronic pain patients, who were suffering pain and whose mental health, work status, sleep and personal relationships were negatively affected, was high (108)**.** Individuals with rheumatoid arthritis define pain as the most important symptoms that often persist despite optimal control of inflammatory disease (57). Chronic pain experienced in RA is not only a stressor for patients but also increases the disability and negatively affects the psychosocial outcomes. In addition, patients diagnosed with RA reported pain as the most disturbing problem. Each of accepting chronic pain, coping skills, and self-efficacy contributes to the quality of life of patients with RA. Adopting ineffective coping strategies by individuals with RA cause helplessness feeling, useless beliefs and many negative effects on health (75).

For this reason, it is important to determine how patients with rheumatoid arthritis cope with pain. In the literature, the variety and number of pain coping scales used abroad are striking. In addition, the number of studies focusing on chronic pain and coping methods has been increasing in recent years. However, there are very limited number of studies in the Turkish literature.

Although Pain Coping Inventory (ABE), which is used as a parallel form of the inventory, does not exhibit a multidimensional approach, it does not have validity and reliability for population of patients with rheumatoid arthritis. Pain Coping Questionnaire, another scale used as a parallel form, also does not have a multi-dimensional structure although it is widely used in Turkish literature. In this context, VMPCI is predicted to fill the gap in the current literature.

In this section, the results obtained from the Turkish adaptation of "VMPCI" are discussed in two parts in accordance with the current literature.

5.1. Discussion of the Validity and Reliability Analyses of VMPCI

5.2. Discussion of Descriptive Characteristics of the Sample, Results of SF-36, Results of McGill and Melzack Pain Questionnaire and Data with Subscales of VMPCI

5.1. Discussion of the Validity and Reliability Analyses of VMPCI

The inventory whose translation was completed and content validity was provided in accordance with expert opinions was put into final form as a result of pilot application.

Before conducting the factor analysis to check if it fulfils the construct validity, KMO coefficient and Bartlett's test were applied to investigate the compatibility of the sample size. The KMO value ranges between 0 and 1. When the obtained value gets close to 1, this shows that the factors are more reliable.

The lower value of KMO test is 0.50 and if KMO is ≤0.50, the data set cannot be factored. In addition, the values between 0.5 and 0.7 refer to weak fit; those between 0.7 and 0.8 refer to moderate; those between 0.8 and 0.9 refer to good fit and the values above 0.9 refer to perfect fit. For Bartlett's test, if the result is $p<0.01$, it can be asserted that it is statistically significant and the data are appropriate for factor analysis (109). KMO test value of VMPCI was 0.819 and a good level of fit was found for factor analysis (Bartlett's $p = 0.00$). The sample size was determined to be adequate.

Exploratory Factor Analysis was applied in parallel with the original version of the inventory in order to determine its subscales. In scale studies, generally factor loads between 0.30 and 0.59 are referred as moderate and the values of 0.60 and above are reported as high (109). As a result of EFA, 37 items with factor loads less than 0.4 were omitted from the 69-item inventory draft and an inventory with 32 questions was prepared. In addition, an 8-factor structure was encountered instead of 16-factor structure in the original version of the inventory. It is stated that the explained variance of 40% - 60% is adequate in measurement tools with multi-factor structure (109). This 8-factor structure accounts for 60.880% of the total variance and it is adequate.

CFA was applied to investigate the accuracy of the structure with 32 items related to 8 subscales of VMPCI. When the fit indices were evaluated, the result was found to be at a good level of fit. When the coefficients showing the correlation between the observed

variables of the model showing the factorial structure of VMPCI and its factors were examined, all of the coefficients were determined to be at adequate level. When the fit statistics calculated through CFA were examined, it was concluded that the previously determined structure of the inventory exhibited a good level of fit with the collected data.

When the internal consistency analysis results were examined, it was found that Cronbach's Alpha values of 8 subscales forming as a result of the total factor analysis of the inventory varied between 0.655 and 0.862. Cronbach's Alpha value for the overall inventory was 0.828. Therefore, the inventory was involved in the "highly reliable" group.

In order to investigate the parallel forms reliability, there was a positive, moderate, and statistically significant correlation in both scales between VMPCI total scores and Pain Coping Inventory ($p<0.01$) and Pain Coping Questionnaire ($p<0.05$) whose Turkish validity and reliability studies were conducted before.

In test-retest reliability stage, the inventory was applied again to the patient group (n=30) in the same patient sample three weeks later in accordance with the time period specified in the literature. Then, the correlation between the obtained values was examined. When the test-retest values of seeking social support, active, acceptance, self-blame, stoicism, self-isolation and using religion subscales of the scale were examined, it was observed that there was a positive, high and statistically significant correlation between them ($p<0.01$). In passive subscale, there was a positive, moderate and statistically significant correlation between test-retest scores ($p<0.01$). In conclusion, there was a positive, high and statistically significant correlation between the test-retest total scores of VMPCI ($r=0.953$; $p<0.01$).

As a result of all the validity and reliability analyses of VMPCI, it was concluded that the new structure formed was a scale that can be used in Turkish society to screen behaviors and thoughts of patients diagnosed with rheumatoid arthritis for coping with chronic pain.

5.2. Discussion of Descriptive Characteristics of the Sample, Results of SF-36, Results of McGill and Melzack Pain Questionnaire and Data with Subscales of VMPCI

The mean age of patients was 54.72 ±13.93 and their average disease duration was 8.1 ±9.8 years. In gender distribution it was observed that 70.7% (n= 249) were female and 29.3% (n= 103) were male. It was found that the education levels were mostly primary school, secondary school or literate. In addition, the rate of individuals who were smokers was 25.3% in the study. The average smoking duration was 25.28 ±12.85 package per year. In the study conducted by Cetin et al., by investigating the demographic data of patients with rheumatoid arthritis, they determined that 82.4% of the sample were female patients and 17.6% were male patients and the rate of smokers were 23.5% which is similar to the present study (110). When the studies conducted in Turkey are examined, it is seen that the education levels of the patients are similar to the present study (111, 112). Mostly involved body parts of the patients were observed to be wrists (40.9%), knees and legs (35.2%) and feet (26.4%) and these body regions were determined as a result of the studies in the literature (9, 32). When the comorbid diseases in rheumatoid arthritis were examined, it was observed that these diseases were mostly hypertension, diabetes, hypothyroidism, cardiovascular diseases, and high cholesterol. The group of other comorbid diseases included depression, anxiety, osteoporosis, and gastrointestinal disorders. It is seen that the results equivalent to the most frequent comorbid diseases are achieved in the literature (113, 114).

When the income distribution of the participants in the present study was examined, it was observed that 65.5% were in the middle income group, 31.9% were in the low income group, and 2.6% were in the high income group. When the occupational groups of the patients were examined, the most common professions were housewife and retirement as in Turkish literature.

While 63% of the patients (n=227) stated that they did not have sufficient knowledge about RA, only 36.1% (n = 127) reported that they had sufficient knowledge about RA. This was thought to be associated with the education level of the sample in the present study. Only 7.4% (n=26) of the patients stated that they received physiotherapy treatment due to rheumatoid arthritis; whereas, 92.7% (n=326) did not receive any physiotherapy treatment due to this disease. This result indicated that multidisciplinary treatment of rheumatoid arthritis, which is a chronic disease requiring a biopsychosocial

approach, recommended by the literature (55, 115) was not exactly administered. When the exacerbation periods of the patients were examined, it was observed that 27.6% responded as winter, 24.4% as doesn't matter, 15.1% as mid season, and 6.5% as summer and 4.8% as fall. In a study examining how the weather affected patients with rheumatic disorders, responses of winter (82%), fall (10%), summer (10%), and spring (6%) were obtained (116). The negative change in this wellbeing condition caused by weather changes was thought to be caused by sensitive baroreceptors, peripheral and central sensitization (117).

However, in another study, disease activity (investigated by measuring Disease Activity Score (DAS-28)) of rheumatoid arthritis was found to be significantly lower in both sunny and less humid conditions (118).

In a study conducted by Walsh and McWilliams (2014) who tried to figure out the characteristics of pain related to RA by using McGill and Melzack Pain Questionnaire, the patients mostly described their pain as aching, sharp, throbbing, sensitive, and tingling. In active inflammatory process, the patients sometimes defined pain as aching, sharp, throbbing, sensitive and tingling or tiring and nausea. However, the patients, who overcome the active inflammatory process more easily, described their pain in words as gnawing, hurting, sensitive, and blunt (57). In the Turkish Adaptation, Cross-Cultural Adaptation, Validity and Reliability Study of Vanderbilt Multidimensional Pain Coping Inventory, again the pain characteristics of the patients were intended to be determined. Although all of these words were present among the answers obtained from the patients through McGill and Melzack Pain Questionnaire, their most preferred answers were aching, throbbing, unbearable, tense, cramp like, burning, hurting, sharp, narcotized, tiring, needle like, numb, dispersed, and stabbing, respectively. These characteristics determined in the study are compatible in the literature; however the fact that neuropathic pain characteristics such as numb and needle like, and dispersed and spreading pain characteristics were also seen apart from only inflammatory pain characteristics was considered to provide peripheral and central sensitization theories (119) which are thought to exist in patients with rheumatoid arthritis. In addition, individuals with RA may exhibit sudden pain attacks similar to neuropathic pain burning, mild pressure pain or electrical shocks, which are characteristic of pain caused by the pathology of the nervous system (120). Individuals with RA may experience actual neuropathic pain (Eg. carpal tunnel syndrome), but neuropathic-like symptoms can also show pain mechanisms

that are common to both RA and neuropathic pain, as seen in fibromyalgia and osteoarthritis without specific neuropathology. Neuropathic pain-like symptoms may be associated with abnormal central pain processing and these conditions can be shown with the increasing cerebral activity in response to painful stimuli and falls seen commonly in pain thresholds due to RA pain (57). In the present study, when the relationship of pain with time was questioned, it was observed that the patients reported pain mostly as rhythmic and periodic, which was followed by the continuous, stable and persistent option. In accordance with the literature, this data indicates that individuals with RA can experience continuous and intermittent pain (121) and the pain can continue as a permanent problem despite the control of inflammation (57). In the study, it was determined that while the patients reported that the worst state of the pain was unbearable, they stated its best state as mild and severe. This obtained result emphasizes the importance of providing pain control in patients.

The evaluation of the quality of life in rheumatoid arthritis, a disease that affects all areas of life, is particularly important and the use of SF-36 questionnaire with 8 subscales was found to be appropriate in this study since it examines the quality of life in many aspects. While the subscale receiving the highest score in the present study was social functioning, all subscales got low scores and the lowest score was obtained in the subscale of role function-physical. In the study by Parlar et al., the lowest mean score belonged to the role function-physical subscale and the highest scores belonged to physical functioning and social functioning subscales (112), which is parallel with the present study. In their study, Birtane et al., obtained similar results and determined that while social functioning subscale obtained the highest mean score, role function-physical subscale obtained the lowest mean score (122). In the study by Emiral et al., mean score of emotional role subscale was the highest, which was followed by social functioning. In addition, in the same study, general health mean score was the lowest, which was followed by physical functioning (123). The major cause of Physical Role difficulty is thought to be progressive deformities along with swollen and painful joints as stated in the literature (123). When it was examined based on gender variable, the mean scores of male patients were higher than those of female patients in all subscales. When compared to SF-36 norm values of Turkish society (124), the mean score of male individuals was higher than the mean score of female ones. However, when this norm value was analyzed in detail, a significant decrease was observed in all subscale scores of both genders in the

present study. When the correlation between age and disease duration was examined with SF-36, SF-36 had a negative and statistically significant correlation with increasing age and disease duration in all subscales as expected. When the analysis conducted between the age groups and SF-36 was examined, no statistically significant difference was found between Role Function-Emotional, Mental Health and General Health scores in terms of age groups. The mean scores of the other subscales were found to be higher in the patients in the age group of 18-65 compared to the other age groups. Reduced physical function were not surprising when considering the physiological changes that occur with the age.

When the comparison of data of disease duration was examined, no statistically significant difference was observed between Energy/Vitality and Mental Health scores and the mean scores of the other subscales were found to be lower in patients who were coping with this disease for 7 years or longer. Although depression levels increase with increasing age in general population, being young can actually increase the risk of mental disorders in RA. A similar relationship has been reported in other chronic conditions such as cancer, chronic obstructive pulmonary disease (COPD) and diabetes. Chronic conditions affect various aspects of life such as employment, self-esteem, future plans and developing and maintaining relationships (125). Experiencing these problems more than an elderly patient can be mentally devastating.

When the mean scores of the VMPCI subscales were examined in terms of gender variable, it was determined that the mean score was higher in female patients in all values compared to the male patients. This was thought to be caused by the nonhomogeneous distribution of gender variable. In both genders, the subscale of using religion had the highest score. In another study, it was revealed that the majority of patients with chronic disease used adaptive coping strategies that can differentiate according to the use of external health control resources (namely, trust in medical help; seeking information and alternative aid, trust in divine help) and internal resources (namely, conscious lifestyle, positive attitudes, re-evaluation) (126). Again, seeking social support and acceptance subscales had the highest mean score, respectively in both genders in the present study. It was thought that the reason for the highness of these subscales was due to the fact that the average disease duration was as long as 8.1±9.8 years and thus the patients may get accustomed to this situation and therefore, they had high acceptance status and since they believed that the disease would not heal at all, they sought more divine help. Patients who experience symptoms longer may accept their condition more compared to the patients

who newly start to suffer from disease. In addition, it was determined that accepting the disease in patients with RA could predict both anxiety and depressive results (127). Acceptance of pain is associated with decreased depression and improved well-being (128). For this reason, patients who had longer disease periods may have found more opportunities to adapt to their condition (125). The subscale having the lowest mean score was the self-isolation subscale and it was found to be the same in both genders as in the other results. Self-isolation, self-blame, and passive subscales had significantly lower scores, as well., This result suggested that the less use of these maladaptive coping methods which are generally associated with depression in the literature may positively affect the psychological health of the sample. Additionally, it was seen that the patients can discover adaptive coping types due to long duration of the disease and this information is supported by the literature (125). In the evaluation of coping strategies of the patients by age groups, it was determined that while active and stoicism coping strategies were significantly higher in the age group of 18-65 years compared to the other groups; coping method of using religion was high in the age group of 75 years and over and self-blame coping method was significantly lower compared to the other groups. The age ranges were prepared in accordance with the age ranges declared by the World Health Organization. However, it was seen that the groups were not homogeneously distributed. The differences in the coping strategies investigated according to age ranges might have been seen due to the nonhomogeneous distribution of the groups. Some studies have revealed that older people use coping strategies designed to control stress and emotions and more adaptive and more health related and more adaptive activities more than young adults and they can actively cope with pain more. On the other hand, other studies have reported that older adults use more passive coping methods compared to young adults and older adults are less likely to use active strategies such as seeking information or emotional expression in coping with chronic diseases. In a study, no significant difference was seen (79). When the disease duration and VMPCI subscales were examined, it was observed that scores of self-blame, active, and seeking social support subscales decreased; whereas, the scores of the other subscales increased. While it was believed that the reason of low scores of active strategy and seeking social support strategy whose nature is not exactly explained was nonhomogeneous distribution of the groups and the presence of comorbid diseases, low score of self-blame subscale was found to be meaningful with previous studies. When the other coping methods applied by the patients other than the coping methods in VMPCI were questioned, it was observed that the top

five coping methods were DMARD, NSAID, cold compress, resting and ointment use methods. This pointed out that the patients also applied the methods of seeking medical aid.

When the correlation test results about the correlation between the subscales of VMPCI and subscales of SF-36 questionnaire was examined, active subscale showed a positive correlation with all subscales of SF-36. While passive subscale showed a negative correlation with all subscales except for general health, it did not show a statistically significant correlation with General Health subscale. When these results are examined, the results are seen to be compatible with the literature. It was seen that while the active strategies can be associated with positive health outcomes, passive strategies can be associated with negative health outcomes (78). Acceptance subscale is placed as an adaptive strategy in the literature and it is seen to be associated with decreased depression and increased well-being (129). However, in the present study, this subscale was negatively correlated with social functioning, role function-physical, and bodily pain. This suggests that patients' helplessness thought and feeling that there is nothing to do may cause acceptance. In addition, Viane et al., found that acceptance predicted mental well-being but it was not responsible for physical functioning. Although self-blame subscale is a maladaptive coping method, it was negatively correlated with role function-physical, mental health, social functioning, bodily pain and general health and it had no statistically significant correlation with the other SF-36 subscales. Stoicism subscale signifies that patients generally keep their feelings to themselves and try to prevent other individuals around them from seeing their sufferings. This subscale showed a negative correlation with social functioning in accordance with its own nature. Being a maladaptive coping method, self-isolation showed a negative correlation with mental health, social functioning and bodily pain subscales and no statistically significant correlation with the other SF-36 subscales. When seeking social support subscale is considered, some studies have reported that it has a positive effect on pain management of patients; on the other hand, some studies have suggested that social support may have a negative effect on patients' coping with pain. In a study, it was stated that this contradictory situation may be due to different results, different types of social support such as emotional or instrumental, and the complexity of functional results of pain behavior (130). In the present study, seeking social support subscale showed a negative correlation with role function-physical, role function-emotional, social functioning, and

bodily pain subscales but it had no statistically significant correlation with the other SF-36 subscales. The results obtained in this study suggested that seeking social support subscale may be maladaptive.

5.3. Conclusion and Recommendations

The following conclusions were drawn in the present study entitled as Turkish Adaptation, Cross-cultural Adaptation, Validity and Reliability of Vanderbilt Multidimensional Pain Coping Inventory.

1. With its newly formed structure consisting of 32 items and 8 subscales after the validity and reliability analyses, VMPCI is reliable and valid for Turkish society.

2. The mean age of the patients was 54.72 ±13.93 and the average disease duration was 8.1 ±9.8 years. Based on gender distribution, 70.7% (n=249) were female and 29.3% (n=103) were male. The education levels were determined as literate (13%), primary school (45.3%), high school (17%) and university (13.1%) and graduate education (1.1%). Marital statuses of the patients were married (72.9%), single (19.1%), widowed (6.3%) and divorced (1.7%). When the monthly income statuses were examined, 65.5% were in middle income group, 31.9% were in low income group and 2.6% were in high income group. The rate of smoking individuals was 25.3% and their average smoking duration was 25.28 ±12.85 package per year. When the comorbid diseases in rheumatoid arthritis were examined, hypertension, diabetes, hypothyroidism, cardiovascular disorders, and high cholesterol were observed to be the most common in the present study. The first five professions of the patients were listed as housewives (46%), retired (9.4%), self-employed (5.1%), teacher (4.5%), and civil servant (3.1%).

3. The most involved body parts of the patients were wrists (40.9%), knees and legs (35.2%) and feet (26.4%).

4. Only 7.4% of the patients stated that they received physical therapy due to rheumatoid arthritis.

5. 63% (n=227) of the patients reported that they did not have sufficient knowledge about RA.

6. SF-36 was calculated as follows; Physical Functioning 56.22± 26.17 points, Role Function-Physical 37±37.07 points, Role Function-Emotional 46.69 ± 42.42 points,

Energy/Vitality 42.87±17.66 points, Mental Health 61.07±13.29 points, Social Functioning 68.64±22.90 points, Bodily Pain 57.76±20.56 points, and General Health 41.65±18.12 points. The mean scores of male patients were higher than the scores of female patients in all subscales. When the correlation between age and disease duration and SF-36 was examined, SF-36 had a negative and statistically significant correlation with the increasing age and disease time in all subscales as expected ($p<0.05$)

7. In application of McGill and Melzack Pain Questionnaire, the mostly preferred responses of the patients were observed to be aching (n= 202), throbbing (n=152), unbearable (n=120), tense (n=115), cramp like (n= 113), burning (n=81), hurting (n=68), sharp (n=56), narcotized (n=56), tiring (n=54), needle like (n=52), numb (n=40), dispersed (n=40), and stabbing (n=40). The duration of the patients' pain was distributed mostly rhythmic, periodic, intermittent (n = 235) (70.8%) and the pain intensities were distributed mostly as severe (n=96) (28.3%) and disturbing (n=88) (26.0%).

8. As a result of VMPCI, it was determined that the pain coping methods mostly used by the patients were listed as using religion, seeking social support, acceptance, active, passive, self-blame, stoicism, and self-isolation, respectively. All values of the female patients were higher than the values of the male patients. As the disease duration increased, the mean scores of passive, acceptance, stoicism, and using religion subscales calculated according to the responses reported by the patients in VMPCI increased. However, as the disease duration increased, the mean scores of the seeking social support subscale decreased. In the evaluation of coping strategies of the patients in terms of age groups, active and stoicism coping strategies were apparently high in the age group of 18-65 years compared to the other groups. Using religion coping method was high in the age range of 75 years and over, and self-blame coping method was significantly lower compared to the other groups.

9. DMARD use (44.3%), NSAID use (37.8%), Cold compress application (27.8%), resting (23%) and ointment use (11.4%) were the top 5 coping methods preferred by the patients.

10. The correlation between the subscales of VMPCI and the subscales of SF-36 was examined with correlation test. Active subscale showed a positive, statistically

significant correlation with all subscales of SF-36. Passive subscale showed a negative and statistically significant correlation with all subscales except for general health. Acceptance subscale showed a negative and statistically significant correlation with social functioning, role function-physical, and bodily pain. Self-Blame subscale is a maladaptive coping method but it showed a negative and statistically significant correlation with role function-physical, mental health, social functioning, bodily pain, and general health. Stoicism subscale showed a negative and statistically significant correlation with social functioning. Self-isolation showed a negative and statistically significant correlation with mental health, social functioning and bodily pain subscales. Seeking social support subscale showed a negative and statistically significant correlation with role function-physical, role function-emotional, social functioning and bodily pain.

Vanderbilt Multidimensional Pain Coping scale is thought to fill the gap in Turkish literature by ensuring to define pain coping strategies of patients with rheumatoid arthritis with pain and to take necessary measures. Moreover, it is important in terms of being the scale that will determine coping strategies with pain specifically for individuals with rheumatoid arthritis for the first time among the scales whose Turkish validity and reliability were conducted. Results associated with the Turkish literature were reached With the descriptive results of the sample, as well. Thus, it is believed that the present study will also help to studies to be conducted in relation to other demographic data that will include patients with RA. The fact that 63% of the patients did not have knowledge about RA will make it difficult for them to cope with this lifelong illness and manage the disease. It is necessary to organize collective or individual training programs for patients to recognize this disease. The fact that only 7.4% of the patients received physical therapy due to rheumatoid arthritis suggests that multidisciplinary treatments related to this disease are incomplete, and the communication between healthcare professionals should also be increased. It is recommended that the patients are referred to the physiotherapist clearly and correctly, and necessary information is provided to the patients to figure out the importance of physiotherapy profession in this disease.

Systematic evaluation of pain coping strategies can allow us to determine the patient's behavioral problems about pain before developing these problems. Early treatment of these individuals with behavioral and psychological interventions can reduce pain and help them to have an active life style functionally. Systematic evaluation of pain

coping strategies can ease the prevention and treatment of diseases such as depression, anxiety and physical immobility. Thus, the additional healthcare expenses of both individuals and the country can be reduced. Systematic evaluation of pain coping strategies can provide not only problematic strategies, but also the most appropriate strategies for the patient. For example, for individuals using both exercise and seeking social support as coping method, the effectiveness of the treatment can be increased by preparing in-group treatment program. The effectiveness of ongoing medical or surgical treatments may be also increased.

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7. APPENDIX

İSTANBUL GELİŞİM ÜNİVERSİTESİ

EBRU DURUSOY <edurusoy@gelisim.edu.tr>

The permission of Vanderbilt Multidimensional Pain Coping Inventory

11 ileti

EBRU DURUSOY <edurusoy@gelisim.edu.tr> 7 Mart 2018 14:10
Alıcı: craig.a.smith@vanderbilt.edu

Dear Craig A Smith ,
I'm a Research assistant in İstanbul Gelişim University and a master student in Physiotheraphy and Rehabilitation in Yeditepe University .
I want to use Vanderbilt Multidimensional Pain Coping Inventory for reliability and validity study for Turkish people. We need the permission to use this inventory for this study.
Could you help us about the permission of using the inventory ?

Best regards

Sincerely

Research Assistant Ebru DURUSOY
Istanbul Gelisim University
College Of Health Sciences
Department Of Physiotherapy and Rehabilitation

Smith, Craig A <craig.a.smith@vanderbilt.edu> 7 Mart 2018 23:41
Alıcı: EBRU DURUSOY <edurusoy@gelisim.edu.tr>

Dear Ebru,

On behalf of my co-auhors, I give you permission to use the Vanderbilt Multidimensional Pain Coping Inventory in your research. We consider it to be in the public domain for research purposes. I wish you the very best with your research. Please let me know if you need anything further from me at this time.

Best wishes,
Craig

Craig A. Smith
Associate Dean for Undergraduate Affairs
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Vanderbilt University
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7.2. APPX. 2. Ethics Committee Decision

T.C. YEDİTEPE ÜNİVERSİTESİ

Sayı : 37068608-6100-15- 1685 **30/05/2019**
Konu: Klinik Araştırmalar
Etik kurul Başvurusu hk.

İlgili Makama (Ebru Durusoy)

Yeditepe Üniversitesi Sağlık Bilimleri Fakültesi, Fizyoterapi ve Rehabilitasyon Bölümü Doç. Dr. Rasmi Muammer'in sorumlu araştırmacı olduğu **"Vanderbilit Çok Boyutlu Ağrıyla Başa Çıkma Envanterinin Türkçe'ye Uyarlanması, Kültürel Adaptasyonu, Geçerlilik Ve Güvenirliği'** isimli araştırma projesine ait Klinik Araştırmalar Etik Kurulu (KAEK) Başvuru Dosyası **(1661)** kayıt Numaralı KAEK Başvuru Dosyası), Yeditepe Üniversitesi Klinik Araştırmalar Etik Kurulu tarafından **29.05.2019** tarihli toplantıda incelenmiştir.

Kurul tarafından yapılan inceleme sonucu, yukarıdaki isimi belirtilen çalışmanın yapılmasının etik ve bilimsel açıdan uygun olduğuna karar verilmiştir (**KAEK Karar No: 1035**).

Prof. Dr. Turgay ÇELİK
Yeditepe Üniversitesi
Klinik Araştırmalar Etik Kurulu Başkanı

Yeditepe Üniversitesi 26 Ağustos Yerleşimi, İnönü Mahallesi Kayışdağı Caddesi 34755 Ataşehir / İstanbul
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7.3. APPX. 3. Informed Consent Form

BİLGİLENDİRİLMİŞ GÖNÜLLÜ ONAM FORMU

Fizyoterapistin Açıklaması

Romatid artritte genellikle hastanın doktora başvurmasını sağlayan birincil sebep ağrıdır. Kronikleşen ağrı; hareket kısıtlılığı, uyku sorunları, yorgunluk, stres ve depresyon gibi sorunlara yol açarak hastaların yaşam kalitesini önemli ölçüde azaltmaktadır RA tedavisinde temel amaç; ağrıyı hafifletmek, eklem hasarını ve diğer etkileri en aza indirgeyerek, normal fiziksel, ruhsal ve sosyal fonksiyonlar ile yaşamın sürdürülebilmesi ve remisyonunu sağlamaktır. İnsanlar kronik ağrı ile başa çıkabilmek için yaşadıkları ağrı tipine, şiddetine ve ağrı inançlarına göre farklı ilaç dışı yaklaşımlara başvurabilmektedirler. Sağlık profesyonellerinin hastaların ağrıya ilişkin inançlarını bilmesi ve ağrı tedavisine hastanın uyumunu artırmak amacıyla birlikte karar verilmesi oldukça önemlidir. Ancak ülkemizin kültürel yapısına uygun ağrıyla başa çıkma ölçekleri sınırlıdır. Çalışmada orjinal ismi 'Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanteri' olan anketin Türkçeleştirmesi amaçlanmıştır.Sizin de bu araştırmaya katılmanızı öneriyoruz ancak bu araştırmaya katılıp katılmamakta serbestsiniz. Çalışmaya katılım, gönüllülük esasına dayanır. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuyup anladıktan sonra araştırmaya katılmak isterseniz formu imzalayınız. Eğer çalışmaya katılmayı kabul ederseniz Fzt. Ebru DURUSOY tarafından öncelikle hastalara ilişkin sosyo-demografik özellikleri, hastalık öyküsü ve ağrıya ilişkin özellikler ile ilgili bulguları içeren demografik veri formu kullanılacaktır. Kronik ağrı hastalarının organik veya psikojenik ağrı ile başa çıkma biçimlerini değerlendiren Ağrıyla Başa Çıkma Ölçeği, kronik ağrı hastalarının ağrıyla baş etmede davranışsal ve bilişsel yöntemleri ne kadar sık kullandıklarını değerlendiren Ağrıyla Başetme Envanteri, sağlıkla ilişkili yaşam kalitesini değerlendiren SF-36 ölçeği kullanılacaktır. McGill Melzack Ağrı Soru Formu ile ağrının yeri, bireyde yarattığı his, zamanla ilişkisi, şiddeti ve birey için yaşanabilir ağrı düzeyi belirlenecektir. Değerlendirme kayıtlarınız kimliğiniz belirtilmeden sağlık alanında öğrenim gören öğrencilerin eğitiminde veya bilimsel nitelikte yayınlarda kullanılabilir. Bunun dışında bu kayıtlar kullanılmayacak ve başkalarına verilmeyecektir. Bu çalışmaya katılmanız için sizden herhangi bir ücret istenmeyecektir. Çalışmaya katılmanız için size ek bir ödeme de yapılmayacaktır. Bu çalışmaya katılmayı reddedebilirsiniz. Araştırmaya katılmak tamamen isteğe bağlıdır ve çalışmanın herhangi bir aşamasında onayınızı çekmek

hakkına da sahipsiniz. Çalışmaya dahil olduğunuz taktirde araştırma ile ilgili danışmak ya da soru sormak istediğinizde size verilen telefon numarasından Fzt. Ebru DURUSOY'a ulaşabilirsiniz. Değerlendirme ve uygulamalar sırasında oluşabilecek riskler: Çalışma kapsamında yapılacak olan değerlendirme ve uygulamalar herhangi bir risk içermemektedir.

Katılımcının Beyanı:

Sayın Fzt. Ebru DURUSOY tarafından Haydarpaşa Numune Eğitim ve Araştırma Hastanesi 'nde tıbbi bir araştırma yapılacağı belirtilerek bu araştırma ile ilgili yukarıdaki bilgiler bana aktarıldı. Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanteri' olan anketin türkçeleştirmesinin amaçlandığı, çalışma kapsamında sosyodemografik bilgilerimin alınacağı ve bir anket dolduracağım ve ek olarak kronik ağrı hastalarının organik veya psikojenik ağrı ile başa çıkma biçimlerini değerlendiren Ağrıyla Başa Çıkma Ölçeği, kronik ağrı hastalarının ağrıyla baş etmede davranışsal ve bilişsel yöntemleri ne kadar sık kullandıklarını değerlendiren Ağrıyla Başetme Envanteri , sağlıkla ilişkili yaşam kalitesini değerlendiren SF-36 ölçeği kullanılacağı ve McGill Melzack Ağrı Soru Formu ile ağrının yeri, bireyde yarattığı his, zamanla ilişkisi, şiddeti ve birey için yaşanabilir ağrı düzeyinin belirlenmesi için bu anketleri dolduracağım bana açıklandı. Anket sorularının ağrıyla başa çıkma yöntemlerimi belirlemek için tedavi planı olumlu desteklemesinin beklendiği ve olası bir yan etkisi bulunmadığı açıklandı.Bu bilgilerden sonra böyle bir araştırmaya "katılımcı" (gönüllü) olarak davet edildim.Eğer bu araştırmaya katılırsam hekim ile aramda kalması gereken bana ait bilgilerin gizliliğine bu araştırma sırasında da büyük özen ve saygı ile yaklaşılacağına inanıyorum. Araştırma sonuçlarının eğitim ve bilimsel amaçlarla kullanımı sırasında kişisel bilgilerimin ihtimamla korunacağı konusunda bana yeterli güven verildi. Projenin yürütülmesi sırasında herhangi bir sebep göstermeden araştırmadan çekilebilirim. Ancak araştırmacıları zor durumda bırakmamak için araştırmadan çekileceğimi önceden bildirmemin uygun olacağının bilincindeyim. Ayrıca tıbbi durumuma herhangi bir zarar verilmemesi amacıyla araştırmacı tarafından araştırmadan çıkartılabileceğimi de biliyorum. Araştırma için yapılacak harcamalarla ilgili herhangi bir parasal sorumluluk altına girmiyorum. Bana da bir ödeme yapılmayacaktır. İster doğrudan, ister dolaylı olsun araştırma uygulamasından kaynaklanan nedenlerle meydana gelebilecek herhangi bir sağlık sorunumun ortaya çıkması halinde, her türlü tıbbi müdahalenin sağlanacağı konusunda gerekli güvence verildi. Bu tıbbi müdahalelerle ilgili olarak da parasal bir yük

altına girmeyeceğimi biliyorum.Araştırma sırasında bir sağlık sorunu ile karşılaştığımda; herhangi bir saatte, yardımcı araştırmacı Fzt. Ebru DURUSOY'a 05358893709 telefon numarasından veya sorumlu araştırmacı Prof. Dr. Rasmi MUAMMER'e 05056502827 numarasından arayabileceğimi ve Yeditepe Üniversitesi, Sağlık Bilimleri Enstitüsü, İnönü Mah. Kayışdağı Cad., 34755 Ataşehir / İSTANBUL adresinden ulaşabileceğimi biliyorum. Bu araştırmaya katılmak zorunda değilim ve katılmayabilirim. Araştırmaya katılmam konusunda zorlayıcı bir davranışla karşılaşmış değilim. Eğer katılmayı reddedersem, bu durumun tıbbi bakımıma ve hekim ile olan ilişkime herhangi bir zarar getirmeyeceğini de biliyorum.

GÖNÜLLÜ ONAY FORMU

Yukarıda gönüllüye araştırmadan önce verilmesi gereken bilgileri gösteren metni okudum. Bunlar hakkında bana yazılı ve sözlü açıklamalar yapıldı. Bu koşullarla söz konusu klinik araştırmaya kendi rızamla hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

Gönüllünün Adı-soyadı:

İmzası:

(Gönüllü Bildirmek İsterse Adresi (varsa telefon no., e-mail adresi ,...))

Açıklamaları yapan araştırmacı:

Adı-soyadı: Ebru DURUSOY

Görevi: Yardımcı Araştırmacı

Telefon:

İmzası:

Rıza alma işlemine başından sonuna kadar tanıklık eden kuruluş görevlisi:

Adı-soyadı: Rasmi Muammer

Görevi: Sorumlu Araştırmacı

Telefon:

İmzası:

7.4. APPX. 4. Demographic Data Form

DEMOGRAFİK BİLGİ FORMU

KİŞİSEL BİLGİLER

1. Cinsiyetiniz: □ Kadın □ Erkek

2. Yaşınız: …….

3. Eğitim düzeyiniz (son okuduğunuz sınıfı düşünerek cevaplayınız)

□ Okur-yazar □ İlkokul □ Ortaokul □ Lise □ Üniversite □ Yüksek lisans/Doktora

4.Medeni durumunuz

□ Bekar □ Evli □ Boşanmış □ Dul

5. Mesleğiniz nedir? Halen çalışmakta mısınız?(Ne kadar süredir çalıştığınızı ya da çalışmadığınızı belirtiniz.)

……..……
……

6. Çocuğunuz var mı?

□ Hayır □ Evet ise kaç tane ve yaşları:……..

7. Ailenizin toplam aylık gelir düzeyi nasıl?

□ Düşük □ Orta □ Yüksek

8. Yaşadığınız yer:
……..

9. Evde beraber yaşadığınız kişiler : ……

10. Herhangi bir sağlık güvenceniz var mı?
□ Hayır □ Evet (belirtiniz) ___SSK ___Emekli Sandığı ___Bağ –kur □ Diğer

11.Zararlı alışkanlığınız bulunmakta mıdır?

□ Hayır □ Evet (belirtiniz) ___Sigara ___Alkol □Kullanım süresi……..

HASTALIĞINIZ HAKKINDA BİLGİLER

12. Kaç yıldır Romatoid artrit hastasısınız ?
……..

13. Romatoid artrit dışında halen başka bir hastalığınız var mı?
□ Hayır □ Evet (Hastalığınızı Belirtiniz)……..

14.Şu an kullandığınız ilaçlar neler?
…….....

15.Hastalığınızın alevlenme dönemi var mı?
 Hayır Evet (Yılda kaç kez, hangi aralıklarla, yılın hangi dönemi belirtiniz.)……...

16.Alevlenme döneminde hastalığın etkilerini hafifletmek için neler yapıyorsunuz?(Kullandığınız ilaçlar, dinlenmek, kendini oyalamak vb… günlük hayatta yaptığınız davranışlardan örnek veriniz.)

……

17. Vücuduzda ençok tululum gördüğünüz bölgeler neresidir?

……

18. Romatoid artritiniz nedeniyle hiç hastaneye yattınız mı?
 Hayır Evet (Kaç kere yattınız belirtiniz)……..

19. Romatoid artritiniz nedeniyle hiç fizik tedavi gördünüz mü?

 Hayır Evet (Kaç kez belirtiniz, faydalı olduğunu düşünüyor musunuz?)……

20. Romatoid Artrit hakkında bilgi sahibi misiniz?
 Hayır Evet ise kim tarafından verildi?(Belirtiniz: Hekim, Hemşire, Fizyoterapist , İnternet Hepsi vb…)

7.5. APPX. 5. SF-36 Quality of Life Questionnaire

SF-36 (Kısa Form 36)

Hastanın Adı Soyadı: ..... Tarih: ____/____/_____

Aşağıdaki sorular sizin kendi sağlığınız hakkındaki görüşünüzü, kendinizi nasıl hissettiğinizi ve günlük aktivitelerinizi ne kadar yerine getirebildiğinizi öğrenmek amacındadır. Size en uygun yanıtı verin.

B1

1) Genel olarak sağlığınız için aşağıdakilerden hangisini söyleyebilirsiniz?

Mükemmel	Çok iyi	İyi	Orta	Kötü
❑1	❑2	❑3	❑4	❑5

B2

2) Bir yıl öncesi ile karşılaştırdığınızda şu anki genel sağlık durumunuzu nasıl değerlendirirsiniz?

	Çok daha iyi	Biraz iyi	Hemen hemen aynı	Biraz daha kötü	Çok daha kötü
Bir yıl öncesinden	❑1	❑2	❑3	❑4	❑5

B3

Aşağıdaki sorular bir gün içinde yapabileceğiniz işlerle (aktivitelerle) ilgilidir. Sağlığınız bu aktiviteleri kısıtlıyor mu? Eğer kısıtlıyorsa, ne kadar?

	Evet, Çok Kısıtlı	Evet, Biraz Kısıtlı	Hayır, Hiç Kısıtlı Değil
3) Koşmak, ağır kaldırmak, ağır sporlara katılmak gibi ağır etkinlikler	❑1	❑2	❑3
4) Bir masayı çekmek, elektrik süpürgesini itmek ve ağır olmayan sporları yapmak gibi orta dereceli etkinlikler	❑1	❑2	❑3
5) Market poşetlerini kaldırmak veya taşımak	❑1	❑2	❑3
6) Birkaç kat merdiven çıkmak	❑1	❑2	❑3
7) Bir kat merdiven çıkmak	❑1	❑2	❑3
8) Eğilmek, diz çökmek, çömelmek, diz çökmek	❑1	❑2	❑3
9) Bir kilometreden fazla yürümek	❑1	❑2	❑3
10) Birkaç yüz metre yürümek	❑1	❑2	❑3
11) Yüz metre yürümek	❑1	❑2	❑3
12) Kendi başına banyo yapmak ve giyinmek	❑1	❑2	❑3

B4

Son 4 hafta boyunca bedensel sağlığınızın sonucu olarak, işiniz veya diğer günlük etkinliklerinizde, aşağıdaki sorunlardan biriyle karşılaştınız mı?

	Evet	Hayır
13) Çalışma yaşamınızda veya diğer aktivitelerinizde geçirdiğiniz zamanı kısalttınız mı?	❑1	❑2
14) Arzu ettiğinizden daha az şeyi mi tamamlayabildiniz?	❑1	❑2
15) Çalışma veya diğer yaptığınız işlerin çeşidinde kısıtlama yaptınız mı?	❑1	❑2
16) Çalışma yaşamınızda veya diğer aktivitelerinizi yapmakta güçlük çektiniz mi? (Aşırı efor - çaba sarf ettiniz mi?)	❑1	❑2

B5

Son 4 hafta boyunca, duygusal sorunlarınızın (örneğin çökkünlük veya kaygı) sonucu olarak işiniz veya diğer günlük etkinliklerinizle ilgili aşağıdaki sorunlarla karşılaştınız mı?

	Evet	Hayır
17) Çalışma yaşamınızda veya diğer aktivitelerinizde geçirdiğiniz zamanı kısalttınız mı?	❑1	❑2
18) Arzu ettiğinizden daha az işi mi tamamlayabildiniz?	❑1	❑2
19)İşinizle veya diğer aktivitelerinizle ilgili işleri her zamanki kadar dikkat vererek yapamadınız mı?	❑1	❑2

SF-36 (Kısa Form 36) Sayfa-2

B6

20) Son 4 hafta boyunca bedensel sağlığınız veya duygusal sorunlarınız, ailenız, arkadaş veya komşularınızla olan olağan sosyal etkinliklerinizi ne kadar etkiledi?

Hiç Etkilemedi	Çok Az	Orta Derecede	Epeyce	Çok Fazla
❑1	❑2	❑3	❑4	❑5

B7

21) Son 4 hafta içinde vücudunuzda ne kadar ağrı oldu?

Hiç Olmadı	Çok Az	Hafif	Orta	Çok	Pek Çok
❑1	❑2	❑3	❑4	❑5	❑6

B8

22) Son 4 hafta boyunca ağrınız, normal işinizi (hem ev işlerinizi hem ev dışı işinizi düşünüyorsunuz) ne kadar etkiledi?

Hiç Etkilemedi	Biraz etkiledi	Orta Derecede	Epey Etkiledi	Çok Etkiledi
❑1	❑2	❑3	❑4	❑5

B9

Aşağıdaki sorular sizin son 4 hafta boyunca neler hissettiğinizle ilgilidir. Her soru için, sizin duygularınızı en iyi karşılayan yanıtı, son 4 haftadaki sıklığını göz önüne alarak seçiniz.

	Sürekli	Çoğu zaman	Epey zaman	Bazen	Ara sıra	Hiç bir zaman
23) Kendinizi yaşam dolu olarak hissettiniz mi?	❑1	❑2	❑3	❑4	❑5	❑6
24) Çok sinirli biri oldunuz mu?	❑1	❑2	❑3	❑4	❑5	❑6
25) Hiçbir şeyin sizi neşelendiremeyeceği kadar moraliniz bozuk ve kötü oldu mu?	❑1	❑2	❑3	❑4	❑5	❑6
26) Kendinizi sakin ve huzurlu hissettiniz mi?	❑1	❑2	❑3	❑4	❑5	❑6
27) Çok enerjik oldunuz mu?	❑1	❑2	❑3	❑4	❑5	❑6
28) Kendinizi kalbi kırık ve üzgün hissettiniz mi?	❑1	❑2	❑3	❑4	❑5	❑6
29) Kendinizi yıpranmış, bitkin hissettiniz mi?	❑1	❑2	❑3	❑4	❑5	❑6
30) Mutlu, sevinçli bir insan oldunuz mu?	❑1	❑2	❑3	❑4	❑5	❑6
31) Yorgunluk hissettiniz mi?	❑1	❑2	❑3	❑4	❑5	❑6

B10

32) Son 4 hafta boyunca bedensel sağlığınız veya duygusal sorunlarınız sosyal etkinliklerinizi (arkadaş veya akrabalarınızı ziyaret etmek gibi) ne sıklıkta etkiledi?

Sürekli	Çoğu zaman	Bazen	Ara sıra	Hiç bir zaman
❑1	❑2	❑3	❑4	❑5

B11

Aşağıdaki her bir ifade sizin için ne kadar doğru veya yanlıştır? Her bir ifade için en uygun olanını işaretleyiniz.

	Kesinlikle doğru	Çoğunlukla doğru	Emin değilim	Çoğunlukla yanlış	Kesinlikle yanlış
33) Ben diğer insanlara göre daha kolay hastalanıyorum	❑1	❑2	❑3	❑4	❑5
34) Tanıdığım kişiler kadar sağlıklıyım.	❑1	❑2	❑3	❑4	❑5
35) Sağlığımın kötüleşmekte olduğunu sanıyorum.	❑1	❑2	❑3	❑4	❑5
36) Sağlığım mükemmeldir.	❑1	❑2	❑3	❑4	❑5

Ware JE Jr1, Sherbourne CD (1992) Med Care. 1992 Jun;30(6):473-83

7.6. APPX. 6. Mcgill and Melzack Pain Questionnaire

McGill – Melzack Ağrı Anketi

(The McGill Melzack Pain Questionnaire)

Hastanın Adı Soyadı: _____ Tarih: ____/____/____

Klinik kategori (kardiyak, nörolojik gibi): Tanısı: Yaşı:

Analjezik kullanıyorsa; Tipi: Dozu: Testten ne kadar önce aldığı:

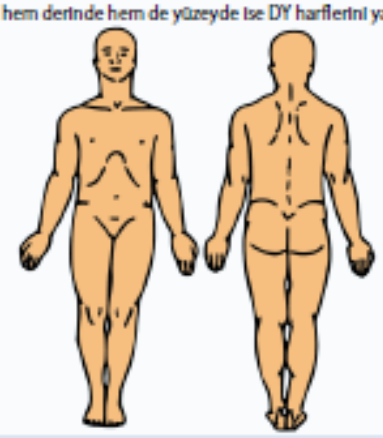
Hastanın algı düzeyi (kognisyonu) ❑1 (düşük) ❑2 ❑3 ❑4 ❑5 (yüksek)

Bu ölçek; ağrınıza ilişkin bize daha fazla bilgi vermek üzere hazırlanmış olup dört bölümden oluşmuştur; (1) Ağrınızın yeri (2) Özelliği (3) Zamanla ilişkisi ve (4) şiddeti.

Şu anda ağrınızı nasıl hissettiğiniz önemlidir. Lütfen her bölümün başında bulunan açıklamaları izleyiniz.

1. Bölüm Ağrınız Nerede?

Lütfen aşağıdaki şekil üzerinde ağrınızı nerede / nerelerde hissettiğinizi işaretleyiniz. Eğer ağrınız derinde ise D harfi, yüzeyde ise Y harfini işaretlediğiniz yerin yan tarafına yazınız. Şayet hem derinde hem de yüzeyde ise DY harflerini yazınız.



II. Bölüm: Ağrınızın Özelliği

Aşağıdaki kelimelerin bazıları şu andaki ağrınızı tanımlamaktadır, Sadece ağrınızı en iyi tanımlayan kelimeleri daire içine alınız. Uygun gelmeyenleri boş bırakınız. Her grupta uygun olan sadece bir kelime işaretleyiniz

❑1 Pır pır eden ❑2 Titreyen ❑3 Çarpan ❑4 Zonklayan ❑5 Vuran ❑6 Döven	❑1 Diken diken ❑2 Bayıcı, ❑3 Delici, ❑4 Şiş saplanır, ❑5 Şimşek çakar gibi	❑1 Çimdik gibi ❑2 Bastırıcı ❑3 Kemirici ❑4 Kramp gibi ❑5 Çarpar gibi	❑1 Künt, ❑2 Çildirtan, ❑3 Yaralayıcı, ❑4 Sızlayan, ❑5 Ağır
❑1 Yayılan, ❑2 Dağılan, ❑3 İçe işleyen, ❑4 Delen	❑1 Hassas, ❑2 Gergin, ❑3 Törpüleyen, ❑4 Keskin	❑1 Sıcak, ❑2 Yakıcı ❑3 Haşlayıcı, ❑4 Dağlayıcı	❑1 Karıncalı, ❑2 Kaşıntılı, ❑3 Acıtıcı, ❑4 İğne batar
❑1 Çekiştirici, ❑2 Sürükleyici, ❑3 Burkurucu	❑1 Sefil eden, ❑2 Kör eden	❑1 Yorucu, ❑2 Tükatici	❑1 Tiksindirici, ❑2 Boğucu
❑1 Sıkı ❑2 Uyuşuk, ❑3 Hissizleştiren, ❑4 Sıkıştırıcı, ❑5 Yırtıcı	❑1 Cezalandırıcı, ❑2 Bitap eden ❑3 Zalim, ❑4 Habis, ❑5 Öldürücü	❑1 Vıntı, ❑2 Bulantı ❑3 Istıraplı, ❑4 Berbat, ❑5 İşkence gibi	❑1 Sinir eden, ❑2 Sıkıntılı, ❑3 Acıması, ❑4 Yoğun, ❑5 Dayanılmaz
❑1 Korku veren, ❑2 Korkunç, ❑3 Dehşetli	❑1 Çok keskin, ❑2 Kesiliyor, ❑3 Yırtılır gibi	❑1 Ürpertan, ❑2 Üşüten, ❑3 Donduran	❑1 Sıçrayan ❑2 Şimşek gibi ❑3 Kurşun gibi

3. Bölüm: Zamanla Ağrınızın İlişkisi

1	Ağrınızı tanımlamak için hangi kelimeyi/kelimeleri kullanırsınız?		
	❑1 Devamlı, sürekli, sabit	❑2 Ritmik, periyodik, aralıklı	❑3 Kısa, Anlık, Geçici,
2	Neler ağrınızı rahatlatıyor?		
3	Neler ağrınızı arttırıyor?		

4. Bölüm: Ağrınızın Şiddeti

İnsanlar artan yoğunluğa göre ağrılarını belirten beş kelimede birleşirler. Bunlar;

❑1	❑2	❑3	❑4	❑5
Hafif	Rahatsız edici	Şiddetli	Çok şiddetli	Dayanılmaz

Aşağıdaki her soruyu yanıtlamak için sorunun yanındaki boşluğa, size en uygun rakamı yazınız.

1. Şu andaki ağrınızı hangi kelime tanımlar? ___
2. Ağrınızın en kötü halini hangi kelime tanımlar? ___
3. Ağrınız en az olduğunda hangi kelime tanımlar? ___
4. Şu ana kadar geçirdiğiniz en kötü diş ağrısını hangi kelime tanımlar? ___
5. Şu ana kadar geçirdiğiniz en kötü baş ağrısını hangi kelime tanımlar? ___
6. Şu ana kadar geçirdiğiniz en kötü karın ağrısını hangi kelime tanımlar? ___

Toplam Puan (0-112): _____

Melzack R. (1975) Pain. 1975 Sep;1(3):277-99

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Tasarım ve düzenleme: Dr. Ender Saltaş 2016

7.7. APPX. 7. Pain Coping Questionnaire

AĞRIYLA BAŞAÇIKMA ÖLÇEĞİ

İnsanlar yaşamlarında bazı rahatsızlıklarla karşılaşırlar. Biz insanların rahatsızlıklar karşısında nasıl davrandığını öğrenmek ve kendilerine bu konuda yardımcı olmak istiyoruz. Siz ağrınız olduğunda neler düşünür, hangi duyguları yaşar ve nasıl davranırsınız? Size en uygun cevabı işaretleyiniz.

1)Ağrım olduğunda Yatağımda uzanırım ya da uyurum.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

2.)Arkadaşlarım, ailem ya da eşimle konuşurum, telefonda birisiyle konuşurum.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

3.İşime veya ev işine dikkatimi veririm.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

4.Germe ya da esneklik sağlayıcı hareketler yaparım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

5.Sıcak bir duş alırım ya da banyo yaparım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

6.Yürüyüşe çıkarım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

7.Hoşlandığım bazı şeyleri yaparım.(Özel zevkler)
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

8.Başkaları ile birlikte olmaya çalışırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

9.Ağrımın olmadığını hayal ederim.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

10.Sakinleştirici ilaç alırım (diazem, librium v.b.).
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

11.Ben-Gay, Naprosyn gibi bir ağrı merhemi kullanırım.

a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

12.Kendi başıma, yalnız kalırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

13. Isıtıcı ya da soğutucu torba (termofor, havlu) kullanırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

14. Ağrının bana verdiği ıstıraba dikkat kesilirim.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

15.Derin nefes alıp vererek gevşemeye çalışırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

16.Magazin dergisi, gazete veya kitap okurum.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

17.Olumlu özelliklerim üzerinde düşünürüm.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

18. Askı veya bileklik gibi destek kullanırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

19.(Doktor reçetesi ile) uyuşturucu ağrı kesiciler (morfin, kodein) alırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

20.Televizyon izlerim veya radyo dinlerim.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

21.Ağrıyan kısmımı yükseğe kaldırırım veya destek olarak yastık kullanırım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

22.Başka şeyleri düşünürüm.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

23.Rahatlatıcı müzik dinlerim.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

24.Ağrılarım ne kadar şiddetli diye düşünürüm.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

25.Ağrıya daha fazla dayanamayacağımı düşünürüm.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

26. Başkalarından yardım ve destek isterim.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

27. Hoşlandığım bir şeyler yaparım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

28. Kendimi kötü hissederim ve ağlarım.
a) Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

29. Benden daha kötü durumdaki insanları düşünürüm.
a)Hiçbir zaman b) Çok az c) Arada sırada d) Sık sık

7.8. APPX. 8. Pain Coping Inventory

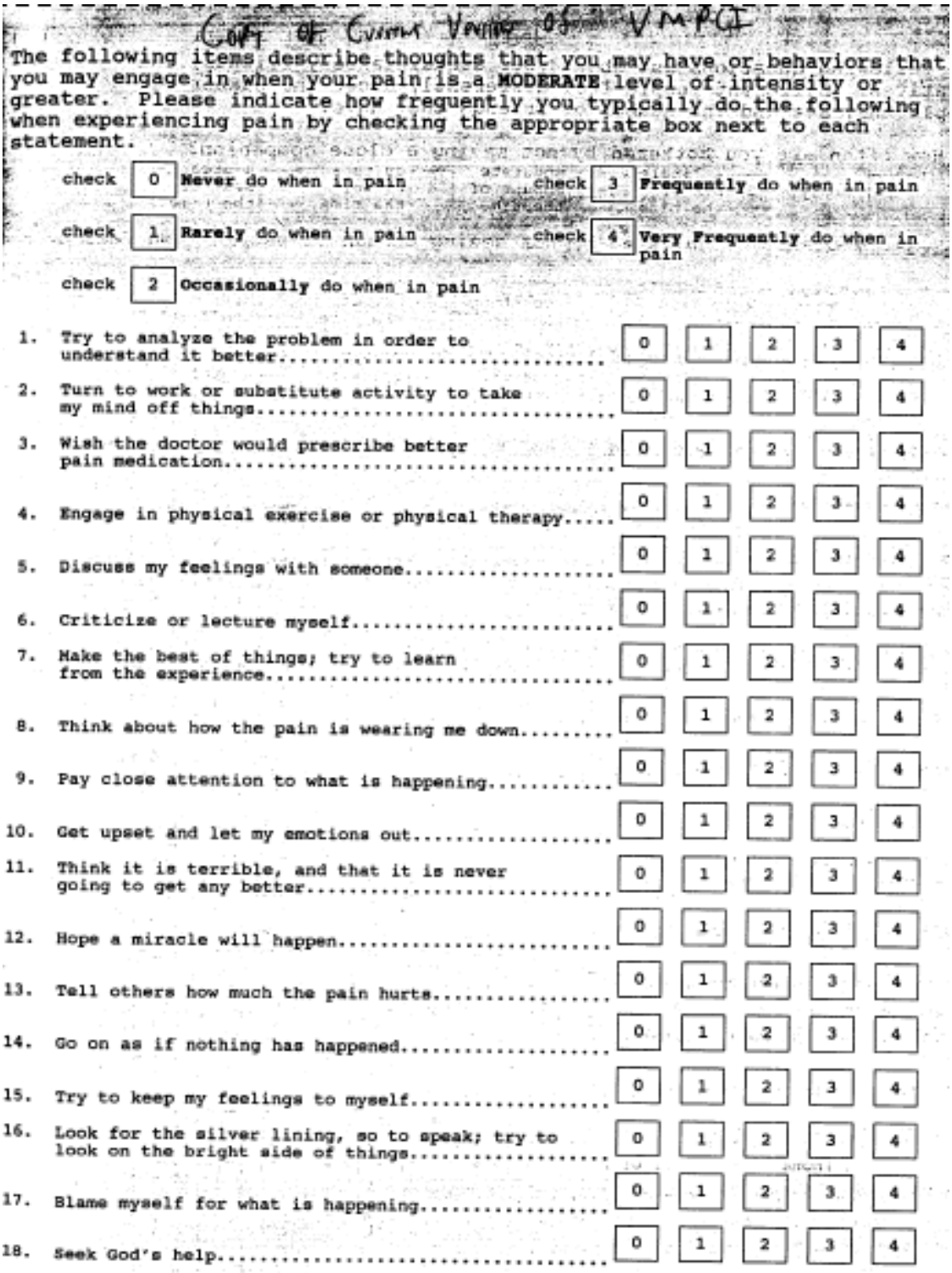
AĞRIYLA BAŞETME ENVANTERİ

Açıklamalar: Ağrı çeken insanlar, bu ağrıyı yönetmek için çeşitli yollar geliştirirler. Sonraki sayfalarda ağrı durumunda ne yaptığınız ya da ne düşündüğünüzle ilgili çeşitli ifadeler vardır. Sizden, ne kadar sıklıkta aşağıdaki gibi davrandığınızı ya da düşündüğünüzü işaretlemenizi istiyoruz. Söz edilen yöntemleri nerdeyse hiç kullanmıyorsanız (1), bazen kullanıyorsanız (2), sık sık kullanıyorsanız (3), çok sık kıllanıyorsanız (4) rakamını işaretleyiniz.

Ağrım olduğunda	Neredeyse hiç	Bazen	Sık sık	Çok sık
1. Faaliyetlerimi bırakırım.	1	2	3	4
2. Kendimi daha basit faaliyetlerle sınırlandırırım.	1	2	3	4
3. Fiziksel olarak kendimi zorlamamaya dikkat ederim.	1	2	3	4
4. Oturarak ya da uzanarak dinlenirim.	1	2	3	4
5. Rahat bir beden duruşuna geçerim.	1	2	3	4
6. Dinlendirici bir ortama çekilirim.	1	2	3	4
7. Ağrı yokmuş gibi davranırım.	1	2	3	4
8. Ağrı bedenimle ilgili değilmiş gibi davranırım.	1	2	3	4
9. Her zaman ağrıya odaklanırım.	1	2	3	4
10. Ağrının daha az şiddette olduğunu düşünürüm.	1	2	3	4
11. Güzel şeyleri ve olayları düşünürüm.	1	2	3	4
12. Fiziksel bir faaliyetle meşgul olarak dikkatimi dağıtırım (örneğin; yürüyüş yaparak, bisiklete binerek ya da yüzerek).	1	2	3	4
13. Kitap okuyarak, müzik dinleyerek, televizyon izleyerek ya da bunun gibi bir şey yaparak zihnimi dağıtırım.	1	2	3	4
14. Hoş bulduğum bir şey yaparım.	1	2	3	4
15. Endişelenmeye başlarım.	1	2	3	4
16. Ağrının daha da kötüleşeceğini düşünürüm.	1	2	3	4
17. Ağrımın olmadığı zamanları düşünürüm.	1	2	3	4
18. Ağrıdan çıldıracağımı düşünürüm.	1	2	3	4
19. Başka insanların yaşadıkları zorlukları düşünürüm.	1	2	3	4
20. Başka insanların böyle bir ağrı yaşamanın ne olduğunu anlamadıklarını düşünürüm.	1	2	3	4
21. Kendimi geri çekerim.	1	2	3	4
22.Dışarıdayken olabildiğince çabuk eve dönmeye çalışırım.	1	2	3	4

23. Ağrıyı azaltmak ya da dayanılır kılmak için kendi yöntemlerim var Evet Hayır
Evetse bu yöntemler:

7.9. APPX. 9. VMPCI Original Form



Copy of Current Version of VMPCI

The following items describe thoughts that you may have or behaviors that you may engage in when your pain is a **MODERATE** level of intensity or greater. Please indicate how frequently you typically do the following when experiencing pain by checking the appropriate box next to each statement.

check 0 **Never** do when in pain

check 1 **Rarely** do when in pain

check 2 **Occasionally** do when in pain

check 3 **Frequently** do when in pain

check 4 **Very Frequently** do when in pain

1.	Try to analyze the problem in order to understand it better.....	0	1	2	3	4
2.	Turn to work or substitute activity to take my mind off things.....	0	1	2	3	4
3.	Wish the doctor would prescribe better pain medication.....	0	1	2	3	4
4.	Engage in physical exercise or physical therapy.....	0	1	2	3	4
5.	Discuss my feelings with someone.....	0	1	2	3	4
6.	Criticize or lecture myself.....	0	1	2	3	4
7.	Make the best of things; try to learn from the experience.....	0	1	2	3	4
8.	Think about how the pain is wearing me down.....	0	1	2	3	4
9.	Pay close attention to what is happening.....	0	1	2	3	4
10.	Get upset and let my emotions out.....	0	1	2	3	4
11.	Think it is terrible, and that it is never going to get any better.....	0	1	2	3	4
12.	Hope a miracle will happen.....	0	1	2	3	4
13.	Tell others how much the pain hurts.....	0	1	2	3	4
14.	Go on as if nothing has happened.....	0	1	2	3	4
15.	Try to keep my feelings to myself.....	0	1	2	3	4
16.	Look for the silver lining, so to speak; try to look on the bright side of things.....	0	1	2	3	4
17.	Blame myself for what is happening.....	0	1	2	3	4
18.	Seek God's help.....	0	1	2	3	4

check [0] **Never** do when in pain

check [1] **Rarely** do when in pain

check [2] **Occasionally** do when in pain

check [3] **Frequently** do when in pain

check [4] **Very Frequently** do when in pain

19.	Lash out physically or verbally.....	0	1	2	3	4
20.	Worry the whole time about whether it will end.....	0	1	2	3	4
21.	Realize the situation is hopeless and give up.....	0	1	2	3	4
22.	Tell myself things that help me to feel better.....	0	1	2	3	4
23.	Try to forget the whole thing.....	0	1	2	3	4
24.	Stay busy or active.....	0	1	2	3	4
25.	Put my trust in God.....	0	1	2	3	4
26.	Change or grow as a person in a good way.....	0	1	2	3	4
27.	Admit to myself that I can't deal with it and quit trying.....	0	1	2	3	4
28.	Make a plan of action and follow it.....	0	1	2	3	4
29.	Restrict my social activities.....	0	1	2	3	4
30.	Get used to the idea that it happened.....	0	1	2	3	4
31.	Ask people who have had similar experiences what they did.....	0	1	2	3	4
32.	Get upset, and am really aware of it.....	0	1	2	3	4
33.	Clear my mind of bothersome thoughts.....	0	1	2	3	4
34.	Feel like I can't stand it anymore.....	0	1	2	3	4
35.	Rediscover what is important in life.....	0	1	2	3	4
36.	Take direct action to try and improve matters.....	0	1	2	3	4
37.	Avoid being with people in general.....	0	1	2	3	4
38.	Try to find comfort in my religion.....	0	1	2	3	4
39.	Think that I can't do anything to cope with the pain.....	0	1	2	3	4

check [0] **Never** do when in pain

check [1] **Rarely** do when in pain

check [2] **Occasionally** do when in pain

check [3] **Frequently** do when in pain

check [4] **Very Frequently** do when in pain

40.	Don't let it get to me; refuse to think too much about it.....	0	1	2	3	4
41.	Keep others from knowing how bad things are.....	0	1	2	3	4
42.	Participate in leisure activities.....	0	1	2	3	4
43.	Feel like I can't go on.....	0	1	2	3	4
44.	Take it out on other people.....	0	1	2	3	4
45.	Go to the movies, or watch TV, to think about it less.....	0	1	2	3	4
46.	Get as far away from other people as I can.....	0	1	2	3	4
47.	Distract my attention away from the pain.....	0	1	2	3	4
48.	Think about how I have brought this on myself.....	0	1	2	3	4
49.	Try to keep my feelings from interfering with things too much.....	0	1	2	3	4
50.	Wish I could change the way things are going.....	0	1	2	3	4
51.	Keep myself busy so I won't have to think about what is going on.....	0	1	2	3	4
52.	Make light of the situation; refuse to get too serious about it.....	0	1	2	3	4
53.	Accept that this has happened and that it can't be changed.....	0	1	2	3	4
54.	Let my feelings out.....	0	1	2	3	4
55.	Focus on the location and intensity of the pain.....	0	1	2	3	4
56.	Go off by myself to be alone.....	0	1	2	3	4
57.	Just give up trying to make things better.....	0	1	2	3	4
58.	Accept the fact that it really happened.....	0	1	2	3	4
59.	Wish that the situation would go away or somehow be over with.....	0	1	2	3	4
60.	Pray more than usual.....	0	1	2	3	4

check [0] **Never** do when in pain

check [1] **Rarely** do when in pain

check [2] **Occasionally** do when in pain

check [3] **Frequently** do when in pain

check [4] **Very Frequently** do when in pain

61.	Try to get advice from someone about what to do.....	0	1	2	3	4
62.	Feel a lot of emotional distress and I find myself expressing those feelings a lot.....	0	1	2	3	4
63.	Do anything to get my mind off the pain.....	0	1	2	3	4
64.	Have fantasies or wishes about how things might turn out.....	0	1	2	3	4
65.	Feel responsible for the pain I am feeling.....	0	1	2	3	4
66.	Try not to let other people see what I'm going through.....	0	1	2	3	4
67.	Give up the attempt to get what I want.....	0	1	2	3	4
68.	Learn to live with it.....	0	1	2	3	4
69.	Talk to someone about how I feel.....	0	1	2	3	4

7.10. APPX. 10. VMPCI Certified Translator Form

Vanderbilt Çok Boyutlu Ağrı ile Başa Çıkma Envanteri'nin (VMPCI) Kavramsal Yapısı

Smith ve ark. (1997) tarafından Annals of Behavioral Medicine (Yıllık Davranış Tıbbı Raporları) dergisinin 19. sayısında, sayfa 11 ve 21 arasında bildirildiği üzere, VMPCI'nin kavramsal faktör yapısı aşağıda detaylı olarak verilmiştir. Listelenen ilk iki ölçek, VMPCI ile kıyaslanan Vanderbilt Ağrı Yönetimi Envanterinin (VPMI) aktif ve pasif alt ölçeklerine ilişkin kısaltılmış versiyonlara işaret etmektedir. Son üç ölçek olan kabul, sosyal destek arama ve dışa vurum ölçekleri, Zaman 2 biriminde ölçeğe eklenmiştir. Bununla beraber, bu ölçekler geçerlilik çalışmasında yer alan 5 nolu dipnotta belirtildiği üzere aynı çalışmada bildirilmemiştir. Planlı problem çözümü ve pes etme başlıkları altında yer alan ve * sembolü ile başlayan maddeler ölçeğin Zaman 1 versiyonunda kullanılmış, ancak söz konusu dipnotta da belirtildiği üzere en güncel Zaman 2 versiyonundan çıkarılmıştır. @ sembolü ile başlayan maddeler, bu ölçeklerin güvenilirlik düzeylerini arttırmak için Zaman 2 versiyonuna eklenmiştir ancak söz konusu dipnotta da belirtildiği üzere çalışmada bu ölçeklere yönelik olarak inceleme yapılmamıştır.

1) VPMI-Aktif

4) Fiziksel egzersiz veya fiziksel terapi faaliyetlerinde bulunurum. _____
24) Bir uğraş edinir ya da aktif olurum. _____
33) Aklımdan endişe verici düşünceleri çıkarırım. _____
42) Boş zaman etkinliklerine katılırım. _____
47) Dikkatimi ağrıdan başka bir unsura veririm. _____

2) VPMI-Pasif

3) Doktorun daha iyi ilaçlar yazmasını dilerdim. _____
8) Ağrının beni nasıl yıprattığını düşünürüm. _____
13) Hissettiğim ağrıyı başkalarına anlatırım. _____
29) Sosyal faaliyetlerimi kısıtlarım. _____
39) Ağrıyla başa çıkabilmek için hiçbir şey yapamayacağımı düşünürüm. _____
55) Ağrıyan yere ve ağrının yoğunluğuna odaklanırım. _____

3) Planlı Problem Çözümü

1) Problemi daha iyi kavrayabilmek için analiz etmeyi denerim. _____
9) Çevremdeki olaylara daha çok dikkat ederim. _____
28) Bir eylem planı yapar ve bu plana uyarım. _____
36) Meselelerde gelişim kaydedebilmek adına doğrudan adımlar atarım. _____
*) Durum hakkında daha fazla bilgi almak için birileriyle konuşurum. _____
*) Durumu daha iyi hâle getirebilmek için tecrübelerimden faydalanırım. _____
*) Sorunla başa çıkabilmek için en uygun çözümü bulmaya çalışırım. _____
*) Etrafımda neler olduğuna dair mümkün olduğunca fazla bilgi edinirim. _____

4) Olumlu Yeniden Değerlendirme

7) Her şeyden azami ölçüde faydalanmaya çalışırım; tecrübelerimden ders çıkarmaya çalışırım. _____
16) İyimser bir tavır takınırım. Diğer bir deyişle, bardağa dolu tarafından bakmaya çalışırım. _____
22) Kendime daha iyi hissetmemi sağlayan şeyler söylerim. _____
26) İyi bir insana dönüşür ya da kendimi böyle biri olarak yetiştiririm. _____
35) Hayattaki önemli şeyleri yeniden keşfederim. _____

5) Dikkati Dağıtma

2) Zihnimi boşaltmak için bir işe girişir ya da ek faaliyetlerde bulunurum. _____
51) Hayatımda olan bitenler hakkında düşünmemek için kendime bir uğraş bulurum. _____
@45) Bunları daha az düşünmek için sinemaya gider veya TV izlerim. _____
@63) Ağrıya odaklanmamak adına her şeyi yaparım. _____

6) Başa Çıkma Eylemiyle Yüzleşme

19) Fiziksel veya sözel olarak sert tepkiler veririm. _____
44) Sinirimi başkalarından çıkarırım. _____

7.11.APPX. 11. VMPCI

Vanderbilt Çok Boyutlu Ağrıyla Başa Çıkma Envanteri

Aşağıdaki maddeler, ağrınız orta yoğunlukta veya daha fazla olduğunda, içinde bulunabileceğiniz davranış veya düşüncelerinizi açıklar. Lütfen her bir ifadenin yanındaki uygun kutuyu işaretleyerek ağrınız olduğunda genellikle aşağıdakileri ne sıklıkta yaptığınızı belirtiniz.

Ağrınız varken **Asla** yapmıyorsanız bu kutucuğu işaretleyin:	0
Ağrınız varken **Nadiren** yapıyorsanız bu kutucuğu işaretleyin:	1
Ağrınız varken **Arada Bir** yapıyorsanız bu kutucuğu işaretleyin:	2
Ağrınız varken **Sıklıkla** yapıyorsanız bu kutucuğu işaretleyin:	3
Ağrınız varken **Çok sık** yapıyorsanız bu kutucuğu işaretleyin:	4

1. Fiziksel egzersiz veya fizik tedavi ile meşgul olurum. meşgul olurum.	0	1	2	3	4
2. Duygularımı birisiyle tartışırım.	0	1	2	3	4
3. En iyi şeyi yaparım; deneyimlerimden öğrenmeye çalışırım.	0	1	2	3	4
4. Duygularımı kendime saklamaya çalışırım.	0	1	2	3	4
5. Umut ışığı ararım, olayların iyi tarafına bakmaya çalışırım.	0	1	2	3	4
6. Olanlardan dolayı kendimi suçlarım.	0	1	2	3	4
7. Tanrı'nın yardımını ararım.	0	1	2	3	4
8. İyi bir insan olmaya ve kendimi geliştirmeye çalışırım.	0	1	2	3	4
9. Bununla başa çıkamayacağımı kabullenirim ve denemeyi bırakırım.	0	1	2	3	4
10. Durumun böyle olduğu düşüncesine alıştım.	0	1	2	3	4
11. Benzer deneyimleri olan insanlara ne yaptıklarını sorarım.	0	1	2	3	4
12. Zihnimi rahatsız edici düşüncelerden arındırırım.	0	1	2	3	4
13. Daha fazla dayanamayacağımı hissediyorum.	0	1	2	3	4
14. Genel olarak insanlarla olmaktan kaçınırım.	0	1	2	3	4
15. Ağrı ile başa çıkmak için hiçbir şey yapamayacağımı düşünürüm.	0	1	2	3	4
16. Başkalarının durumun ne kadar kötü olduğunu bilmesini engellerim.	0	1	2	3	4
17. Boş zaman aktivitelerine katılırım.	0	1	2	3	4
18. Devam edemeyecekmiş gibi hissediyorum.	0	1	2	3	4
19. Diğer insanlardan olabildiğince uzaklaşırım.	0	1	2	3	4
20. Dikkatimi ağrıdan uzaklaştırırım.	0	1	2	3	4
21. Bu ağrının başıma gelmesi için ne yaptğımı düşünürüm.	0	1	2	3	4
22. Bu durumun böyle olduğunu ve değiştirilemeyeceğini kabul ederim.	0	1	2	3	4
23. Yalnız kalmak için başımı alır (uzaklara) giderim.	0	1	2	3	4
24. Her şeyi daha iyi hale getirmeye çalışmaktan vazgeçerim.	0	1	2	3	4
25. Bunun gerçekten meydana geldiğini kabul ederim.	0	1	2	3	4
26. Her zamankinden daha fazla dua ederim.	0	1	2	3	4
27. Ne yapacağım konusunda birinden tavsiye almayı denerim.	0	1	2	3	4
28. Duyduğum(yaşadığım) ağrıdan kendimi sorumlu hissederim.	0	1	2	3	4
29. Diğer insanların neler yaşadığımı görmelerine izin vermemeye çalışırım.	0	1	2	3	4
30. İstediğim şeyi elde etme çabasından vazgeçiyorum.	0	1	2	3	4
31. Bununla yaşamayı öğreniyorum.	0	1	2	3	4
32. Biriyle nasıl hissettiğimi konuşurum.	0	1	2	3	4

7.12. APPX. 12. RESUME

Kişisel Bilgiler

Adı	Ebru	**Soyadı**	DURUSOY
Doğum Yeri	Çanakkle	**Doğum Tarihi**	22.03.1993
Uyruğu	T.C.	**TC Kimlik No**	
E-mail	edurusoy@gelisim.edu.tr	**Tel**	05358893709

Öğrenim Durumu

Derece	Alan	Mezun Olduğu Kurumun Adı	Mezuniyet Yılı
Yüksek Lisans	Fizyoterapi ve Rehabilitasyon	**Yeditepe Üniversitesi**	Devam ediyor
Lisans	Fizyoterapi ve Rehabilitasyon	**Acıbadem Mehmet Ali Aydınlar Üniversitesi**	25.06.2015
Lise	Fen Bilimleri	**Çanakkale İbrahim Bodur Anadolu Lisesi**	17.06.2011

Başarılmış birden fazla sınav varsa(KPDS, ÜDS, TOEFL; EELTS vs), tüm sonuçlar yazılmalıdır

Bildiği Yabancı Dilleri	Yabancı Dil Sınav Notu (**#**)
İngilizce	YÖKDİL: 80.00

İş Deneyimi (Sondan geçmişe doğru sıralayın)

Görevi	Kurum	Süre (Yıl - Yıl)
Araştırma Görevlisi	İstanbul Gelişim Üniversitesi	2017-Devam Ediyor

Bilgisayar Bilgisi

Program	Kullanma becerisi
Microsoft Excel	İyi
Microsoft Word	İyi
Microsoft Power Point	İyi

*****Çok iyi, iyi, orta, zayıf olarak değerlendirin

Bilimsel Çalışmaları

Ulusal bilimsel toplantılarda sunulan ve bildiri kitabında (*Proceedings*) basılan bildiriler

1.Hamza Sinen, Selim Gündoğdu, Celil İlgün, Ebru Durusoy, Rıfat Mutuş: Sol Alt Extremitesi Ampüte Bir Leyleğe Protez Uygulaması, İstanbul Gelişim Üniversitesi I. Ulusal Sağlık Bilimleri Öğrenci Kongresi, 18-19.4.2019 İstanbul (En İyi Sözlü Bildiri Ödülü)
2.Damla Duman, Gülşah Kınalı, Ebru Durusoy, Ayşenur Örikli, Bilsen Sirmen:Fizyoterapi Öğrencilerinde 'Mesleki Kaygı' Anketi Sonuçları İstanbul Gelişim Üniversitesi I. Ulusal Sağlık Bilimleri Öğrenci Kongresi, 18-19.4.2019 İstanbul(Sözlü Bildiri)
3,Ayşenur Örikli, Büşra Sayir,Sena Teber, Fatma Eda Yeniçeri, Ebru Durusoy, Gökhan Demir,Pelin Tiryaki,Bilsen Sirmen: Skapular Diskinezi ve Ağrının, Servikal Kas Kuvvetine Etkisi I. Ulusal Sağlık Bilimleri Öğrenci Kongresi, 18-19.4.2019 İstanbul (Poster)
4.Ebru Durusoy , Emircan Murat Canbir , Bora Kaya, Gülşah Kınalı: Türkiye'de Lisans Eğitimi Gören Fizyoterapi Ve Rehabilitasyon Öğrencilerinin Gelecek Kaygısı I. Ulusal Sağlık Bilimleri Öğrenci Kongresi, 18-19.4.2019 İstanbul (Poster)

Diğer (Görev Aldığı Projeler/Sertifikaları/Ödülleri)

1.Hamza Sinen, Selim Gündoğdu, Celil İlgün, Ebru Durusoy, Rıfat Mutuş: Sol Alt Extremitesi Ampüte Bir Leyleğe Protez Uygulaması, İstanbul Gelişim Üniversitesi I. Ulusal Sağlık Bilimleri Öğrenci Kongresi, 18-19.4.2019 İstanbul (En İyi Sözlü Bildiri Ödülü)