



TURKISH SOCIETY OF PHYSICAL MEDICINE AND REHABILITATION

E-ISSN: 2687-1250

TURKISH JOURNAL OF PHYSICAL MEDICINE AND REHABILITATION

Formerly published as **Türkiye Fiziksel Tıp ve Rehabilitasyon Dergisi**

Editors

Birkan Sonel Tur
Deniz Evcik

Associate Editors

Ayşe Nur Bardak
Burcu Yanık
Coşkun Zateri
Duygu Geler Külçü
Şebnem Koldaş Doğan



Indexed in
SCI-E & PMC

Bayçınar
Tıbbi Yayıncılık

VOLUME 68 • NUMBER 2 • JUNE 2022

www.turkishjournalpmr.com
www.ftrdergisi.com



TURKISH JOURNAL OF PHYSICAL MEDICINE AND REHABILITATION

Formerly published as **Türkiye Fiziksel Tıp ve Rehabilitasyon Dergisi**

Founders / Kurucular

Osman Cevdet Çubukçu
Derviş Manizade
Aziz Sevüktekin
Akif Şakir Şakar

Türkiye Fiziksel Tıp ve Rehabilitasyon Derneği
Adına Sahibi ve Sorumlu Yazı İşleri Müdürü
Kenan Akgün

Executive Office / Yönetim Yeri ve Adresi
Büyükdere Cad. Arzu Apt. No: 99, Kat: 4, D: 8-9,
34394 Mecidiyeköy, İstanbul, Türkiye.
Tel: +90 212 236 90 52
Fax: +90 212 236 90 54
URL: <http://www.turkishjournalpmr.com>
<http://www.ftrdergisi.com>

Editorial Contact Person / Editöryel İletişim
Birkan Sonel Tur
Deniz Evcik
e-mail / e-posta: info@turkishjournalpmr.com
info@ftrdergisi.com

Publisher / Yayıncı
Baycınar Tıbbi Yayıncılık
Örnek Mah. Dr. Suphi Ezgi Sok., No: 11, D: 6,
34704 Ataşehir, İstanbul, Türkiye
Tel: +90 216 317 41 14
e-mail / e-posta: info@baycınartıbbiyayincilik.com
Yayıncı Sertifika No: 52284

Publishing date / Yayın tarihi
June 01, 2022 / 01 Haziran 2022

Type of publication / Yayın Türü
Periodical / Yerel Süreli

Owner on Behalf of Turkish Society of Physical Medicine and Rehabilitation and Responsible Manager

Kenan Akgün
Istanbul University - Cerrahpaşa, İstanbul, Türkiye

Editors

Birkan Sonel Tur
Ankara University, Ankara, Türkiye

Deniz Evcik
Güven Hospital, Ankara, Türkiye

Associate Editors

Ayşe Nur Bardak
University of Health Sciences, İstanbul, Türkiye
Burcu Yanık
Çankaya Hospital, Ankara, Türkiye
Coşkun Zateri
Çanakkale Onsekiz Mart University, Çanakkale, Türkiye

Duygu Geler Külcü
University of Health Sciences, İstanbul, Türkiye
Şebnem Koldaş Doğan
University of Health Sciences, Antalya, Türkiye

Statistics Consultants

Afra Alkan
Yıldırım Beyazıt University, Ankara, Türkiye
Arzu Baygöl
Koç University, İstanbul, Türkiye
Atilla Halil Elhan
Ankara University, Ankara, Türkiye
Can Ateş
Aksaray University, Aksaray, Türkiye
Elif Çiğdem Keleş
Yeditepe University, İstanbul, Türkiye

Halim İşsever
İstanbul University, İstanbul, Türkiye
Nazan Alparslan
Çukurova University, Adana, Türkiye
Pervin Demir
Yıldırım Beyazıt University, Ankara, Türkiye
Selcen Yüksel
Yıldırım Beyazıt University, Ankara, Türkiye
Timur Köse
Ege University, İzmir, Türkiye

The Turkish Journal of Physical Medicine and Rehabilitation is indexed by Science Citation Index Expanded, PubMed Central, EMBASE, Scopus, CINAHL, Gale/Cengage Learning, EBSCO, Index Copernicus, TUBITAK ULAKBIM TR Index and Türkiye Citation Index.

All rights are reserved. Rights to the use and reproduction, including in the electronic media, of all communications, papers, photographs and illustrations appearing in this journal are the properties of the Turkish Journal of Physical Medicine and Rehabilitation, reproduction without prior written permission of part or all of and material is not permitted. The journal complies with the Professional Principles of the Press.

The control of conformity with the journal standards and the typesetting of the articles in this journal, the control of the abstracts and references and the preparation of the journal for publishing were conducted by Baycınar Medical Publishing.



Scientific Advisory Board

Alessandro Giustini

Rehabilitation Unit, Ospedale Sanpancrazio
Santostefano Rehabilitation Group,
Arco, Trento, Italy

Amparo Martinez Assucena

Hospital of Requena, Valencia, Spain

Arzu On

Ege University, İzmir, Türkiye

Aydan Oral

İstanbul University, İstanbul, Türkiye

Ayşe Küçükdeveci

Ankara University, Ankara, Türkiye

Ayşe Yalman

İstanbul University, İstanbul, Türkiye

Ayşegül Ketenci

İstanbul University, İstanbul, Türkiye

Banu Kuran

Yeni Yüzyıl University, İstanbul, Türkiye

Belgin Erhan

İstanbul Medeniyet Üniversitesi, İstanbul, Türkiye

Canan Tıkız

Adnan Menderes University, Aydın, Türkiye

Carl Chen

Chang Gung Memorial Hospital,
Taipei, Taiwan

Chang-II Park

Konyang University, Daejeon, Korea

Dilşad Sindel

İstanbul University, İstanbul, Türkiye

Elena Ilieva

Plovdiv Medical University,
Plovdiv, Bulgaria

Elif Akalın

Dokuz Eylül University, İzmir, Türkiye

Erkan Kozanoğlu

Çukurova University, Adana, Türkiye

Farooq Rathore

Bahria University, Karachi, Pakistan

Fary Khan

Monash University, Melbourne, Australia

Farzaneh Torkan

Shefa Research Center, Tehran, Iran

Francesca Gimigliano

University of Campania
"Luigi Vanvitelli", Caserta, Italy

Frederick Frost

Case Western Reserve University,
Cleveland, Ohio, USA

Fumihito Tajima

Wakayama Medical University,
School of Medicine, Wakayama, Japan

Füsün Ardiç

Pamukkale University, Denizli, Türkiye

Füsün Köseoğlu

TOBB ETU Hospital, Ankara, Türkiye

Füsün Şahin

Private Clinic, Denizli, Türkiye

Gabor Fazekas

National Institute for Medical Rehabilitation,
Budapest, Hungary

Gordana Stefanovski

Institute of PRM "Dr M. Zotovic", Banja
Luka, Bosnia and Herzegovina

Gülseren Akyüz

Marmara University, İstanbul, Türkiye

Hatice Bodur

Yıldırım Beyazıt University, Ankara, Türkiye

Haydar Gök

Ankara University, Ankara, Türkiye

Helena Burger

University Rehabilitation Institute,
Ljubljana, Slovenia

İlker Yağcı

Marmara University, İstanbul, Türkiye

Iuly Treger

Soroka Medical University,
Beer-Sheva, Israel

Jale İrdesel

Uludağ University, Bursa, Türkiye

Jolanta Kujawa

Medical University of Lodz, Lodz, Poland

Jorge Lains

Rehabilitation Centre for the Central Region
of Portugal, Rovisco Pais Hospital,
Tocha, Portugal

Juan Manuel Guzman

Clinica De Rehabilitacion,
Mexico City, Mexico

Kenan Akgün

İstanbul University, İstanbul, Türkiye

Khalil Al-Abbadi

Arab Center For Physical & Rehabilitation
Medicine, Amman, Jordan

Luh K Wahyuni

University of Indonesia, Jakarta, Indonesia

Lydia Abdul Latif

Malaysia University of Malaysia,
Kuala Lumpur, Malaysia

Mansoor Rayegani

Shahid Beheshti University,
Tehran, Iran

Mark A. Young

Maryland Rehabilitation Center,
Baltimore, Maryland, USA

Meltem Vural

University of Health Sciences,
İstanbul, Türkiye

Milica Lazovic

University of Belgrade, Belgrade, Serbia

Müfit Akyüz

Karabük University, Karabük, Türkiye

Murat Zinnuroğlu

Gazi University, Ankara, Türkiye

N. Kutay Ordu Gökçaya

University of Health Sciences, Ankara, Türkiye

Nachum Soroker

Tel-Aviv University, Tel Aviv, Israel

Nurdan Paker

University of Health Sciences, İstanbul, Türkiye

Ömer Faruk Şendur

Adnan Menderes University, Aydın, Türkiye

Özlen Peker

Dokuz Eylül University, İzmir, Türkiye

Peter Lim Ai Chi

Baylor College of Medicine,
Singapore - Houston, Texas, USA

Rajesh Pramanik

IPGMR & SSKM Hospital,
Kolkata, India

Rengin Güzel

Çukurova University, Adana, Türkiye

Resa Aydın

İstanbul University, İstanbul, Türkiye

Safiye Tuncer

Ankara University, Ankara, Türkiye

Saime Ay

Ufuk University, Ankara, Türkiye

Sibel Eyiğör

Ege University, İzmir, Türkiye

Şehim Kutlay

Ankara University, Ankara, Türkiye

Simon F.T. Tang

Chang Gung University,
Taipei, Taiwan

Soumya Chatterjee

Case Western Reserve University,
Cleveland, Ohio, USA

Taslim Uddin

BSM Medical University,
Dhaka, Bangladesh

Ülkü Zeynep Akarırmak

İstanbul University, İstanbul, Türkiye

Yeşim Kirazlı

Ege University, İzmir, Türkiye

Zeynep Güven

Acıbadem University, İstanbul, Türkiye

Zohra Ben Salah

University Hospital of Monastir,
Monastir, Tunisia



CONTENTS

INVITED REVIEW

- 159 **Is there a role of pulmonary rehabilitation in extrapulmonary diseases frequently encountered in the practice of physical medicine and rehabilitation?**
Belma Füsün Köseoğlu

ORIGINAL ARTICLES

- 169 **The effect of activation of thoracolumbar fascia on the thickness of abdominal muscles: An ultrasonographic study**
Zeynep Turan, Özden Özyemişçi-Taşkiran
- 175 **Therapeutic effect of gait training with two types of ankle-foot orthoses on the gait of the stroke patients in the recovery phase**
Aliyeh Daryabor, Sumiko Yamamoto, Naoyuki Motojima, Souji Tanaka
- 184 **Effectiveness of whole-body vibration exercise and core stabilization exercise in chronic non-specific low back pain: A randomized-controlled study**
Basak Cigdem Karacay, Tugba Sahbaz, Basak Gurtekin, Safinaz Yildiz, Emel Ozcan
- 195 **The effectiveness of additional long-term use of bottle-positive expiratory pressure in chronic obstructive pulmonary disease: A single-blind, randomized study**
Özge Keniş-Coşkun, Derya Kocakaya, Sefa Kurt, Büşranur Fındık, İlker Yağcı, Emel Eryüksel
- 205 **Effects of splinting and three injection therapies (corticosteroid, autologous blood and prolotherapy) on pain, grip strength, and functionality in patients with lateral epicondylitis**
Samet Sancar Kaya, Gökhan Yardımcı, Hamit Göksu, Hakan Genç
- 214 **The reliability and validity of the Turkish version of the brief pain inventory-short form in patients with cancer pain**
Selin Balta, Çağrı Ünal-Ulutatar, Samaya Mirzayeve, Mehmet Çetin Başkaya, Gülseren Akyüz
- 222 **Assessment of the relationship between rectus femoris cross-sectional area and knee extension strength in the prosthesis users with transtibial amputation: A case-control study**
Kardelen Gencer Atalay, Özge Keniş Coşkun, Esra Giray, Osman Hakan Gündüz, İlker Yağcı
- 231 **Stress level and quality of life of adolescents with idiopathic scoliosis during brace treatment**
Hamid Pezham, Taher Babae, Batoul Bagheripour, Mohaddeseh Asgari, Zahra Jiryaei, Reza Vahab Kashani, Mehdi Rahgozar, Mokhtar Arazpour
- 238 **Serum netrin-1 and netrin receptor levels in fibromyalgia and osteoarthritis**
Alparslan Köhle, Arif Gülkesen, Tuba Kaya Karataş, Gürkan Akgöl, Ahmet Karataş, Necip İlhan, Süleyman Serdar Koca
- 246 **Influences of methotrexate iontophoresis on functional lifestyle disabilities, functional capacity, and pain in patients with plantar psoriasis**
Nermeen Mohamed Abdelhalim, Ahmed Fathy Samhan
- 254 **The effect of adding robot-assisted hand rehabilitation to conventional rehabilitation program following stroke: A randomized-controlled study**
Ozun Bayındır, Gülseren Akyüz, Nimet Sekban
- 262 **The relationship between dietary total antioxidant capacity, clinical parameters, and oxidative stress in fibromyalgia syndrome: A novel point of view**
Kübra Tel Adıgüzel, Özlem Köroğlu, Evren Yaşar, Arif Kenan Tan, Gülhan Samur
- 271 **A quantitative assessment of the risk of falls in rheumatoid arthritis patients and determination of the risk factors**
Emine Esra Ergül, Meltem Alkan Melikoğlu
- 278 **Urinary system complications and long-term treatment compliance in chronic traumatic spinal cord injury patients with neurogenic lower urinary tract dysfunction**
Çağlayan Dere, Didem Dere, Nurdan Paker, Derya Buğdaycı Soy, Sedef Eroş
- 286 **Kinesio taping application for rotator cuff disease: Beneficial or harmful? - A Cochrane Review summary with commentary**
Fatma Merih Akpınar, Dilşad Sindel

CASE REPORTS

- 290 **The efficacy and safety of high-intensity interval training in chemotherapy-related cardiomyopathy: Report of two cases**
Hee-Eun Choi, Chul Kim, Myoung-Joo Kang, Ji-Ho Park
- 295 **A case of Guillain-Barre syndrome after the second dose of AstraZeneca COVID-19 vaccination**
Hanieh Bazrafshan, Leila Sadat Mohamadi Jahromi, Reyhaneh Parvin, Alireza Ashraf
- 300 **Easy to treat when the diagnosis is made: Three cases of clunealgia and the advantage of ultrasonography**
Damla Yürük, Ömer Taylan Akkaya, Özgür Emre Polat, Hüseyin Alp Alptekin, Selin Köse Güven

LETTER TO THE EDITORS

- 306 **COVID-19-induced longitudinal extensive myelitis**
Büşra S. Arıca Polat, Özgür Boyraz, M. Sami Biçimveren, Zeki Odabaşı
- 308 **Physical activity during the COVID-19 pandemic in older adults**
Bilal Katipoğlu, Mehmet İlkin Naharci, İlker Taşçı
- 311 **Publication performance in the field of physical medicine and rehabilitation in Turkey: A missed field in TUBITAK Field Based Competency Analysis Report 2020**
Esra Giray, İlker Yağcı, Özden Özyemişçi Taşkiran
- 314 **Low-level laser therapy versus extracorporeal shock wave therapy in calcaneal spur**
Mustafa Kubilay, İlkin Çitak Karakaya