
INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Lived Experience Of Saudi Women With Pelvic Organ Prolapse; Does Culture Impact Their Access To Women's Health Physiotherapy Services?

Fahda M. Alshiakh

Umm Al-Qura Univeristy

## Abstract

Background Pelvic organ prolapse (POP) is a significant women's health issue, but there is limited research on how women in culturally conservative societies, such as Saudi Arabia, experience and manage this condition. This study explores the lived experiences of Saudi women with POP, focusing on the influence of cultural, social, and personal factors on their understanding and management of the condition. Methods This qualitative study employed an interpretative approach. Eight Saudi women, aged around menopause and diagnosed with POP, were recruited from a governmental hospital in the western province of Saudi Arabia. In-depth, semi-structured interviews were conducted in Arabic, transcribed verbatim, and analyzed using reflexive thematic analysis to identify key themes reflecting the participants' experiences. Results Five major themes emerged: (1) Conceptualization of Prolapse, with women perceiving POP as a natural outcome of aging and childbirth; (2) Social Support Provided by Family, where reliance on female relatives often delayed seeking professional care; (3) Physical and Marital Implications, highlighting the impact on body image, self-esteem, and intimate relationships; (4) Healthcare-Seeking Behavior and Barriers, revealing reluctance to seek medical help due to embarrassment, fear of surgery, and a lack of female healthcare providers; and (5) The Role of Saudi Arabian Culture in Shaping the Experience of Prolapse, emphasizing the influence of cultural norms around modesty and privacy on women's healthcare decisions. Conclusion The findings underscore the significant influence of cultural and social factors on the lived experiences and healthcare-seeking behaviors of Saudi women with POP. Culturally sensitive health education and improved access to female healthcare providers are crucial for supporting women with POP in Saudi Arabia, reducing stigma, and encouraging early healthcare engagement.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Knowledge of the Pelvic Floor Muscles in Menopausal Women

Najwa Alfarra, Hala Aldosary , Anoud Aldwaish,

King Faisal Specialist Hospital And Research Center

**Abstract**

Pelvic floor dysfunction is an important health-care issue, with menopause as the most important risk factors. Insufficient knowledge about pelvic floor dysfunction is the largest barrier to seeking care. The aim of this study was to investigate the level of knowledge and information on pelvic floor dysfunction in menopausal women, and improve their awareness about the pelvic floor muscles. Subjects and methods: this study was used cross sectional survey. A valid and reliable questionnaire of 37 items was used as an online form. 100 women postmenopausal were included in the study. These were women aged 50 and above, who were able to read and use online form to participate in the study. Women who could not use on line survey were excluded from the study. All answers were analyzed and interpreted. Results: The results of this survey showed minor actual knowledge about PFMs and PFD in PMP women, A major proportion of women would be interested in more information about PFMs. To improve help-seeking behavior in women but could also have a role in the prevention of PFD.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Effect Of Combined Manual Therapy And Therapeutic Exercise Program In Patients With Chronic Mechanical Neck Pain: A Randomized Clinical Trial

Zeinab A. Ali Mrs. Hala T Ahmed, Mrs. Hebatalla M Abd Elrafi, Mrs. Methaq Mufareh AL-anazi1, Mrs. Aryaf Abdullah AL-mufadi1, Mrs. Areej Naif AL-anazi1, Mrs. Salihah Mohammed AL-atawi1, Mrs. Abeer Farhan AL-anazi1, Mrs. Rana Anwar AL-anazi1, Mrs. Mai Hammoud AL-Sharar

Department of Physical Therapy, College of Applied Medical Sciences, Jouf University, Kingdom of Saudi Arabia

## Abstract

Background: Mechanical neck pain (MNP) is a significant health issue that impacts more severely on daily functioning and professional productivity than low back pain, highlighting the need for effective treatments. Objectives: This study aimed to address the gap in existing research by investigating the synergistic effects of combining manual therapy and exercises, on pain, functional abilities, ROM and deep cervical flexor muscle endurance in MNP patients. Methods: This is a randomized experimental study recruited 45 female patients with chronic mechanical neck pain from Jouf University, assigning them to one of three groups: group A: manual therapy, group B: therapeutic exercises, and group C: a combination of both treatments. Assessments was done at baseline and after 4 weeks of treatment utilizing the Neck Disability Index, Range of Motion measurements, the Pain Numeric Rating Scale and Cranio-Cervical Flexion Test (CCFT). Results: All treatment groups experienced significant improvements post-treatment, with notable decreases in the Numerical Pain Rating Scale (NPRS) and Neck Disability Index (NDI), and increases in Cranio-Cervical Flexion Test (CCFT) and neck Range of Motion (ROM), each with p values less than 0.005. Particularly noteworthy was Group C, which received a combination of manual therapy and therapeutic exercises, exhibited significantly better outcomes in reducing NPRS and NDI, as well as enhancing CCFT and neck ROM, compared to Groups A and B ($p < 0.05$). However, there was no significant difference observed between Groups A and B in their post treatment outcomes ($p > 0.05$), indicating similar efficacy when manual therapy and therapeutic exercises are employed independently. Conclusions: The study concluded that an integrated approach combining manual therapy, therapeutic exercises was more effective in improving pain, disability, and neck functionality in patients with chronic mechanical neck pain compared to singular treatment approaches.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Importance Of Hip Surveillance For Hip Displacement On Children With Cerebral Palsy In Saudi Arabia

Khalid Alharb, Ahmed Hijazi, Shamekh Elshamy

Qassim University Medical City

## Abstract

Background: The incidence of hip displacement in children with cerebral palsy is around 35% (Hagglund et al., 2007; Soo et al., 2006), while the hip surveillance programs have a significant effect on decrease the incidence of hip dislocation in children with cerebral Palsy (Hagglund et al., 2005; Kentish et al., 2011; Terjesen, 2012). Currently, the hip surveillance programs have developed in Europe, Australasia, parts of Canada, and parts of America, but a Saudi hip surveillance program has not been developed. Objective: This article aims to identify areas of practice variation on hip management for children with cerebral palsy in Saudi Arabia, to suggest steps moving forward to generate guidelines for Saudi hip surveillance protocol. Methods: An electronic cross-sectional survey, consists of six parts and a total of 30 items, was distributed via social media for 3 weeks, the participants were 88 CP health care providers in Saudi Arabia. Descriptive statistics for the categorical data variables are presented in the form of frequencies and relative frequencies. Results: 86.5% of participants reported that the hip joint stability may change over time, while 58.4% reported that the hip displacement will be painful over time. 15.9% of participants identified the age as a primary factor of hip displacement management, GMFCS 22.7%, hip ROM 20.5%, MP 26.1%, pain 8%, Scoliosis 4.5%, other factors 2.3%. The majority of participants 73.9% don't know hip surveillance protocols, while 80.7% reported they would use Saudi Hip Surveillance guidelines if it's available. Conclusion: According to the results, we believe there is a wide clinical variation on the management of hip displacement in children with CP, and there is a need for Saudi hip surveillance guidelines to decrease the incidence of hip displacement.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Association between Cognitive Impairment and Motor Dysfunction among Patients with Multiple Sclerosis: A Cross-sectional Study

Hanadi Matar Alharthi, Muneera Mohammed Almurdi

Medical Rehabilitation Department, King Saud University Medical City, Riyadh, Saudi Arabia

## Abstract

Abstract Background: Previous studies have shown that there is a relationship between cognitive impairment (CI) and motor dysfunction (MD) in neurological diseases such as Alzheimer's and Parkinson's disease. It remains unclear whether MD can be considered as a predictor of CI in patients with multiple sclerosis (MS). Here we studied the association between CI and MD in patients with MS and examined if muscle weakness, incoordination, balance impairment, gait abnormalities, and/or increased fall risk are indicators of CI in patients with MS. Methods: Seventy patients with MS were included in this cross-sectional study. Cognitive impairment was assessed using the Montreal Cognitive Assessment Scale (MoCA), muscle strength using a hand-held dynamometer, and balance, gait, and fall risk assessment using the Tinetti scale. Motor coordination was assessed using the timed rapid alternating movement test for the upper extremity and the timed alternate heel-to-knee test for the lower extremity. Results: There was a significant association between CI and motor coordination, balance, gait, and risk of fall ($p < 0.005$) but not muscle strength. Stepwise multiple linear regression showed that 22.7% of the variance in the MoCA was predicted by the fall risk and incoordination of the upper extremities in the MS population. Conclusion: CI is significantly associated with motor incoordination, balance impairment, gait abnormality, and increased fall risk. Furthermore, the risk of fall and upper extremity incoordination appeared to be the best indicators of CI in patients with MS.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Barriers And Facilitators To Early Mobilisation And Weight-Bearing As Tolerated After Hip Fracture Surgery Among Older Adults In Saudi Arabia

Ruqayyah Turabi, Katie J Sheehan, Stefanny Guerra, Matthew D.L. O'Connell, David Wyatt

Department Of Population Health Sciences, School Of Life Course And Population Sciences, King's College London, London, UK / Department Of Physical Therapy, College Of Nursing And Health Sciences , Jazan University, Jazan, Saudi Arabia

## Abstract

Objective: To explore the practice of prescribing and implementing early mobilisation and weight-bearing as tolerated after hipfracture surgery inolderadults and identify barriers and facilitators to theirimplementation. Methods: Semi-structured interviews were conducted with 20 healthcare providers (10 orthopaedic surgeons and 10 physiotherapists) from Saudi Arabian government hospitals. Data were analysed using inductive thematic analysis. Results: While early mobilisation and weight-bearing as tolerated were viewed as important by most participants, they highlighted barriers to the implementation of these practices. Most participants advocated for mobility within 48 h of surgery, aligning with international guidance; however, the implementation of weight-bearing as tolerated was varied. Some participants stressed the type ofsurgery undertaken a sakeyfactor in weight-bearing prescription.For others,local protocols or clinician preference was seen as most important,the latter partially influenced by where they were trained.Interdisciplinary collaboration between orthopaedic surgeons and physiotherapists was seen as acrucial part of post operative care and weight- bearing. Patient and family member buy-in was also noted as a key factor, as fear of further injury can impact a patient's adherence to weight-bearing prescriptions.Participants note dalackof standardised postoperative protocols and the need for routine patient audits to better understand current practices and outcomes. Conclusion: This study contributes to national and global discussions on the prescription of early mobilisation and weight- bearing as tolerated. It highlights the necessity for a harmonised approach, incorporating standardised, evidence-based protocols with patient-specific care, robust healthcare governance and routine audits and monitoring for quality assurance and better patient outcomes.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Barriers And Facilitators Of Weight Bearing After Hip Fracture Surgery Among Older Adults. A Scoping Review

Ruqayyah Turabi, David Wyatt, Stefanny Guerra, Matthew DL O'Connell, Toslima Khatun, Saibin Ahmad Sageer, Adel Alhazmi, Katie J Sheehan

Department Of Population Health Sciences, School Of Life Course And Population Sciences, King's College London, London, United Kingdom / Department Of Physical Therapy, College Of Nursing And Health Sciences, Jazan University, Jazan, Saudi Arabia

## Abstract

Purpose This scoping review aimed to synthesise the available evidence on barriers and facilitators of weight bearing after hip fracture surgery in older adults. Methods Published (Cochrane Central, MEDLINE, EMBASE, CINAHL, and PEDro) and unpublished (Global Health, EThOS, WorldCat dissertation and thesis, ClinicalTrials.gov, OpenAIRE, DART-Europe) evidence was electronically searched from database inception to 29th March 2022. Barriers and facilitators of weight bearing were extracted and synthesised into patient, process (non-surgical), process (surgical), and structure related barriers/facilitators using a narrative review approach. Results In total, 5594 were identified from the primary search strategy, 1314 duplicates were removed, 3769 were excluded on title and abstract screening, and 442 were excluded on full-text screening. In total, 69 studies (all from published literature sources) detailing 47 barriers and/or facilitators of weight bearing were included. Of barriers/facilitators identified, 27 were patient, 8 non-surgical process, 8 surgical process, and 4 structure-related. Patient facilitators included anticoagulant, home-discharge, and aid at discharge. Barriers included preoperative dementia and delirium, postoperative delirium, pressure sores, indoor falls, ventilator dependence, haematocrit<36%, systemic sepsis, and acute renal failure. Non-surgical process facilitators included early surgery, early mobilisation, complete medical co-management, in-hospital rehabilitation, and patient-recorded nurses' notes. Barriers included increased operative time and standardised hip fracture care. Surgical process facilitators favoured intramedullary fixations and arthroplasty over extramedullary fixation. Structure facilitators favoured more recent years and different healthcare systems. Conclusions: Most patient/surgery-related barriers/facilitators may inform future risk stratification. Future research should examine additional process/structure barriers and facilitators amenable to intervention. Furthermore, patient barriers/facilitators need to be investigated by replicating the studies identified and augmenting them with more specific details on weight bearing outcomes.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Glenohumeral Internal Rotation Deficit In Volleyball Players with and without a History of Shoulder Pain

Ahmed Alqarni, Qassim Muaidi, Shibili Nuhmani

King Fahd Military Medical Complex

## Abstract

Background: The shoulder joint of volleyball players is subject to a variety of adaptations that result from the repeated high-velocity overhead throwing activities. Glenohumeral Internal Rotation Deficit (GIRD) is one of the most common bony adaptations to be found in volleyball players. It can remain physiological or reach pathological levels. Physiological degrees of GIRD is essential for the sport performance while pathological GIRD reaches degrees that cause a variety of shoulder injuries. There is a lack of consensus in the literature in terms of the definition of specific pathological degrees of GIRD. Objectives: To investigate physiological and pathological GIRD in volleyball players with and without a history of shoulder pain. Study design: Cross-Sectional study. Methods: Volleyball players with a history of shoulder pain (n = 18) and without a history of shoulder pain (n = 18), who were matched in age, weight, height, BMI, playing position, years of experience, frequency of practice, and hand dominancy were recruited. Shoulder internal and external rotation Range of Motion (ROM) was measured for the dominant and non-dominant shoulders for each participant using a digital inclinometer. Measurements of GIRD, External Rotation Gain (ERG), and Total Range of Motion (TROM) were calculated. Statistical analysis: The Shapiro-Wilk test was used to investigate the differences between the groups in demographic data. Mann-Whitney U test was used to compare GIRD, ERG, and TROM measurements. Spearman's correlation coefficients were used for correlation analysis. Results: There were significantly higher degrees of GIRD in the pain group ($15.65^0$) than the no-pain group ($9.06^0$) ($p=0.004$) and significantly higher differences in the TROM in the pain group ($16.17^0$) than the no-pain group ($10.17^0$) ($p=0.007$). There was no correlation between the level of pain and the presented ROM adaptations. Conclusions: The recent study showed that for volleyball players, pathological GIRD should be defined at $10\text{-}18^0$ degrees of GIRD that are accompanied by differences in the TROM that exceeds $8^0$.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# The Impact Of Physical Therapy Tele-Rehabilitation Intervention On The Clinical Outcomes Of Children During Pandemic: Systematic Review

Samah Alharbi, Najwa Alfarra

King Faisal Specialist Hospital & Research Center

## Abstract

Background: the influence of the pandemic on the daily lives of children with disabilities and their parents has been significantly affected by Covid-19. Children are in danger for additional health risks, especially the children who had mental and physical problem. Without regular physical therapy, children's functional ability can deteriorate, and complications can occur. Despite a great variety in practices, the physical therapy tele- rehabilitation might be as useful as face- to-face management care for a variety of clinical outcomes. There are some studies confirmed that the physical therapy tele- rehabilitation is effective when coaching approach are used, in order to achieve the same outcomes. Further research is needed to clarify the impact of physical therapy tele-rehabilitation on children's clinical outcomes. Purpose: to summarize the efficacy of physical therapy tele-rehabilitation interventions on the children's clinical outcomes during pandemic. Methods: A systematic review was conducted on fifteen research: five randomized control trial, five pilot study, three systematic reviews used as background, one clinical trial, and one feasibility study published between 2010-2021. Data source was collected from PubMed, Cochrane library, Google Scholar database, and PEDro. Data Extraction: any articles focused on physical activity without considering the impact of exercises program on clinical outcomes. Data synthesis: the study focuses on the impact of physical therapy tele rehabilitation on children's clinical outcomes. Limitation of the study: the review study is limited to 15 study, only five of them randomized control trials. Results: The literature review confirmed that tele-rehabilitation physiotherapy is an effective mode of treatment for helping children catch up with motor skills.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Multidimensional Profile Of Saudi Adolescents With Idiopathic Scoliosis (AIS): An Exploratory Cross-Sectional Study

Nour Ali Alhafdhi, Dalia Alimam, Lulu Alrashed, Samia Alamrani, Abdulaziz Bin Shibreen

King Fahad Medical City, King Saud University, Riyadh, Saudi Arabia.

## Abstract

Adolescent Idiopathic scoliosis (AIS) is the most common form of scoliosis. There is a lack of studies investigating the role of physical and psychological factors that might associated with AIS in the Saudi population. Aims To explore the multidimensional profiles for the Saudi Adolescent with idiopathic scoliosis (AIS) and to examine the associations between AIS with physical factors i.e., joint hypermobility, BMI, physical activity levels and with psychological factors i.e., mental health, stress and anxiety. Study Design. A cross-sectional study Material and methods Patients with AIS without recent injuries or previous surgery, Cobb≥10°and age between 10 -18 were included in the study. They completed the questionnaires including demographic data, Numerical Rate Scale (NRS), Quality of life via the Arabic Scoliosis Research Society-22 (SRS-22), Arabic version of DASS-21 and International physical activity questionnaire (Arabic IPAQ). Joint hypermobility via Beighton score and body mass index (BMI) were also collected. The associations between quality of life (QoL) and all variables were explored using Spearman correlation coefficients and multivariate regression analyses. Results In total, 69 patients were included with mean (SD) age 15(4) years. The patients reported mean (SD) pain levels of 5 (5) indicated moderate pain with a significant functional impairment. The reported Beighton score mean (SD) was 6 (4) suggesting generalized joint hypermobility. The multivariate linear regression model for QoL in AIS resulted in a model explaining 35.8% (R2 = 0.358) of the variance. The model was explained by pain intensity and physical activity ($p < 0.05$), with pain intensity being the most important factor identified (β -0.527, $p < 0.001$). Conclusion This study provides a unique insight into the clinical profile of people with AIS in a Saudi Arabian population. Pain intensity and physical activity were significantly associated with QoL. Results revealed that a decrease in pain intensity and an increase in physical activity would increase quality of life in patients with AIS.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# An Assessment Of The Longitudinal Construct Validity Of The Pain Behavioral Scale (Pabs) In A Saudi Population With Chronic Low Back Pain: A Preliminary Study

Dalia Alimam, Ahmed Alhowimel, Faris Alodaibi, Mazyad Alotaibi, Hosam Alzahrani, Nouf Almutairi, Ali Alqahtani, Lolwah Alrashed Alhumaid, Andrew Leaver, Martin Mackey

King Saud University

## Abstract

Background: The Pain Behavioral Scale (PaBS) measures the presence and severity of pain behavior. We examine the longitudinal construct validity of the PaBS using convergent and known-groups approaches on a population of 23 participants with chronic lower back pain (LBP) undergoing routine physiotherapy care and pain neuroscience education. Methods: Participants who satisfied study inclusion and exclusion criteria were recruited from patients who attended two testing sessions at physiotherapy clinics in Saudi Arabia. Participant pain behavior was initially measured using the PaBS scale; participants performed standardized physical tests and provided baseline demographic, clinical data, and self-reported measurements using the Modified Roland and Morris disability questionnaire (MODI), fear-avoidance questionnaire (FABQ), and pain catastrophizing scale (PCS). In subsequent visits, a physiotherapist provided usual care to participants, and weekly sessions were established for online pain-neuroscience education. During week six, participants repeated the same questionnaires and physical performance tests with the PaBS. Paired t-tests are used to compare changes in health characteristics from baseline responses to those in week six. Correlations between changes in PaBS from baseline to week six, with changes in outcome measures (i.e., disability, pain intensity, fear-avoidance beliefs, catastrophizing), were determined. To assess known-group validity, we also used a general linear model. Results: A total of 23 participants completed the PNE and follow-up data collection. The mean change from baseline in the PaBS score was statistically significant, as were changes in MODI, FABQ, and PCS. Almost 70% of participants improved their PaBS scores over the six-week period, with PaBS scores of almost 40% of them improving by three units or more. The change in PaBS score correlated significantly with changes in the PCS-rumination subscale, supporting a proposed approach to estimate convergent validity ($r = 0.44$, 95% CI = 0.04–0.72, $p = 0.035$). Conclusions: The mean change from baseline in the PaBS score is statistically significant, as are changes in MODI, FABQ, and PCS, supporting its convergent validity. According to our STarT Back groups, the medium to low-risk group had a lower PaBS score, and high-risk group had a higher PaBS score, indicating that PaBS use in clinical assessment may identify people according to pain-behavior severity, or those at increased risk of developing disability.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The (FIFA) 11+ Referees Injury Prevention Program In Reducing Injury Rates Among Soccer Referees And Assistant Referees

Wesam Saleh A. Al Attar, Mario Bizzini, Fahad Alkabkabi, Nasser Alshamrani, Saud Alarifi, Hosam Alzahrani, Hussain Ghulam, Eman Aljedaani, Ross H. Sanders.

Department Of Physical Therapy, College Of Applied Medical Sciences, Umm Al Qura University, Makkah, Saudi Arabia. 2. Discipline Of Exercise And Sport Science, Faculty Of Medicine And Health Sciences, The University Of Sydney, Sydney, NSW, Australia. 3. Department Of Sport, Exercise And Health, Faculty Of Medicine, University Of Basel, Basel, Switzerland.

## Abstract

Background: The Fédération International de Football Association (FIFA) 11+ Referees Injury Prevention Program is a structured warm-up program aimed to improve muscular strength, body kinesthetic awareness, and neuromuscular control during static and dynamic movements and specially designed to prevent injuries among soccer referees and assistant referees. Objective: This study aimed to investigate the effectiveness of the FIFA 11+ Referees Injury Prevention Program in reducing injury rates among soccer referees and assistant referees. Methods: A cluster randomized controlled trial was conducted. Two hundred male amateur soccer referees and assistant referees (31.6±4.1) participated in this study. The participants were randomly allocated into experimental and control groups. The experimental group performed the FIFA 11+ Referees Injury Prevention Program as a warm-up during training sessions for at least twice a week, and the members of the control group performed their usual warm-ups. Participants were prospectively followed during one season. The primary outcome measure was the incidence of initial injury and the incidence of recurrent injury. The secondary outcome measure was the rate of compliance to the FIFA 11+ Referees Injury Prevention Program. Results: A total of 24 injuries were reported amongst 100 referees in the control group in 16606 hours of exposure (1.45 injuries/1000 exposure hours), and a total of 9 injuries were reported across 100 referees within the experimental group in 17834 exposure hours (0.50 injuries/1000 exposure hours). The Injury Risk Ratio (IRR) was 0.35 (95% Confidence Interval (CI) 0.26 to 0.45). This result indicated that the injuries in the experimental group reduced by 65% when compared to the control group. Conclusion and Clinical Relevance: This study established evidence that the FIFA 11+ Referees Injury Prevention Program is effective in reducing the incidence of injury in male soccer referees and assistant referees. The version produced for referees is a concise and comprehensive strategy for referees to avoid injuries during soccer matches.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Treatment Preferences of Patients with Chronic Low Back Pain in Physical Therapy Clinics in Saudi Arabia: A Cross-Sectional Study

Maryam Alasfour, Majd Bajnaid, Salha Hobani, Muhammad Alrwaily

Riyadh First Health Cluster- MOH

**Abstract**

Background: Low back pain (LBP) is one of the most common musculoskeletal disorders, causing substantial disability and requiring healthcare intervention. Implementing clinical practice guidelines (CPGs) for patients with LBP may improve clinical outcomes. Furthermore, CPGs need to consider patient preferences to promote patient-centered care. Objectives: This study aimed to explore the physical therapy treatment preferences of patients with chronic LBP, determine whether they meet the clinical guideline recommendations, and examine the effect of general education on their preferences. Methods: Convenience sampling was used in this cross-sectional survey-based study conducted in Saudi Arabia. Patient preference was measured using a predesigned questionnaire listing all available physical therapy treatments for chronic LBP. Patients were asked to choose the best treatment for their case based on their preferences. The participants had an education session explaining the best treatment for their case per the updated CPGs for LBP. Results and Conclusion: In total, 138 participants were enrolled. Among all treatment options selected by the participants, 60.1% were recommended according to CPGs ($p < .001$). A significant change was observed in the treatment preference between the pre- and post-educational phases ($p < .001$). Thus, education should be promoted, and patient preferences should be considered during treatment decision-making to enhance clinical outcomes. Clinical relevance: • Implementing clinical practice guidelines in patients with low back pain may improve clinical outcomes. • Patient preferences should be considered during the treatment decision-making process to improve clinical outcomes in patients with chronic low back pain..


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Prediction of Factors Affecting Mobility in Patients with Stroke and Finding the Mediation Effect of Balance on Mobility: A Cross-Sectional Study

Fayaz Khan, Aljowhara Alfuraidy, Khadeeja Nimatallah, Raghad Almalki, Rafa'a Basaffar, Mawada Mirdad, Mohamed Faisal Chevidikunnan, Sami Abusharha.

Department of Physical Therapy, Faculty of Medical Rehabilitation Sciences, King Abdulaziz University, Jeddah 21589, Saudi Arabia

## Abstract

Background: Regaining mobility after stroke is essential to facilitate patient independ- ency in activities of daily living. Predicting post-stroke mobility is clinically important and plays a significant part in rehabilitation programs. The purpose of this study is to find the factors affecting mobility in patients with stroke and to analyze the mediation effect of balance on mobility. (2) Meth- ods: This cross-sectional study included forty-one patients with stroke averaging an age of 57.2 ± 88.6. The Rivermead Mobility Index (RMI) was used for measuring the mobility, Timed Up and Go (TUG) to measure the walking speed, Berg Balance Scale (BBS) to assess the balance and a handheld dynamometer (HHD) was used for measuring the isometric strength of the ankle and knee. (3) Re- sults: In regression analysis balance (β = 0.58; $p \leq 0.0001$) and walking speed (β = −0.27; $p = 0.04$) were the significant factors predicting mobility. (4) Conclusions: Balance and gait speed were the factors that influenced mobility in stroke patients, indicating the utility of measuring these as- pects in order to provide appropriate rehabilitation programs.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Empowering Frail Older Adults: A Systematic Review and Meta-Analysis of Virtual Reality Training for Balance, Strength, and Mobility at Home

Hammad S. Alhasan, Elaf Alandijani, Lara Bahamdan, Ghofran Khudary, Yara Aburaya

Medical Rehabilitation Department, Faculty of Applied Medical Sciences, Umm Al-Qura University, Mecca, Saudi Arabia.

## Abstract

Background: Frailty is a significant concern for older adults, it involves a decline in physiological systems, leading to increased vulnerability to falls, hospitalization, and mortality, necessitating effective interventions and one promising approach is the use of Virtual Reality (VR)-based exercises. Objective: To systematically review all published studies investigating the effect of VR as a home-based training modality to improve balance, strength, and mobility in frail and pre-frail older adults. Data Source: Three databases were searched, Scopus, Web of Science, and PubMed, from inception to November 2023. Eligibility Criteria: Frail and pre-frail older adults aged 65+. Interventions were any VR training. Outcome measures were balance, strength and functional mobility as measured by any validated outcome measure. Results: Six articles were included, involving 407 participants with a mean age of 68 ±4.4 years. The mean duration of VR sessions was 13.3 ±7.7 weeks, mean total number of sessions was 39.6 ±5.2 sessions, and the mean length of each session was 25.3 ±5 minutes. Meta-Analysis: VR group demonstrated significant improvements on the Berg Balance Scale compared to both traditional exercise and control groups (mean difference [MD] = 3.62; 95% confidence interval [CI] 2.29 to 4.95; $P < 0.001$; $I2 = 0\%$). However, non-significant effects were found on Timed Up and Go and Chair Stand tests. Limitation: Definitive judgement on VR effect on frail and pre-frail older adults is limited due to heterogeneity in interventions, training duration, and outcome measures. Conclusion: VR training enhances balance but yields inconsistent effects on strength and mobility. Further research is required to refine VR interventions for frail older adults. Registration Systematic Review: PROSPERO registration number: CRD42023478330. Keywords: Frail older adults, balance, strength, functional mobility, home-based training, virtual reality, exergames.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Prevalence and Predictive Factors of Female Sexual Dysfunction in Saudi Arabia: A Cross-sectional Study

Maysoon Alhaizan, Ghadah Algudairi

Department of obstetrics and gynecology, King Saud University, Riyadh, Saudi Arabia

## Abstract

Background: Female Sexual Dysfunction (FSD) adversely affects multiple aspects including quality of life, interpersonalrelationships, and self-esteem. It takes different forms, including lack of sexual desire, impaired arousal, inability to achieveorgasm, and pain with sexual activity. It is reported in approximately 30-60% of females worldwide. FSD has not been adequatelyinvestigated in Saudi Arabia for several reasons. Objective: To assess the prevalence and predictors of FSD in a community-based sample of Saudi women. Method: This cross-sectional study included a convenience sample of Saudi women aged 20 years or older who were sexually active. Data were collected using a validated questionnaire consisting of multiple variables, including female demographic data and the Female Sexual Function Index [FSFI]. The Validated Arabic version of the FSFI [ArFSFI] was used to assess FSD. Results: A total of 822 participants were included and a total of 459 (55.8%) had FSD (FSFI ≤26.55). FSD was positivelyassociated with taking medications, especially antidepressants ($p<0.001$), longer duration of marriage ($p<0.001$), higher numberof deliveries ($p<0.001$), menopause ($p=0.001$), need for lubricants ($p<0.001$), encountering sexual assault ($p=0.042$), and lowerratings of relationships with partners ($p<0.001$). The domain with the lowest score was desire (3.47±1.22), followed by arousal(3.76±1.48), orgasm (4.04±1.61), pain (4.24±1.54), satisfaction (4.24±1.60), and lubrication (4.35±1.39). Conclusion: The estimated prevalence of FSD in Saudi women is 56%. Desire and arousal were the most significantly affecteddomains, followed by orgasmic problems. The most important risk factor for FSD is antidepressant use. More studies that implementstructured interviews with both partners to examine risk factors and predictors are strongly warranted. Clinical relevance: It is essential to educate women about the types of FDS and overcome cultural barriers to provide a better quality of life.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Test-Retest Reliability of Pain Sensitivity Measures in Individuals with Shoulder Pain

Rani Othman, Abdulrahman Mohammed Bajaber, Anas Mohammed Alhabshi, Majed Albadi, Rawan Aldhabi, Muataz Almaddah , Abdullah Alqarni

Physical Therapy Department, King Abdulaziz University, Jeddah, Saudi Arabia.

## Abstract

Background: Central sensitization (CS) has been proposed as a possible contributor to persistent shoulder pain. Measures of sensitivity, such as quantitative sensory tests (QSTs) and sensitivity to movements evoked pain (SMEP), have been increasingly used to investigate CS in a wide range of painful conditions. However, there is a lack of data on whether QST and SMEP are reliable among individuals with shoulder pain. Therefore, the present study aimed to investigate the intra-rater test-retest reliability of QST and SMEP in individuals with chronic shoulder pain. Materials and methods: Forty-seven individuals with chronic shoulder pain were enrolled in the study. The QST measures, including pressure pain threshold (PPT) and mechanical temporal summation (MTS), were tested, and SMEP was measured with a lifting task. Relative and absolute reliability were analyzed using intraclass correlation coefficients (ICC 3,1) and standard error of the measurement (SEM), respectively. Results: The results showed that the ICC coefficients for all sensitivity measures were moderate to good, ranging from 0.63 to 0.86. The SEM% for the QST measures at all sites ranged from 21.4% to 36%, with TS at the forearm demonstrating a high SEM% (greater than 30%). The SMEP measure also showed a high SEM% (46%). Conclusion: The results showed that the sensitivity measures had moderate to good reliability among individuals with shoulder pain. Acceptable limits of accuracy of measurements were demonstrated for TS and PPT measures, while SMEP demonstrated high error, highlighting the need for further refinement of this measure among these populations..


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Assessment Of Muscle Strength, Physical Performance and Health Related Quality of Life in Post Covid-19 Syndrome

Salwa Humedi, Masheal Alotaibi, Waleed Salah

Department of Physical Therapy and Health Rehabilitation, College of Applied Medical Sciences, Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia. Department of physiotherapy, rehabilitation centre, Jazan specialty hospital, Ministry of health, Jazan, Saudi Arabia . Department of Physical Therapy and Health Rehabilitation, College of Applied Medical Sciences, Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia[1]. Department of physiotherapy, King Khalid Hospital, Ministry of Health, Al-Kharj, Saudi arabia.

## Abstract

Background: The burden of COVID-19 extended beyond its acute phase, with long-term consequences becoming increasingly evident in subsequent years. Post-COVID-19 syndrome affects individuals even after recovery, with symptoms including joint pain, muscle weakness, and decreased physical performance. This study aimed to assess functional abilities, muscle strength, and quality of life in patients who have recovered from COVID-19. Method: This cross-sectional study involved 55 participants with History of COVID-19, at least 3 months since the recovery. Data were collected via Tawakkalna, patient's interview, and physical performance tests. The participants were recruited in physical therapy departments and public sittings. The primary outcome measure included the assessment of muscle strength by Camry Digital Handgrip Dynamometer, and physical performance was measured by 1-minute sit-to-stand test (1 MSTS) and time-up-and-go test (TUG). The secondary outcomes measures were a self-reported questionnaire. The Arabic translation of the SF-12 questionnaire was used to assess the health-related quality of life, and the Arabic translation of Patient Health Questionnaire-9 (PHQ-9) was used to assess depression. Result: Among the 55 participants (41 female, 14 male; mean age: 31.72 years), 46 (84%) reported musculoskeletal symptoms, with pain and fatigue being the most common. Participants were categorized by their recovery period. There was no relationship between the recovery periods and musculoskeletal symptoms. Grip strength was significantly correlated with 1MSTST in both genders. Health-related quality of life, SF-12 physical ability score showed improvement with recovery time but there was no association between mental abilities score and the recovery time. Conclusion: Grip strength is associated with physical performance, as weakness may indicate a decline in physical performance. While the physical ability score in SF-12 shows improvement with recovery time, mental ability does not seem to improve with time.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Weight-Bearing And Mobilisation Timing After Hip Fracture Surgery: An International Survey Of Clinicians' Perspectives

Ruqayyah Turabi, Matthew DL O'Connell, David Wyatt, Chris Bretherton, Simon Cannon, Celia L Gregson, Iain Moppett, Lynn McNicoll, Katie J Sheehan

Department of Population Health Sciences, School of Life Course and Population Sciences, King's College London, London, United Kingdom / Department of Physical Therapy, College of Nursing and Health Sciences , Jazan University, Jazan, Saudi Arabia

## Abstract

Purpose This exploratory study aimed to describe the extent to which mobilisation timing and weight-bearing after hip fracture surgery vary globally and between high-income countries (HICs) and low- and middle-income countries (LMICs) and identify the possible reasons for this variation. Methods This international cross-sectional study was delivered via an online, English-language, self-administered questionnaire. Healthcare professionals from diverse multidisciplinary teams were invited to participate through professional organisations, including the Fragility Fracture Network, social media, and by snowballing from key stakeholders. Results In total, 389 healthcare professionals responded from across 71 countries. 72.5% reported prescribing mobilisation on the day after surgery, with a higher proportion in HICs (79.1%) than LMICs (56.3%). Where early mobilisation was prescribed, 38.3% reported achieving this 76-100% of the time, more often in HICs (42.9%) than LMICs (21.9%). Overall, 73.5% reported prescribing unrestricted weight-bearing, more often in HICs (86.3%) than LMICs (41%). Where unrestricted weight-bearing was prescribed, 50.4% reported achieving this 76-100% of the time, with a higher proportion in HICs (54.0%) than LMICs (31.9%). Multiple patient-related, process-related, and structure-related barriers were reported, with structure-related barriers more common in LMICs than HICs, underscoring the global complexities in implementing these practices. Conclusion This study is the first to offer insights into global variations in the timing of mobilisation and weight-bearing after hip fracture surgery in older adults. It demonstrates disparities between HICs and LMICs in postoperative services and resources. It lays the groundwork for future studies and highlights the importance of international collaboration and knowledge exchange in improving postoperative care services.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Symptom or Disease: Chronic Pain is Misunderstood

Rachid El Khoury

Saint Joseph University Beirut Lebanon. / Sultan Bin Abdulaziz Humanitarian City

## Abstract

Background: Chronic pain is a major global health issue, and our understanding of its underlying causes and mechanisms has improved in recent years. However, there is still a lack of knowledge regarding why chronic pain develops in some individuals and not in others. Despite the advancements in pain science, many healthcare professionals still rely on a reductionist approach to managing chronic pain. Research Aim: This study aims to address the misconceptions and misperceptions surrounding chronic pain concepts among clinicians. It seeks to bridge the gap between current knowledge in pain science and its application in clinical practice. Methodology: The research is based on the author's extensive clinical experience, teaching background, and post-professional training in pain management. The study draws on over 30 years of practical knowledge and expertise in the field. Findings: The study highlights the limitations of the bio-reductionist approach in managing chronic pain. It emphasizes that pain is not solely dependent on nociception but is influenced by various neurobiological, environmental, and cognitive factors. The findings underscore the importance of adopting a biopsychosocial model of pain management and incorporating recent developments in pain science into clinical practice. Theoretical Importance: This study contributes to the field by shedding light on the misconceptions surrounding chronic pain and the need for a shift in the approach to its management. It emphasizes the importance of considering the role of the brain, the immune system, and cognitive and behavioral factors in understanding and treating chronic pain. The research challenges the prevailing bio-reductionist model and advocates for a more holistic approach to pain management. Data Collection and Analysis Procedures: The data for this study were collected through the author's extensive clinical experience, teaching, and post-professional training. The analysis was based on the author's observations and reflections in the field of pain management. Question Addressed: The study addresses the question of why chronic pain develops in some individuals and not in others. It also seeks to understand the misconceptions surrounding chronic pain concepts among clinicians and proposes ways to bridge the gap between pain science and clinical practice. Conclusion: This study highlights the need for a paradigm shift in our understanding and management of chronic pain. It emphasizes the importance of considering multiple factors beyond nociception and advocates for a biopsychosocial model of pain management. By clarifying misconceptions and promoting clinical awareness, this research aims to improve the overall treatment outcomes for individuals suffering from chronic pain. Clinical relevance: This study adds to the existing literature by challenging the prevailing bio-reductionist model of pain management and advocating for a more comprehensive approach.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Design of a Motor Intervention, for Use in the Management of Attention Deficit and Hyperactivity Disorder (ADHD) and Developmental Co-ordination Disorder (DCD).

PMT Dawson, T. Nadasan, P. Govender.

Sultan Bin Abdulaziz Humanitarian City.

## Abstract

Background: ADHD is a common neurobehavioral disorder. Studies have revealed that children with ADHD, frequently experience motor co-ordination difficulties. ADHD is conventionally treated with neuro-pharmacological medication and psychotherapy. The influence of this management, on the motor symptoms, has not yet been established. Several studies have investigated the management of co-morbid ADHD and DCD, using a combination of various neuro-motor treatments with the conventional treatment of ADHD. However, a gold standard treatment, for the management of co-morbid ADHD and DCD, does not exist at present. Physical exercises have significant somatic, cognitive, educational and behavioural benefits. The facts presented above have been the motivation to design the exercise intervention, presented in this study. Aims/Objectives: To design and obtain consensus on a motor intervention, that addresses both motor and cognitive symptoms of co-morbid ADHD and DCD. Method: A motor intervention was designed, based on 5 conceptual frameworks, the literature and clinical experience. This was validated by a three-phase, modified Delphi process (Using Likert scales and polar questions), by several experts, in the field of neuro-paediatrics. This was undertaken in South Africa. RESULTS: Consensus on the structure and content of the motor intervention was achieved. A well-designed, well-illustrated exercise (content, structure, frequency, duration, repetitions and equipment needed) intervention was the result. Conclusion: A motor intervention is presented, which can be used to manage the symptoms of co-morbid ADHD and DCD. Such an intervention is innovative in the treatment of these two conditions, in co-morbidity and can be administered globally.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Prevalence Estimations of co-morbid Attention Deficit Hyperactivity Disorder (ADHD) and Developmental Co-ordination Disorder (DCD) in Children aged 8 to 9 in Kwazulu Natal, South Africa

PMT Dawson, T. Nadasan, P. Govender.

Sultan Bin Abdulaziz Humanitarian City.

## Abstract

Background: Children diagnosed with ADHD often encounter motor co-ordination difficulties. Little is known about the extent of this and motor difficulties are thus, often left untreated. This deficit in management is what precipitated this study. Aims/Objectives: The purpose of this study was to establish the prevalence and demographics of co-morbid ADHD and DCD, in South Africa. By demonstrating the extent of the co-morbidity, a more holistic approach to management thereof, would be investigated and subsequently provided. Methods: Clinical experience indicated, that children had symptoms of ADHD and of DCD, in co-morbidity. A descriptive, observational study was undertaken, on 151 children, aged 8 to 9 years, in South Africa. Children were clinically diagnosed with ADHD. The diagnosis of ADHD was confirmed with a teacher-rated Conners' score and the diagnosis of DCD, was confirmed with a parent-rated DCD Questionnaire and a therapist-administered Motor Assessment Battery for Children (MABC). The prevalence percentage of co-morbidity was calculated and the demographics of the co-morbid population were presented. RESULTS: A 74% prevalence of co-morbidity was identified, with a male to female ratio of 2:1. The combined type of ADHD was commonly associated with co-morbid DCD. Conclusion: The relatively high prevalence figure, shows that there is an association between ADHD and DCD. Thus, children with ADHD should be assessed for motor skill deficiencies and offered the appropriate intervention/s. This study can be repeated anywhere in the world, as globally used outcome measures/tests, were administered.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Evaulation Of The Current State Of Physical Therapy Mobile Applications

Bader Alrokan, Saad Alhammad, Nasser Alnuwaiser, Rakan Aljuhani

King Saud University

## Abstract

Background: Smartphones and mobile technology have become omnipresent. Mobile health (mHealth) a defined as software programs focused on health and well-being for mobile devices, have become integral ir healthcare system. The widespread availability and enhanced quality of mHealth applications have expec the integration of telerehabilitation services into clinical practice. Objectives: This study aims to evaluate quality of physical therapy mobile applications available in Apple's App Store and Google Play Store, provi valuable insights that can guide the development of future applications. Methods: A comprehensive searc the Apple App Store and Google Play Store was conducted using terms related to physical therapy, suc "Physical Therapy", "Physiotherapy", "Rehabilitation", and "Rehab". Applications were included if they v free, available in Saudi Arabia, and offered in English or Arabic with visual exercise demonstrations. Out c apps initially identified, only 6 met the criteria for a complete quality assessment using the Mobile App Ra Scale (MARS). Results: The evaluation revealed a significant variety in quality among the apps. Notable apps Sport Injury Rehabilitation and PREHAB scored highly on engagement and aesthetics, while Rehab Lower Li showed poor performance across all categories. The absence of Arabic-language applications was a signifi finding, highlighting a gap in digital rehabilitation tools for Arabic-speaking populations. Conclusions: The s underscores a substantial lack of high-quality physical therapy applications, in addition to the absence c application in the Arabic language. The identified disparities in app quality emphasize the importanc developing tailored mHealth solutions that meet the specific needs and preferences of the local popula Clinical Relevance: Addressing the gap in quality and language availability could significantly enhance pa engagement and rehabilitation outcomes in Saudi Arabia, aligning with the broader goals of impro healthcare accessibility and efficiency through digital solutions.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Bridging the gap: Physical Therapists' perspectives on Mobile Applications and Teletrehabilitaion

Nasser Alnuwaiser, Saad Alhammad, Bader Alrokan, Rakan Aljuhani

King Saud University

## Abstract

Background: Digital health technologies are increasingly recognized within the international physical therapy community for their potential to enhance patient access, empower self-management, and reduce healthcare costs. However, limited technological proficiency and security concerns may hinder widespread adoption. Objectives: This study aims to explore perceptions of mobile physical therapy applications, including telerehabilitation, among physical therapists in Saudi Arabia, focusing on their integration into clinical practice. Methods: An electronic questionnaire was disseminated via social media platforms to physical therapists. The questionnaire collected demographic data, previous and future usage of physical therapy apps, and views on integrating telerehabilitation into practice. Results: The survey gathered 373 responses, predominantly from physical therapists in Riyadh, Saudi Arabia. About 45.6% of respondents were aware of existing PT applications, yet only 27.3% of those had utilized them. Notably, 93.6% expressed interest in incorporating PT applications into their practice, particularly for orthopedic and sports-related conditions. Preferred features included exercise demonstrations, educational content, and patient progress tracking. Ease of use and availability of the Arabic language was critical for adoption. Additionally, 70% of therapists were familiar with telerehabilitation, highlighting potential benefits such as improved patient satisfaction and engagement, despite some reservations about patient familiarity and the preference for in-person visits. Conclusions: The findings of this study indicate a strong inclination among physical therapists to integrate mobile applications and telerehabilitation into their practices, aligning with Saudi Arabia's Vision 2030 healthcare goals. The study underscores the critical need for user-friendly, Arabic-enabled PT applications, developed locally, to enhance clinical outcomes and patient engagement. Clinical Relevance: As Saudi Arabia progresses towards an e-health driven healthcare model, the potential benefits of embracing mobile health technologies in physical therapy could significantly advance patient care delivery and professional efficiency, addressing both clinical and operational healthcare challenges in the region.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Exercise Improves Cardiorespiratory Fitness, But Not Arterial Health, After Spinal Cord Injury: The CHOICES Trial

Abdullah Alrashidi, Tom E. Nightingale, Katharine D. Currie, Michèle Hubli, Maureen J. MacDonald, Audrey L. Hicks, Paul OH, Beverley Catharine Craven, Andrei V. Krassioukov

King Fahad Medical City, International Collaboration On Repair Discoveries

## Abstract

Background and Objectives: Arterial stiffness, as measured by carotid-femoral pulse wave velocity (cfPWV), is elevated after spinal cord injury (SCI). In the uninjured population, exercise training has been shown to reduce arterial stiffness. Methods: In a randomized, clinical multicenter trial, we evaluated the impact of two exercise interventions on cardiovascular disease risk factors in individuals with chronic SCI. A total of forty-six adults with motor-complete SCI with neurological levels of injury between the fourth cervical and sixth thoracic spinal cord segments were randomly assigned to either body weight-supported treadmill training (BWSTT) or arm-cycle ergometer training (ACET). Participants trained 3 days per week for 24 weeks. Exercise session duration progressed gradually to reach 30 and 60 minutes for ACET and BWSTT, respectively. The primary outcome was arterial stiffness, measured by cfPWV, and was measured at baseline, 12 weeks of training and at 24 weeks. Secondary outcomes included cardiorespiratory fitness (CRF) and cardiometabolic health measures and were measured before and after completion of training. Results: Fourteen participants per intervention arm completed the exercise intervention. Our results show no effect of either exercise intervention on arterial stiffness (P = .07) and cardiometabolic health measures (P>.36). However, peak oxygen uptake, a measure of CRF, increased with ACET compared with BWSTT (P = .04). Conclusion: The findings of this trial demonstrate that while 24 weeks of upper-body exercise improved CRF in individuals with motor-complete SCI ≥ T6, neither intervention was associated with improvements in arterial stiffness or cardiometabolic health measures.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Designing rehabilitation program for persons's with spinal disorders

Abdulhameed M Alduheshi

Phyziofit physiotherapy and performance center

## Abstract

One of the basic aims of spinal and musculoskeletal rehabilitation is to progress the client from acute injury phase to a state of full function. According to the World Health Organization's revised guidelines on disability , the goal of health care is to enable patient to return to participation and independent functioning in their chosen activities. The goal of care should shift from relief of symptoms to reduction of activity intolerances associated with pain. The specific outcomes used to measure progress toward these goals are the patients' activity intolerance in their home, recreational activities, or occupational activities. The medical and rehabilitation process should not just manage the painful episode , but also target and contain the recurrence risk factors. The primary goals in patient care or athletic development are to decrease activity intolerance, reduce pain, promote fitness, and prevent injury.. Each patient' need is unique, to determine these require an empirical process involving testing, correcting, and retesting Understanding the science of pain, biomechanics, functional neuroanatomica, when blended together with science of training is the way optimal performance. In many cases the way the training programs are organized causes detriments to performance. The aim of training is to promote athletic development and durability (e.g; injury prevention) so as to enhance performance . The human body provides a remarkable example of how adaptation follows stimulus, and this construct provides the central plank upon which training and rehabilitation programs are designed. The aim of (re)training is to provide the correct environment whereby an accumulation of cell signaling, hormonal, neural, and immune responses lead to the neuroendocraine-immuno-musculoskeletal (biologic )adaptations required for functional enhancement (specific task) . The challenge in training is finding the right balance between intensity and recovery to build athletes up without inadvertently breaking them down and learning how to give people tangible hope and an achievable plan by giving them a positive experience with movement is a major challenge. The best approach to training is one that progressive, planned and monitored. PTs need to focus on inserting highly "specific" fancy and over complicated movement and focus more on thoughtfully manipulating the dose of exercise to the patient and adjusting as the patient accommodates overtime. Building load tolerance is a powerful alternative to traditional rehabilitation approaches. In this presentation, we will try to review scientifically proven studies of training methods and benefit from them to design a comprehensive rehabilitation program for persons with spinal disorders.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Implementation Of Motor Learning Principles In Neurorehabilitation Among Saudi Physical Therapists

Maha Almarwani, Nada Aldawsary

Department of Health Rehabilitation Sciences, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia

## Abstract

Background: Despite earlier recognition of the importance of motor learning principles in neurorehabilitation, research suggests that the motor learning principle is not being entirely utilized in neurorehabilitation. Implementation of motor learning principles has been associated with functional recovery and patient satisfaction. Objective: To examine implementation of motor learning principles in neurorehabilitation among Saudi physical therapists including self-efficacy, current practice, attitude and barriers. Methods: A cross-sectional survey of physical therapists managing patients with neurological conditions was conducted (n = 345). The survey questionnaire contained items to evaluate self-efficacy, current practice, attitude and barriers toward implementing motor learning principles in neurorehabilitation. Results: The data from the respondents indicated that they had moderate self-efficacy to implement motor learning in neurorehabilitation. Only 30.2% of respondents implement motor learning in their practice to a high degree and some respondents were unaware of the concepts of motor learning. The most reported perceived barriers to motor learning implementation in neurorehabilitation were at the level of the physical therapist (lack of knowledge) and the organization (lack of time). Conclusion: Implementation of motor learning principles among Saudi physical therapists managing patients with neurological conditions was moderate. Self-efficacy, positive attitudes, academic training and organizational support are potential strategies to enhance implementation.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Reassurance Regarding Educational Messages In People With Non-Specific Low Back Pain: A Cross-Sectional Study

Dalia Alamam, Asma Alrushud, Faris Alodaibi, Ahmed Alhowimel Raghad Almarzouq, Raneem Alangari, Sara Bin Khunain, Waad Alosaimi, Sara Almoheidib

College of Applied Medical Sciences, Health Rehabilitation Sciences, King Saud University, Riyadh, Saudi Arabia

## Abstract

Educational messages related to Low back pain (LBP) are often contradictory and drive maladaptive beliefs, as they conflict with the latest research evidence. This study aims to examine participants' reassurance levels in relation to educational messages regarding LBP among the Saudi population with the condition compared to those without it, and to assess the association between levels of reassurance and fear avoidance. Methods A list of 13 educational messages about LBP was generated from LBP-educational resources in Saudi Arabia, and from expert consensus on a set of evidence-based key messages for people with LBP. Consented respondents with LBP of various durations and those without the condition completed a questionnaire containing questions on demographic characteristics, the absence or presence of LBP and its intensity, and the fear-avoidance beliefs questionnaire (FABQ). We also asked them to rate their level of perceived reassurance regarding the educational messages using a Likert-type scale from 0 to 10. Results Participants (n = 1652) reported that the 13 educational messages had reassured them about LBP. However, there was no significant difference between participants with and without LBP ($p \geq 0.05$). There was an overall weak association between the responses to the 13 educational messages and the fear-avoidance questionnaire. However, reassurance levels regarding most of the educational messages were negatively associated with the FABQ. Discussion and conclusion We demonstrate that people with and without LBP need reassurance about the condition. Furthermore, we show that as reassurance increases, fear-avoidance decreases, confirming the complex nature of LBP.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Schroth Scoliosis Therapy

Alaa Bazaid

Ministry of national gaurd

## Abstract

Scoliosis, characterized by an abnormal three dimensional curvature of the spine, affects millions worldwide, often resulting in physical discomfort and aesthetic concerns. Early detection and intervention are crucial for managing this condition effectively and improving patient outcomes. PT. Alaa Bazaid, an accomplished physical therapist, has 16 years of clinical experience, has dedicated his career to advancing scoliosis management through conservative approaches. Trained under leading experts in Schroth techniques from Denmark, Canada, and Germany, PT. Bazaid brings a wealth of knowledge from prestigious global institutions. His expertise allows him to employ the most advanced methodologies in treating scoliosis without the need for surgical intervention. In this presentation, PT. Bazaid will share his experience and strategies for raising awareness among rehabilitation team about the critical role of conservative management, particularly for patients with a spinal curvature of 45° or less. He will discuss his approach to decelerating or preventing further curvature progression, stabilizing spinal corrections in three dimensions, and enhancing chest mobility and respiratory function. Additionally, he will highlight his methods for improving trunk symmetry and aesthetics, promoting postural awareness and control, and developing personalized home exercise programs. PT. Bazaid will also address his efforts in supporting patients who require brace treatment, ensuring that it is as effective and comfortable as possible. Through his work, he aims to empower scoliosis patients to manage their condition effectively, enhance their quality of life, maintain long-term spinal health, and reduce the need for surgical intervention. This presentation will underscore PT. Bazaid's commitment to improving scoliosis care and his ongoing efforts to educate the medical community on the benefits of conservative treatment.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Prevalence of Fall and Fear of Falling Among Older Adults with Cardiovascular Conditions: A Cross-Sectional Study

Maha Almarwani, Worood Alharbi, Taghreed Alotaibi, Nujud Halawi, Rehab Aldaghmani

Department of health rehabilitation science, college of applied education sciences, king saud university

## Abstract

Background: Fall are a significant global health concern among older adults, contributing to substantial morbidity and mortality rates. Fear of falling, a common consequence, can lead to functional impairments and a decline in quality of life. Older adults with cardiovascular conditions are particularly vulnerable to falls and associated fears due to various risk factors, including comorbidities, medication effects, and cardiac-related symptoms. Objective: This study aimed to examine the prevalence of fall and fear of falling among older adults with cardiovascular conditions in Saudi Arabia. Methods: A cross-sectional study involving 100 older adults (aged 65+) with cardiovascular conditions was conducted. Data on falls, fear of falling assessed using the Falls Efficacy Scale-International, comorbidities evaluated through the Charlson Comorbidity Index, depression measured with the Geriatric Depression Scale, balance assessed using the Berg Balance Scale, and gait speed measured with the 5-meter gait speed test were collected. Logistic and linear regression analyses were employed to explore associations between these variables and falls as well as fear of falling. Results: Among the participants, 32% reported experiencing a fall in the past 12 months, with common consequences including bruises. The mean fear of falling score was 26.5. Univariate and multivariate analyses revealed significant associations between falls and fear of falling, depression, balance, and gait speed. Notably, fear of falling was identified as a key predictor of falls, with a substantial impact on fall risk. Conclusion: Fall and fear of falling were prevalent among older adults with cardiovascular conditions. Fear of falling is strongly associated with poor physical function, depression and fall history. The results of this study could be used in future studies to look into additional potential factors that interact with fall and fear of falling and to examine the findings of this study in greater depth. Clinical Relevance: Findings from this study provide critical insights for healthcare professionals working with older adults with cardiovascular conditions, emphasizing the need for proactive screening, tailored interventions, and comprehensive fall prevention strategies to improve the well-being and quality of life of this population.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Effect of Whole-Body Vibration Combined with Exercise Program in Female Patients with Chondromalcia: a randomized controlled trial

Anwar Abdelgayed Ebid, Farah O. Almuqati, Revan Salem Alammari, Ghada Jameel Thiga, Maria Ahmad Alsaedi , Leen Khalid Bahamdain

Professor physical therapy, Collage of applied medical sciences, Umm Alqura university

## Abstract

Background: Patellofemoral joint dysfunction currently accounts for most acute and chronic knee problems diagnosed in orthopedic and physical therapy clinics. The most reported knee symptom is a dull aching pain in the peripatellar area, localized to the front of the knee. Objective: The aim of this study was to assess the influence of whole-body vibration (WBV) training combined with an exercise program on both pain and quadriceps isometric muscle force in adult females with chondromalacia patellae (CMP). Design: Randomized, controlled design. Methods: Forty older healthy female volunteers were selected to participate in the study. Participants were randomized into two groups consisting of 20 participants in the whole-body vibration (WBV) group and 20 participants in the exercise (EX) group. The WBV group received a 4-week WBV training program, 3 times/week alongside with an exercise program while the EX group received 4-weeks exercise program without WBV. The primary outcome measures, evaluated at both baseline and at the end of the 4-week included pain intensity assessed using a visual analogue scale (VAS) and quadriceps isometric muscle force measured by Hand Held Dynamometer. Results: The WBV training group exhibited significantly greater enhancements than the EX group in terms of mean values and percentage changes in pain intensity and quadriceps isometric muscle force. Specifically, the percentage changes for the WBV group were as follows: pain intensity (60%), quadriceps isometric muscle force (41%). In contrast, the EX group percentage changes were (57%) for pain intensity and (15%) for quadriceps isometric muscle force. Conclusion: The addition of WBV to exercise yields significantly superior outcomes compared to exercise training alone in CMP. The observed disparities between the WBV training group and the EX group 4 underscore the efficacy of WBV as a potent physical therapy intervention for the rehabilitation of CMP patients, particularly in enhancing strength gains and decreasing pain. Keywords: Whole Body vibration; Chondromalacia patellae; Strengthening exercises.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Association between Physical Function Decline and Fall Risk in Older Adults with Knee Osteoarthritis

Manar M. Alshahrani, Maha M. Almarwani

King Saud university

## Abstract

Background: Knee Osteoarthritis (OA) is a chronic musculoskeletal disease that affects older adults globally. Falls among older adults represent a critical health issue, constituting a well-known public health concern. Knee OA is one of the major contributors to disability and is recognized as a significant risk factor for falls. Knee OA is characterized by a substantial decline in physical function. Objectives: This study aimed to examine the relationship between physical function decline (mobility, strength, and gait speed), and the risk of falls in older adults with knee OA. Methods: This study was a cross-sectional recruited participants from outpatient physical therapy clinics in Saudi Arabia. The participants were Saudi older adults aged > 60 diagnosed with knee OA and referred to a physical therapy clinic. Fall risk was assessed by the stay-independent self-risk assessment. For physical function assessment the Timed Up and GO test (TUG), the 30-s Chair Stand test (30s-CST), and the 4 m walk test at normal gait speed were utilized. The association was assessed using Spearman correlation coefficients. Results: Sixty-two participants were recruited. The mean age was 64.6, and 84% of them were at risk of falls. A positive significant correlation was found between the stay-independent total score and TUG (rho=0.60; P<0.001). Furthermore, the stay-independent showed a moderate negative correlation with 30s-CST (rho=-0.51; P<0.001), and a similar moderate negative correlation with the 4m walk test at normal gait speed (rho=-0.40; P<0.001). Conclusion: The risk of falls and physical function decline showed a significant association in Saudi older adults with knee OA. Clinical relevance: This study may contribute to the knowledge and practice of physical therapists, providing valuable insights into managing older adults with knee OA, evaluating fall risk, and implementing effective fall prevention strategies.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Perception, Awareness and Experience of Patient with knee Osteoarthritis on Physical Therapy: A Qualitative study.

Moayad Al-Subahi., Eyad Maher Dahlawi, Tamim Sami Alsulimani, Abdulrahman Hamid Almalki, Nawaf Saad Alnufaiey, Feras Tariq Zafar.

Umm Al-Qura University.

## Abstract

Background: Knee osteoarthritis is a prevalent degenerative joint disease that often results in pain and functional limitations. Multiple treatment modalities, including physical therapy, are available. However, the influence of patient perception and awareness about these treatments on their choices and adherence remains underexplored. Objective: This study aimed to explore the awareness, perceptions, and experiences of patients with knee OA regarding available treatment options, with a focus on physical therapy. Methods: A qualitative interview study was conducted with 24 patients diagnosed with knee OA in Makkah, Saudi Arabia. Semi-structured interviews were used to gather insights into their experiences, perceptions, and awareness levels regarding treatment options. Thematic analysis was utilized to identify and categorize emerging themes. Results: The study revealed that knee pain during daily activities initially prompted patients to seek treatment. Many patients preferred physical therapy over surgical interventions and found it beneficial, particularly when adhering to the treatment plan. The study also highlighted the importance of patient education, supportive environments, and community engagement in the management of knee OA. Additionally, misconceptions and emotional challenges were common, emphasizing the need for comprehensive, patient-centered care. Conclusion: Physical therapy is viewed as a beneficial and preferred treatment option for knee OA. However, patient education and supportive environments are crucial for achieving positive outcomes. Addressing misconceptions and emotional challenges, along with providing individualized care, can enhance the effectiveness of treatment for knee OA patients.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Prevalence of Scapular Dyskinesia among Female Students at Jouf University – Alqurayyat: A Cross Sectional Study

Hala T Ahmed, Amal A Al Sharari, Hebatalla M Abd Elrafi, Haifa A Al Fouzan

Department of Physical Therapy and Health Rehabilitation, College of Applied Medical Sciences, Jouf University, Kingdom of Saudi Arabia/ Department of Orthopaedic and Surgery, Faculty of Physiotherapy, AL Neelain University, Sudan

## Abstract

Background: Scapular dyskinesia can broadly be defined as loss of control of normal scapular physiology, mechanics, and motion, as Dyskinesis (dys [alteration of] kinesis [motion]). Purpose. To find out the prevalence, characteristic and type of scapular dyskinesia among female students at Jouf University – Alqurayyat. Methods. A cross sectional design. One hundred thirty six female students were recruited from Alqurayyat female branch – Jouf University (Northern Saudi Arabia), to participate in this study. Demographic data were assessed through a structural questionnaire, scapular dyskinesia was clinically assessed through direct observation (Scapular Dyskinesia Test) and manually assisted movements (Scapular Assistance Test (SAT) and Scapular Reposition (Retraction) Test (SRT)), and the levels of pain and functional disability were assessed through Shoulder Pain and Disability Index (SPADI). Results. The prevalence of scapular dyskinesia was 99.3%, with 56.3% of them had affected left hand and 76% of them had type II existence. There was significant association between scapular dyskinesia and shoulder function ($p < 0.05$). Conclusion. The prevalence of scapular dyskinesia among female students at Jouf University Alqurayyat was 99.3%, with most of them having left hand involvement and presence of type II dyskinesia. clinical relevance: this study will help clinician identify at risk population, allowing for earlier diagnosis and treatment also its association with shoulder pain could highlight it as contributing factor and finally it will guid in preventive measurement.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Physical Therapists' satisfaction with Session Duration: A Cross-Sectional Study

Muteb Safar Aldosari, Saad Alhammad, Abdulaziz Aljummah, Omar Almuhanna

King Saud University

## Abstract

Background: Session duration (SeD) is a crucial factor in physical therapy, often influencing patient satisfaction. While prior research explored the impact of SeD on patients, no studies examined physical therapists (PTs) satisfaction with their allocated SeD. Objective: This study aims to explore PTs' current SeD and whether they are satisfied with their SeD or not Methods: An observational, cross-sectional study was conducted using an electronic questionnaire distributed among PTs. Participants were first asked to report their SeD. Following this, they were asked whether they were satisfied, dissatisfied, or neutral about their SeD. Results: Out of 437 responses, 36.6% (n=160) reported their SeD to be 30-40-minutes, 34% (n=151) reported SeD of 15-25minutes, 22.4% (n=98) reported their SeD to be 45-55-minutes, and 6.4% (n=28) reported their SeD to be more than 60-minutes. 65.5% of PTs (n= 287) were satisfied with their SeD, 13% (n= 58) were dissatisfied, and 21% (n= 92) were neutral. Conclusion: Most participants (n=160) have an SeD of 30-40-minutes. 65.5% of all PTs are satisfied with their SeD. Nevertheless, the dissatisfied (n=58)13% group highlight a need for further research to understand PT dissatisfaction and how to optimize SeD. Clinical relevance: This research provides insights that can guide policy decisions, optimize physical therapy sessions scheduling and improve PTs satisfaction.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Visual rehabilitation guideline for occupational therapists in Sultan Bin Abdulaziz Humanitarian City

Osama Abdelqader, Hafsah Ibrahim, Safia Kidene, Najd Al Tuawjri, Manahel Al Seghayer, Muniral Al Harbi,

Sultan Bin Abdulaziz Humanitarian City

## Abstract

Background: At our hospital SBAHC (Sultan Bin Abdulaziz Humanitarian City), we had several courses and training done about visual rehabilitation for our staff including OTs, SLPs, and PTs, yet the visual rehabilitation service is not developed very well, visual assessment, and intervention not being implemented in all programs who are receiving clients with brain injury, or delay development. Objective; A group of OTs worked together to develop a clinical guideline to ensure implementing the visual rehabilitation and guide the rehabilitation team for the assessment, and intervention process to unify the service within the rehab department, and maximize the client's outcomes. Method: developing a clinical guideline which will be reviewed and approved by the clinical care committee which include representative from all clinical departments, to ensure the effectiveness of the guideline, and involvement of the interdisciplinary within the service. Result: The guideline is ready and submitted to the clinical care committee. it considered one of the first developed clinical guideline about vision therapy in the kingdom. It provides tips about: screening, assessment, intervention, possible needed referrals, and team role aiming to maximize the client outcomes within the rehabilitation journey. Conclusion: The Guideline will be used as a reference for the OTs in our hospital about the comprehensive visual assessment for children's, and adults post brain injury, or following developmental delay. Once the guideline approved, we will work on publishing it externally. clinical relevance; -recognizing all clients suffering from visual impairments. - providing a comprehensive assessment for both children's, and adult population. - support the process of referring the clients for the essential eye health care providers, such as optometrist, ophthalmologist, low vision specialist, etc. - ensuring best practice by the rehab team when dealing with cases who are suffering from visual impairments. -providing systematic tips to provide a comprehensive visual assessment. - providing systematic tips to provide effective intervention.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Association between Multimorbidity and Fear of Falling among Community-Dwelling Older Adults in Saudi Arabia

Bashaier Alosaimi, Maha Almarwani

Department of Rehabilitation Sciences, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia

## Abstract

Background Multimorbidity, the coexistence of multiple chronic conditions, can lead to negative health outcomes, increased disability, and poor quality of life. Studies suggest that functional limitations from multimorbidity may contribute to the fear of falling in older adults. In Saudi Arabia, the rate of aging and multimorbidity is increasing, which may lead to a fear of falling in older adults. Objective: To examine the association between multimorbidity and fear of falling and its mediators among community-dwelling older adults in Saudi Arabia. Methods: This study is cross-sectional among community-dwelling older adults in Riyadh, Saudi Arabia. The outcome measures collected demographic data, multimorbidity, and fear of falling. The mediators' variables consisted of measures related to polypharmacy, fall history, body mass index, hand grip strength, functional capacity, activity of daily living, frailty, balance, and health self-perception. Results: A total of 190 community-dwelling older adults (the majority of participants were female (59.5%) and had a mean age of 65.75 ± 5.33 years). A multimorbidity showed a high association with the fear of falling ($r = 0.72$, $P<0.01$) and ($\beta = 4.15$, $p<0.05$). The mediation analysis found that polypharmacy, fall history, mental health self-perception explained the multimorbidity-fear of falling association. Conclusion: The findings of this study highlight the complexities of multimorbidity, including the mediation effect of polypharmacy, fall history and mental health self-perception on fear of falling among community-dwelling older adults. Clinical relevance: Healthcare providers should Assess multimorbidity and related factors to better understand fall risk. Targeted interventions, such as reducing polypharmacy, managing fall risks through education, and improving mental health, are essential. Personalized care plans addressing both multimorbidity and psychological impacts can enhance outcomes and reduce fear of falling. Future research should focus on developing targeted interventions to address fear of falling in older adults, promoting healthy aging and improving quality of life.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Assessing Pain Acceptance and its association with physical activity in chronic low back pain populations: a cross sectional study

Dalia Alimam, Rawan Alshammari, Farah Alqahtani, Shomookh Alqahtani, Zafeen Juleghm

Physical Therapy Department, Collage of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia

## Abstract

Objective: To investigate the relationship between pain acceptance and physical activity in individuals with chronic low back pain (LBP) in Saudi Arabia. Methods: A cross-sectional study was conducted on individuals with chronic LBP in Saudi Arabia. Participants completed self-report measures assessing pain acceptance (Pain Acceptance Scale) and physical activity (International Physical Activity Questionnaire). Pearson correlation coefficients were used to analyze the relationships between the variables. Results: Due to stringent inclusion criteria, only 23 out of 308 respondents were included in the analysis. Preliminary findings revealed a non-significant, very small positive correlation between pain acceptance and physical activity ($r = 0.049$, $p = 0.8238$). Additionally, a non-significant, medium positive correlation was observed between pain acceptance and pain intensity ($r = 0.366$, $p = 0.08584$). The relationship between physical activity and pain intensity was non-significant and small negative ($r = -0.1759$, $p = 0.422$). Conclusion: This is only our preliminary results and we look forward recruiting more participants that fit our criteria so we can generalize the results as we hoped at the beginning of our research.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# The Differences in Frontal Plane Projection Angle between Different Tasks Among Male Volleyball Athletes: Cross-Sectional Study

Saeed Alasmari, Ahmed Aboeleneen, Ziyad Neamatallah

King Abdulaziz university

## Abstract

knee valgus during dynamic tasks, increased FPPA is one of the most important factors that lead to injury. Dual-tasking consists of performing two tasks at the same time. Concentration and quick decision-making, are one of the most important skills for athletes. Studies have shown that cognitive factors lead to injuries. However, the effect of cognitive factors while the athlete is practicing the sport itself has not been studied. LONG-TERM GOALS: to investigate the difference in FPPA between single and dual tasks by using 2D video analysis. HYPOTHESIS: There will be a greater difference in FPPA during dual-tasks than single-task. SPECIFIC AIMS: To identify the effect of dual-tasks on knee kinematic (FPPA) in real field situation. METHODS: 30-50 male volleyball players (age 17-22 years) will participate in this study. Demographic data will be collected. The single task contains a drop vertical jump. The first dual task contains a volleyball spike with the stroop test and the second dual task contains a volleyball spike without the stroop test. FPPA will be assessed via 2D analysis. FPPA will be calculated for both legs. SIGNIFICANCE: Dual tasks have now become something new in the field of sports medicine. Few studies have examined the effect of dual tasks and increasing the risk of injury, but these studies were carried out in lab environment tasks while no study has examined the effect of dual tasks while performing the same game tasks in the field.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Prevalence of Knee Injuries among Male Football Players in Saudi Arabia

Latifah F. Almansour, Walaa S. Mohammad

Buraydah Central Hospital, Burydah 52361, Saudi Arabia

## Abstract

Background: One of the joints that sustain injuries the most frequently among footballers is the knee. As a result, knee function and participation in a football match will be limited. The present study aimed to explore the prevalence of knee injuries among male footballers in Saudi Arabia. Objectives: To determine the prevalence of knee injuries among first team and youth team male football players in Saudi Arabia. To analyze association between the variables. Method: A cross-sectional study design of 100 footballers from the youth team and 153 footballers from the first team participated in the study. The study was conducted among the Professional footballers in Majmaah governorate and Qassim region, Saudi Arabia to determine knee injuries from 2017 through 2022. The instrument tool was a paper checklist modified questionnaire and the questions were answered through the face-to-face interview. Result: The study showed that 35 out of 100 (35%) youth-team footballers and 74 out of 153 (56.7%) first-team footballers are injured. There was a statistically significant difference in knee injuries between both teams. Conclusion: The prevalence of knee injuries in Saudi Arabia was high in both first- team and youth-team football. The period of attendance at the club and duration of playing football are considered risks for knee injuries among youth team footballers. However, for first- team footballers, age and period of playing football are considered risks for knee injuries. There was a statistical significance difference in knee injuries between both The period of attendance at the club and duration of playing football are considered risks for knee injuries among youth team footballers. However, for first- team footballers, age and period of playing football are considered risks for knee injuries. There was a statistical significance difference in knee injuries between both teams.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Epidemiology Of Injury And Illness In The First Women's National Basketball League

Wesam Saleh A. Al Attar, Eman Fahd Al Jedaani

Department of Physical Therapy, College of Applied Medical Sciences, Umm Al Qura University, Makkah, Saudi Arabia. / Discipline of Exercise and Sport Science, Faculty of Medicine and Health Sciences, The University of Sydney, Sydney, NSW, Australia. / Department of Sport, Exercise and Health, Faculty of Medicine, University of Basel, Basel, Switzerland.

## Abstract

Background: Basketball is one of the most played sports worldwide (1). Basketball players run, change direction, move laterally, jump, and are exposed to constant landing impact, which in-creases the likelihood of injuries (2). Women's participation in Basketball has been increasing, and has led to increased concerns regarding the risk of sports injuries. However, epidemiologi-cal studies on the incidence of sports injuries in women's basketball, particularly in Saudi Ara-bia, are lacking. Objective: This study aimed to determine the prevalence of sports-related injuries and illnesses during the first-ever women's national basketball league (2022) in Saudi Arabia by implement-ing an International Olympic Committee injury and illness surveillance protocol. Methods: The medical staff of the participating teams (n=15) was requested to report all new injuries and illnesses during matches and training daily throughout the event. Exposure (num-ber of player-hours) during matches was calculated for all the players (n=213). Results: In total, 15.9% of the players were injured. The most frequent injuries were to the low-er leg followed by the ankles and knees. The most common injuries were sprains and muscle spasms. In total, 2.8% of the players (n=6) became ill during the event. Five of the six cases (83.3%) had respiratory tract infections. Conclusions: Our findings show the importance of monitoring lower extremity injuries to pre-vent at-risk players from injuring themselves further. Lower extremity injuries were the most common in the first-ever women's national basketball league in Saudi Arabia.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Effect of Biorhythm on Sport Injuries among Female Players in Soccer in Riyadh Region

Tahani Almahdi, Ashraf Mohamed

Private Clinic, Riyadh, Saudi Arabia

## Abstract

Background: Understanding the influence of physiological cycles, such as biorhythms, on sports injuries can provide insights into optimizing performance and injury prevention. Female soccer players may experience injury susceptibility related to their biorhythms, impacting their training and competition outcomes. Objectives: The study aimed to identify the relationship between daily biorhythm patterns and the nature of sports injuries among female soccer players in the Riyadh region. Methods: A descriptive approach was used with a sample of 101 female soccer players from the Saudi Regions League. Players were categorized based on their chronotypes (morning, intermediate, and evening), and injury data were collected via electronic forms and personal interviews with their coaches. The Ostberg scale was used to assess biorhythm patterns. Results: The study found that 57.4% of the players had an intermediate chronotype, while 40.6% were morning types, and only 2% were evening types. Muscle strains (62.4%) were the most common injury, followed by bruises (56.4%) and joint sprains (48.5%). Most injuries occurred at the ankle (36.63%) and during the evening period (89.1%). However, the analysis showed no significant relationship between biorhythm patterns and the frequency or nature of injuries ($T = -0.61, 0.51$, $p > 0.05$). Conclusions: Biorhythm patterns do not significantly influence the occurrence of sports injuries in female soccer players. However, further studies on professional athletes with high training loads are recommended. Clinical relevance: Coaches and trainers should consider individual physiological variations in training programs but may not need to adjust based on biorhythm patterns alone. Additional research is necessary to explore the broader implications of biorhythm cycles on sports performance


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Potential Prevalence of Sarcopenia in Community Dwelling Older Adults in Kuwait

Latifah Alenezi, Maath Alhaddad, Ali N Ali

Kuwait University

## Abstract

Introduction: Sarcopenia, characterized by a loss of skeletal muscle mass, strength, and/or physical performance and is associated with numerous adverse health outcomes. Data on the prevalence of sarcopenia in Arabic speaking countries is lacking, in particular in Kuwait, and this study aimed to provide initial estimates of sarcopenia prevalence. Methods: In this cross-sectional, prospective, observational study of community dwelling adults from Kuwait City, socio-demographic data was recorded alongside assessments of sarcopenia risk (SARC-F), independence (Physical Self-Maintenance Scale), fear of falling (Short FES-I), frailty (FRAIL), strength (hand grip strength, Five Time Sit to Stand) and physical mobility (4 meter gait speed, Timed Up and Go) in a single session. Proportions of people at risk of sarcopenia, with probable sarcopenia and severe sarcopenia were calculated, correlates of sarcopenia risk were assessed using Pearsons' test and comparisons of variables between those not and those at risk of sarcopenia using t-test, Mann Whitney U and Chi square accordingly. Results: Overall, 92 individuals were recruited, 29 (32%) were at risk of sarcopenia (SARC-F ≥ 4), 28 (30%) had probable sarcopenia, of which 16 (17%) were severe. Females were significantly more likely to exhibit sarcopenia risk (47%) than males (20%), p=0.006. SARC-F was significantly inversely correlated with independence and gait speed, and positively associated with age, FRAIL score, TUG and 5STS. Conclusion: The prevalence of sarcopenia in Kuwait may be high. Accurate prevalence estimates are needed, involving muscle mass assessments and exploration of risk factors in order to implement effective screening and intervention services.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Exploring Workload and Double Booking in Physiotherapy Practice.

Abdulaziz R. Aljumaah, Omar K. Almuhanna, Muteb S. Aldosari, Saad Alhammad

Rehabilitation Sciences Department, King Saud University.

## Abstract

Background: Physiotherapists in both public and private practices face diverse challenges. High workloads (WL), defined as the average number of patients seen daily by therapists, and limited resources are prevalent in public practice, which may negatively impact the quality of care and contribute to therapist burnout. Conversely, private practices manage fewer patients daily, having greater autonomy over their work environment and delivering more personalized care. Nevertheless, the cost associated with private care can be a significant barrier for many patients. A further challenge faced in both settings is double booking (DB), where therapists treat more than one patient simultaneously. However, these challenges are scarcely studied in physiotherapy practice. Objectives: To explore WL and DB in the current public and private physiotherapy practices in Saudi Arabia (SA). Methods: An observational, cross-sectional study was conducted using an electronic questionnaire among Physical Therapists (PTs) working in SA. The questionnaire included demographic information (12 items), session duration (3 items each), and appointment planning (5 items). (KSU-IRB#E-24-8553). Results: A total of 437 PTs participated: 59% from private practice, 31% from public practice, and 10% from mixed practices. The average number of patients seen daily was similar in private (8.06) and public practices (7.92). DB was prevalent in both private and public practices, 58% (n=149) and 52% (n=70), respectively. However, high-frequency DB (five times a week or more) was more common in private practice (34%) compared to public practice (17%). Conclusion: DB is prevalent in physiotherapy practices, which may negatively impact the quality of care. Additionally, the higher rates of high-frequency DB in private practices suggest pressures to maximize efficiency, increasing WL which could contribute to therapist burnout. Clinical relevance: Addressing changes in WL and DB may affect the quality of care, therapist burnout, and efficient use of resources in physiotherapy practices.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Development of a portable, non-invasive device for cobb angle measurement in scoliosis screening: a research proposal

Noor Abdullah Zahri, Shaima Ali Dighriri

Physical Therapy Clinic (STRETCH), Saudi Arabia, Jubail

## Abstract

Background: Scoliosis, a condition characterized by an abnormal lateral curvature of the spine, typically relies on X-ray imaging for the measurement of the Cobb angle, which is essential for diagnosis and monitoring. However, frequent exposure to radiation, especially in pediatric patients, and limited access to X-ray facilities pose significant challenges in scoliosis screening and management. Objective: The objective of this proposal is to develop and validate a portable, non-invasive device for accurate Cobb angle measurement, providing a safe and accessible alternative to traditional X-ray methods. Methods: The proposed research involves designing a prototype device that uses advanced sensor technology, including optical sensors and inertial measurement units (IMUs), to capture and calculate the spinal curvature. This device will undergo iterative design processes and comparative testing against standard X-ray measurements to assess accuracy and reliability. Feedback from healthcare professionals will inform design improvements. Results: The study is expected to demonstrate that the device can provide Cobb angle measurements comparable to those obtained from X-rays, with a high degree of accuracy, reduced patient discomfort, and no exposure to radiation. Initial trials will focus on validating the consistency of measurements across different users and settings. Conclusions: If successful, this portable device could revolutionize scoliosis screening by offering a reliable, radiation-free, and user-friendly alternative for use in clinics with limited resources or where X-ray facilities are unavailable. This innovation has the potential to improve early detection and monitoring of scoliosis, particularly in pediatric patients. Clinical Relevance: This research aims to fill the gap in scoliosis screening by providing a non-invasive, portable tool that can be used in diverse healthcare settings. It offers significant clinical benefits by reducing radiation exposure, improving accessibility to diagnostic tools, and facilitating earlier intervention for patients with scoliosis.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Knowledge and Attitude towards Bell's Palsy Rehabilitation among Physical Therapists in Saudi Arabia

Alaa M. Albishi, Hanan M. Al-Ageel

Department of Health Rehabilitation Sciences, College of Applied Medical Sciences, King Saud University, P.O. Box 10219, Riyadh 11433, Saudi Arabia.

## Abstract

Background: The facial nerve (CN VII) controls facial movements. Bell's Palsy causes sudden paralysis on one side of the face, impacting quality of life. The exact cause is unknown, but factors such as age and infections may play a role. Most people with Bell's Palsy recover, but some may experience abnormal facial movements. Physiotherapy and Mime therapy are effective treatments. However, rehabilitation approaches can differ among therapists, leading to variations in treatment outcomes. There is limited research on the knowledge and attitudes of physical therapists toward Bell's Palsy rehabilitation in Saudi Arabia. Objective: This study evaluated the knowledge and attitudes of physical therapists in Saudi Arabia regarding the rehabilitation of patients with Bell's Palsy. Methods: This study used a cross-sectional observational study design. A total of 150 licensed physical therapists in Saudi Arabia were selected through convenience sampling method. The participants were asked to complete an anonymous online survey that included their demographics, knowledge about Bell's Palsy, and attitudes toward Bell's Palsy rehabilitation techniques. Descriptive and inferential statistics were used to measure the physical therapists' knowledge and attitudes toward Bell's Palsy rehabilitation. Results: The mean age of the participants was 33.13 ± 6.85, with 68.7% being female. Most participants held Bachelor's degrees (65.3%) and worked in general hospitals (72.7%). The study found that the participants had moderate to high levels of knowledge about Bell's Palsy (mean knowledge score 8.99 ± 1.95). Importantly, the attitudes towards rehabilitation techniques were generally positive, with high agreement on the importance of early intervention, emotional support, and coordination exercises. Significant differences were found based on gender, years of experience, and location of practice. Conclusion: This study provides valuable insights into the knowledge and attitudes of physical therapists in Saudi Arabia regarding Bell's Palsy rehabilitation therapies. Most physical therapists have a medium level of knowledge about Bell's Palsy but positive attitudes. Therefore, collaboration among healthcare professionals and ongoing professional education is recommended to advance clinical practice standards among physical therapists for treating BP.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Physical Therapy Approaches for Diagnosis and Management of Sacroiliac Joint Dysfunction: A Narrative Review

Haifa Alzahrani, Asma Alrushoud

Department of health rehabilitation sciences at king Saud university Department of Health Rehabilitation Sciences, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia.

## Abstract

Background: Sacroiliac joint dysfunction (SIJD) causes significant pain in the lower back and legs, affecting up to 30% of the global population. It is particularly prevalent in women, especially during pregnancy, due to hormonal changes and anatomical factors. Diagnosis and management of SIJD remain challenging, with various approaches used in physical therapy. Objectives: The primary objective of this review was to evaluate physical therapy practices for diagnosing and managing SIJD. The secondary objective was to identify gaps in the literature and suggest areas for future research. Methods: A narrative review was conducted by searching Google Scholar, PubMed, and Web of Science for randomized controlled trials (RCTs) and relevant studies published from 2000 to 2024. Studies focused on physical therapy interventions for adult SIJD patients were included. A total of 22 RCTs were reviewed, covering interventions such as manipulation, exercise therapy, muscle energy techniques (MET), Kinesio taping, and electrotherapy. Results: Combined manual therapy and exercise interventions showed the most promise in reducing pain and disability in SIJD patients. Manipulation and exercises were particularly effective, while methods like MET, Kinesio taping, and electrotherapy also showed positive outcomes. However, study limitations included variability in designs, lack of control groups, and short-term follow-ups. Conclusions: Manual therapy combined with exercises appears to be the most effective intervention for SIJD. Further research is needed to standardize protocols and improve study designs to enhance clinical practice. Clinical Relevance: This review emphasizes the need for evidence-based physical therapy interventions for SIJD. Combined manual therapy and exercises have demonstrated effectiveness, and future research should focus on improving clinical decision-making for better patient outcomes.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Lifestyle Medicine and Diabetes Treatment Knowledge, Attitude, and Practice of Allied Medical Professionals

Rahaf Alshareef, Sarah Alsubaie, Najd Alkoshiban, Najd Al-Salem, A Alothman

Rehabilitation Department, Health and Rehabilitation Sciences College, Princess Nourah Bint Abdulrahman University, Riyadh, Saudi Arabia.

## Abstract

Introduction: Effective interventions are required due to the increasing prevalence of diabetes, especially through lifestyle changes. The purpose of this study was to evaluate lifestyle medicine (LM) and diabetes treatment knowledge, attitude, and practice of allied medical professionals in Saudi Arabia. Methods: Structured online questionnaires were used to collect data on demographics, lifestyle medicine and diabetes treatment knowledge, attitude, and practice of Allied healthcare professionals (including dieticians, health educators, physical therapists and occupational therapists). Results: 227- allied medical professionals completed the survey. Mean age was 28.5 ± 6.8 years, Female were 56.4%, and 41.9 were physiotherapist. 64.8 % of the participants were able to correctly define LM. Yet only 27.3 were very familiar about LM role in managing diabetes or aware of any diabetes management guidelines (41.9). Most participants had positive attuited toward the need for applying LM in managing diabetes. Further, 41.9% of participants always assessed LM factors and 33.0% always provided LM recommendations and education to their patient. Conclusion: The study's result emphasizes a critical knowledge gap that healthcare practitioners have when it comes to lifestyle medicine interventions for the management of diabetes. In order to effectively help patients in controlling their diabetes, future initiatives should concentrate on improving training opportunities and educational programs for practitioners.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Examining the association of insomnia and anxiety with low back pain (LBP): Survey-based study design

Tadhi Alshammari, Faisal Alhabib, Afnan Alsweed, Maha Alqahtani, Wafa Alshuhri, Sultan Alshammari, Dhari Alshammari

Imam Abdulrahman Bin Faisal University

## Abstract

Background: LBP has a prevalence rate of 80%. It affects life quality by limiting activity levels. It has also been suggested that LBP is associated with individuals with mental disorders. Yet, evidence in this domain is sparse, especially in the Saudi community. Objectives: We aimed to investigate the prevalence and association of anxiety and insomnia in LBP patients. Methods: Recruitment of referred PSMMC patients (n=374). We collected responses about sleep quality by using the Pittsburgh Sleep Quality Index (PSQI) and anxiety by using the GAD-7 scale. Results: 153 males and 221 females were included and interviewed. Our findings indicated a significant number of LBP patients presented moderate to severe anxiety. Older experienced slightly lower levels of anxiety compared to younger participants. A high rate of poor sleep quality was detected. A significant association between poor sleep quality and anxiety was observed. Conclusion: Studies examining the mechanistic association of LBP-anxiety and LBP-insomnia are sparse. This work has previously been undescribed in the Saudi community. It highlighted a significant number of LBP patients suffering primarily from insomnia and anxiety, especially in females. Clinical relevance: Our findings highlight the need to raise awareness of anxiety and sleep issues in LBP patients. We recommend providing psychological support and sleep therapy with ongoing physical therapy sessions for those in need of LBP patients. Therefore, the quality of LBP support in the Saudi community would be improved. Further, it will promote and update the Saudi health system policy on spinal pain and psychological factors. The revised policy will improve assessment and evaluation, prior treatment for LBP patients, and perhaps the prevention of insomnia and anxiety.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Perceptions and attitudes of the general population, primary care physicians, and physiotherapists in Saudi Arabia about osteoarthritis, exercise, physical activity: A qualitative study

Faris Al-Odaibi, Abdulrahman Al-Kusayer, Omar Al-Hawas, Sultan Al-Oshaywan

King Saud University

## Abstract

Background: Osteoarthritis (OA), particularly in the knee, is a widespread condition causing pain and functional limitations among adults. Despite the accessibility of information through technology and social media, misconceptions about knee OA persist. These misunderstandings often contribute to fear and ineffective management. A biopsychosocial approach, which addresses biological, psychological, and social factors, has been proven to improve clinical outcomes but is not widely adopted. Objective: This study explores the beliefs and perceptions surrounding knee osteoarthritis and the role of physical activity in its management. We aim to assess the understanding and attitudes of the general public, primary care physicians, and physiotherapists in Saudi Arabia through a qualitative study. Results: Our findings reveal a broad spectrum of beliefs about knee OA among the three groups. The general public displayed significant knowledge gaps, with misconceptions like the inevitability of worsening pain and the fear that movement would exacerbate the condition. While healthcare professionals demonstrated a more evidence-based understanding, misconceptions were still present. Those who embraced the biopsychosocial model had a more optimistic view of physical activity and effective pain management strategies. Conclusion: This study underscores the need for increased education on knee OA, particularly among the general public. Promoting the biopsychosocial approach can lead to better management, more positive attitudes toward physical activity, and improved clinical outcomes for patients with knee OA. Clinical Relevance: Addressing misconceptions about knee OA and promoting a holistic biopsychosocial model in clinical practice can significantly enhance patient outcomes. Educational interventions targeting both the general public and healthcare providers can help bridge the knowledge gap and encourage better long-term management of knee OA in Saudi Arabia.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Functional Outcome of Subvastus versus Medial Parapatellar Approaches for Total Knee Replacement in Patients with Knee Osteoarthritis: A Prospective Cohort Study

Adnan A Aladarii, Taif A Alkhudairy, Lama Z Allehaibi, Amjad A Fattani, Albatoul M Al-Margan, Sami A R Al-Dubai, Abdulrahman A Mohammed, Doaa K Mohorjy, Abdulhakeem S Alqarni

Department Of Orthopaedics, Research Center, King Abdullah Medical City, Makkah, Saudi Arabia. / College Of Medicine, Umm Al-Qura University, Makkah, Saudi Arabia. / College Of Medical Rehabilitation, Qassim University, Buraidah, Saudi Arabia. / College Of Medicine, Najran University, Najran, Saudi Arabia. / Saudi Board Of Preventive Medicine, Post Graduate Studies, Ministry Of Health, Al-Madinah, Saudi Arabia. / Department Of Biostatistics And Technology, Research Center, King Abdullah Medical City, Makkah, Saudi Arabia. / King Abdullah Medical City

## Abstract

Background: Subvastus approach and medial parapatellar approach are two major approaches for total knee replacement (TKR). There is no global consensus on the superiority of either approach in terms of functional outcomes. Objective: The present study aimed to evaluate the functional outcome of TKR through subvastus approach and medial parapatellar approach by using patient-reported scores at 3-, 6-, and 12-month post-operative follow-ups. Methods: This prospective cohort follow-up study included patients with knee osteoarthritis who underwent elective primary TKR either through the subvastus or medial parapatellar approaches at King Abdullah Medical City, Makkah city, Kingdom of Saudi Arabia, from January 2019 to December 2022. Scores from the self-reported Oxford Knee Score (OKS) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) were compared in the two groups of patients at 3-, 6-, and 12-month post-operative follow-ups. Results: A total of 98 patients were included, of which 37 underwent TKR through the subvastus approach and 61 through the medial parapatellar approach. There was an overall significant change over time in both WOMAC and OKS scores ($P < 0.001$). Patients who underwent the subvastus approach had significantly higher mean of WOMAC and OKS than patients with the medial parapatellar approach at the 3- and 6-month follow-ups ($P < 0.05$), but not at the 12-month follow-up. Conclusions: For TKR, the medial parapatellar approach results in better functional outcomes at the 3- and 6- month follow-up periods compared with the subvastus approach. Keywords: Functional outcome; Oxford Knee Score; WOMAC knee scores; medial parapatellar; subvastus approach; total knee replacement.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# Development and Feasibility Testing of Web Based Intervention for Self-Management of Low Back Pain in Nurses: A Mixed Method Study

Rana Alduraywish, Paul Hendrick, Holly Blake

School of Medicine, Imam Muhammed ibn Saud Islamic University, Riyadh, Saudi Arabia

## Abstract

Nurses have a higher prevalence of low back pain (LBP) than other occupations globally; this is associated with decreased job productivity, greater work absence, disability and functional limitation. Studies in the Kingdom of Saudi Arabia (KSA) report high rates of LBP in nursing consistent with findings from other countries. The purpose of this study is to test the feasibility and acceptability of a web-based intervention programme for the self-management of LBP (WBI-BACK) among a nursing population in the KSA. Method: This research adopts a single group pre-post intervention in which a sequential mixed-method approach was used. The first, exploratory phase is the design and development of the WBI-BACK programme. The second, quantitative phase involve the recruitment of the nurses with and without LBP, the implementation of the WBI-BACK programme and collecting feasibility and outcome measures data. The third, qualitative phase includes evaluation of the WBI-BACK programme through semi-structured interviews. Results: Fifty-three nurses (35 participants with LBP and 18 participants without LBP) were recruited. Nurses with LBP improved significantly in their physical disability and moderated physical activity exercise after the Web-based intervention while there were no significant differences on pain, 12-item health survey SF12, self-efficacy and fear avoidance beliefs' scores. Nurses without LBP did not show any significant improvement on physical activity, health survey SF12 and self-efficacy. Thematic analysis of the interview data revealed four themes (nurses' perception of usability of WBI-BACK , nurses' perceptions on potential WBI-BACK usefulness , nurses' engagement with WBI-BACK and nurses attitudes towards the WBI-BACK ) relating to the necessary features of WBI-BACK programme to be used successfully with the nurses. Following quantitative and qualitative data analysis, data were assessed against a priori defined success criteria. The results indicated the feasibility of the research process and the data collection; three out of five a priori feasibility criteria were met (Recruitment rate, attrition rate and experience of the intervention components) while the last two (intervention adherence and feasibility of outcome measures) were met with modification. Conclusion: The WBI-BACK programme is feasible and acceptable to be delivered for nurses in Saudi Arabia. Clinical relevance: This research could have a positive impact for nurses and organisation in term of decreasing of occupational LBP and disability and enhancing physical activity.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Associations between physical activity and development in preschool-aged children born <30 weeks' gestation: a cohort study

Tara L FitzGerald, Kate L Cameron, Reem A Albesher, Benjamin F Mentiplay, Rheanna M Mainzer, Alice C Burnett, Karli Treyvaud, Ross A Clark, Peter J Anderson, Jeanie Ly Cheong, Lex W Doyle, Alicia J Spittle

Rehabilitation Science Department, Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia

## Abstract

Background: Compared to term-born children, preschool-aged children born less than 30 weeks exhibited lower levels of muscle strength, motor skills, and PA. Given the links between higher PA and health benefits, it is important to identify children born preterm at higher risk. Objective: to identify subgroups of children in this cohort who are at risk of low physical activity (PA) and to examine the impact of PA on the motor, cognitive, and social-emotional development of children 4-5 years old who were born before 30 weeks of pregnancy. Methods: A cohort study of a total of 123 children born before thirty weeks were enrolled at birth and evaluated at four to five years of corrected age. Primary outcome measures: Wechsler Preschool and Primary Scale of Intelligence (Fourth Edition; WPPSI-IV), Little Developmental Coordination Disorder Questionnaire (L-DCDQ), Movement Assessment Battery for Children, Second Edition (MABC-2), and Strengths and Difficulties Questionnaire (SDQ) were used to assess development. Children wore accelerometers, and parents filled out a seven-day journal, to gauge PA. Impact of PA on developmental outcomes and correlations between risk factors for pregnancy. Results: Higher accelerometer-measured PA was linked to lower WPPSI-IV processing speed index scores (average composite score decrease per hour increase in PA: -2.36, 95% CI -4.19 to -0.53; p=0.012) and better MABC-2 aiming and catching scores (average standard score increase per hour increase in PA: 0.54, 95% CI 0.11, 0.96; p=0.013). Better SDQ prosocial scores were correlated with higher accelerometer-measured PA. Significant brain damage during infancy was linked to less moderate-to-vigorous and unstructured physical activity in children aged 4-5 years. Conclusions: In children 4-5 years old born <30 weeks, higher levels of PA are linked to components of motor, cognitive, and social-emotional skill development. People who experienced severe brain damage as newborns may be more susceptible to poor PA when they are preschoolers.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The association between Quality of Life and Physical Activity Levels among school-age Children with Cerebral palsy

Reem Albesher, Mshari Alghadier, Reem Basoudan, Nouf Ahmed Aljarallah, Dana Mohammed Aldayel, Dareen Bader Fagihi, Shahad Essa Alzeer, Areej Ahmed Ghufayri, Shaima Mousa Althurwi

Rehabilitation Science Department, Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia

## Abstract

Background: Physical activity (PA) is crucial for enhancing the quality of life (QoL). However, there is insufficient awareness of the impact of PA levels on the QoL in individuals with cerebral palsy (CP) among patients, caregivers, and physicians. This study aims to examine the relationship between levels of PA, and QoL and their impact on children with CP. Method: This is a cross-sectional survey that targets parents of children with CP aged 6-12 years residing in Riyadh. The survey comprises five sections: I) demographic information, II) questions regarding physical activity frequency, and III) the Gross Motor Functional Classification System (GMFCS) parent-reported version to determine the severity of cerebral palsy in the child. IV) measures the quality of life using the CP QoL-Child questionnaire, which includes seven domains. The survey aims to gather comprehensive information on the health and well-being of the children, encompassing motor skills, physical activity, and demographic data. Data collection started in March 2024 and completed by September 2024. Results: A total of 55 parents of children diagnosed with CP participated in this study (average age 7.8 years). PA levels of children with CP (across all GMFCS levels) are below international PA recommendations. QoL of children with CP were scored low in a variety of domains. Detailed results will be available before the time of the conference. Conclusion: The findings of our study may contribute to the existing knowledge regarding the association between physical activity and quality of life in school-aged children with CP. It can serve as a foundation for further investigations fostering a deeper understanding of the mechanisms underlying this relationship and informing future research.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION


# The Effect of Breaking Sitting Time by Physical Activity on Pain and Fatigue in Middle-Aged Adults

Reyof Alshahrani, Seham Almutiri, Shaima A Alothman

Rehabilitation Science, Health and Rehabilitation Sciences Collage, Princess Nourah Bint Abdulrahman University

## Abstract

Background: Frequent breaks in sitting time is recommended to negate the harmful effect of sedentary behavior. However, whether the increased in activity will lead to changes in pain or fatigue level is an area of research. Thus, the purpose of this crossover randomized clinical trial is to assess the effect of breaking prolonged sitting time by different levels of physical activity intensity on pain and fatigue level among female middle-aged adults. Method: This study utilizes a randomized crossover trial design with three experimental conditions separated by at least 6-day washout period. Participants are randomized to one of two possible trial-condition orders: 1) no breaks in sitting time, 2-minute light physical activity breaks in every 30 minutes sitting time, 2-minute moderate physical activity breaks in 30 minutes sitting time. Each condition last for 3 hours. Pain and Fatigue are measured using visual analogue scale at the beginning and end of each condition. Results: Five participants completed the study to date out of 30 planned. Participants were 47.8 ± 5.2 years old, BMI 33.3 ± 8.5 kg/m2, and only 40% achieved recommended physical activity level. No significant changes were observed in pain or fatigue level between conditions. Conclusion: The study results indicate that breaking prolonged sitting time by either light or moderate physical activity has no effect on pain or fatigue level in relatively healthy middle-aged adults. Future studies might study the effect of frequent breaks in sitting on pain and fatigue in individuals with different diseases such as people with chronic pain or multiple sclerosis.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Efficacy of Functional Magnetic Stimulation VS high intensity Kegel exercise in treating stress urinary incontinence: A Randomized Controlled Trial

Maged A. Basha, Rania Almijmaj, Layan Alharbi, Sara Almutairi, Raseel Aljohani

Qassim University

## Abstract

Urinary incontinence (UI) is a prevalent condition, particularly among women, that significantly impacts the quality of life. Various treatment modalities have been explored to manage stress urinary incontinence (SUI), including conservative approaches such as Kegel exercises and newer technologies like Functional Magnetic Stimulation (FMS). This randomized controlled trial aims to compare the efficacy of FMS and high-intensity Kegel exercises in treating SUI among women in Saudi Arabia. A total of 40 participants will be recruited from Unayzah, Qassim region, between April 2024 and December 2024. The participants will be randomly assigned to one of two intervention groups: one receiving electrical stimulation therapy combined with pelvic floor muscle training, and the other undergoing 12 sessions of FMS. The study will continue until February 2025, with follow-up assessments to provide evidence-based insights into the effectiveness of these treatments. The results will be analyzed and shared to contribute to the growing body of literature on pelvic floor rehabilitation.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Associations between Physical Activity and Health Related Physical Fitness with Gestational Diabetes Mellitus and Cardiovascular Health in Pregnancy in Saudi Arabia

Fatimah Abdullah Alsayegh, Samiha Mohamed, Ibrahim Abdelkader.

Rehabilitation Sciences, College Of Applied Medical Sciences In King Saud University

## Abstract

Background: Gestational diabetes is one of the most common medical complications of pregnancy that has a high prevalence in Saudi Arabia. Gestational diabetes mellitus increases risks and complications of both maternal and fetal, and it is associated with cardiovascular risk factors. Physical activity plays a vital role in maternal health. An increase in physical activity levels helps enhance an increase in physical fitness. Therefore, the aim of this study was to assess the association between physical activity and physical fitness with gestational diabetes and cardiovascular health in pregnancy in Saudi Arabia. Methodology: This cross-sectional study included pregnant women, who were submitted during the routine visits in the second trimester from maternity clinics in Riyadh. Physical activity was assessed via a pregnancy physical activity questionnaire. Physical fitness was assessed based on muscle strength, which was measured by five times sit-to-stand test and hand-grip strength test, and laboratory tests screening for gestational diabetes, and the measure of cardiovascular health based on 4 metrics: Body-mass index, blood pressure, avoidance of nicotine, and sleep quality. Results: 95 pregnant women were enrolled in this study. We found a negative significant association between PA with gestational diabetes, body-mass index, and smoking habits ($r= -0.36$, $r=-0.44$, $r= 0.22$, $p < 0.05$) and a positively moderate association with sleep quality ($r= 0.42$, $p < 0.01$). Upper-body muscle strength had positively weak significant association with blood pressure, sleep quality, and smoking habit ($r = 0.19$, $r = 0.21$, $r = 0.19$, $p <0.05$), However, lower limb strength had a negative weak to moderate association with gestational diabetes, and body-mass index ($r = -0.23$, $r = -0.41$, $p<0.05$) and associated significantly very weakly to moderately positive with blood pressure and sleep quality ($r = 19$, $r = 56$; $p < 0.01$). Conclusion: Increasing physical activity and physical fitness is beneficial, recommended, and represents a promising management for controlling gestational diabetes and promoting better cardiovascular health among Saudi pregnant women.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Factors Associated with Health-Related Quality of Life Among Breast Cancer Survivors in Saudi Arabia: Cross-Sectional Study

Mohammed TA Omar, Mohammed A. T. Al-Karni, Nouf M. Al Dhwayan, Dahish Ajarim, May J. N. Idreess, Rehab F. M. Gwada

Department of Rehabilitation Health Sciences, College of Applied Medical Sciences, King Saud University, Saudi Arabia, Faculty of Physical Therapy, Cairo University, Cairo, Egypt.

## Abstract

Background: Assessment of health-related quality of life (HRQOL) is a major concern among breast cancer survivors. Little is known about HRQO and its determinants in Saudi women with breast cancer (BC). Objectives: This study aimed to describe the HRQOL of Saudi women with breast cancer and the association between HRQO and sociodemographic and clinical variables. Methods: This cross-sectional study involved 147 BC participants who completed the 36-item Short Form Health Survey (SF-36). Multivariable linear logistic regression analysis was conducted to determine factors associated with HRQOL. Results: For the physical component scale, general health scored the highest (55.41±17.99) while, role physical function scored the lowest (48.61±22.51). The mean scores in the mental component were higher for social function (56.91±20.84), while the lowest score was observed for energy and vitality (49.62±20.84). Significant differences were observed in many SF-36 domains across the sociodemographic and clinical variables. Older age, having had a mastectomy as well as comorbid conditions, and receiving chemotherapy and hormonal therapy were associated with decreased HRQOL. However, being physically active, employed, and having more education were associated with higher HRQOL. Conclusion: HRQOL is generally poor among breast cancer survivors in Saudi Arabia, depending on a variety of factors. These findings highlight the need for routine QOL assessment. Furthermore, recognizing these predictors may play a key role in maximizing HRQOL for breast cancer participants.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Cross-cultural adaptation and validation of the Arabic version of McGill quality of life: revised questionnaire in the patients with cancer

Mohammed TA Omar, Majed Hassan Al-Malki, Saad M. Bindawas, Ali H. Alnahdi, Ghaidaa H. Aljehan, Badr Nasser Al-Omar, Saad A. Alhammad

Department of Rehabilitation Health Sciences, College of Applied Medical Sciences, King Saud University, Saudi Arabia, Faculty of Physical Therapy, Cairo University, Cairo, Egypt.

## Abstract

Objectives: The aims of this study were to translate and culturally adapt the McGill Quality of Life Questionnaire-revised (MQOL-R) to modern standard Arabic and to examine its reliability, construct, and discriminative validity in Arab patients with cancer. Methods: Translation and cultural adaptation of the English MQOL-R to modern standard Arabic were performed according to international guidelines. For psychometric evaluation, 125 participants with cancer were selected and completed the MQOL-R along with Global Health Status/QoL and functional subscales of European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC QLQ-C30), and Eastern Cooperative Oncology Group performance status rating (ECOG-PS). The MQOL-R was tested for internal consistency, test-retest reliability, and construct validity. Results: The Arabic MQOL-R questionnaire had adequate internal consistency with Cronbach's alphas between 0.75 and 0.91. Test-retest reliability was very strong (ICC2.1 =0.91 to 0.96, $p < 0.001$). As hypothesized, the Arabic MQOL-R subscales demonstrated moderate to excellent correlation with functional subscales of EORTC QLQ-C30, and moderate to good correlation with Global health status/QoL. Conclusion: The Arabic MQOL-R Questionnaire has adequate psychometric properties. Hence, it can be utilized in rehabilitation settings and research to measure health-related quality of life in the Arabic-speaking cancer population. Clinical relevance The Arabic version of McGill Quality of Life- Revised Questionnaire (MQOL-R) has been successfully translated, adapted, and validated into Modern Standard Arabic language. • The Arabic MQOL-R is reliable and valid for measuring health-related quality of life in the Arabic-speaking cancer population. • The Arabic MQOL-R can be used for clinical, rehabilitation and research purposes to evaluate the health-related quality of life in the Arabic-speaking cancer population.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Prevalence of Health-Related Problems Among Video-Game Players In Riyadh Region

Nourah Altalib, Nourah Abdulrahman Alnaif, Reyoof Abduallah Alhuthili, Hana Mubark Alsuqihi, Mashael Ayed Alotaibi

Sattam Bin Abdu-Aziz Univirsity

## Abstract

Background: Video games have now become an increasingly popular form of entertainment and leisure activity to the lives of people across different age groups. However, when the use of video games becomes excessive, it may have a detrimental impact on various aspects of health, such as musculoskeletal pain, vision problems, obesity, mental and sleep disorders. Objective: To determine the prevalence of health-related problems among video game players in the Riyadh region. Method: This cross-sectional study examined video game players of both genders, aged 18-26, in Riyadh. Data was collected through a Google questionnaire consisting of 47 items divided into sections on demographics, gaming preferences, musculoskeletal problems, mental and sleep disorders, obesity, and vision problems. The questionnaire was distributed through social media and gaming applications. Result: This study revealed significant health problems among video game players, including neck pain (58.3%), back pain (62.5%), mental and sleep problems such as social withdrawal (68%), using games as an escape (63.8%), difficulty stopping gaming (62.2%), resistance to sleep (65.2%), increased consumption of unhealthy snacks linked to obesity (68%), vision problems such as eye strain (37.2%), redness (31.1%), and eye-related headaches (55.5%). Conclusion: Video game players experience a range of health-related issues. Musculoskeletal problems, such as neck and back pain. Sleep patterns and mental well-being are negatively affected. Unhealthy snacking during gaming contributes to future obesity risk. Eye strain and redness are also widespread among players. Keywords: Video games, videogame players, Health-related problems.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Enhancing the quality of life for physical therapists: insights from a cross-sectional study

Rahaf Eid Al Ali, Sahab A. Alrowaishd, Elaf Z. Abu Thyab, Raghad K. Almarzuqi, Manal I. Al Awaji, Monira I. Aldhahi, Zizi M. Ibrahim

Department of Rehabilitation Sciences, College of Health and Rehabilitation Sciences, Princess Nourah bint Abdulrahman University (PNU), Riyadh, Saudi Arabia.

## Abstract

Background: Physical Therapy profession is known for its demanding physical requirements. This increases the risk of attrition and work-related accidents and disorders that affect physical therapists' quality of life and work performance. This study aimed to evaluate the effect of physical activity level and other contributing factors on quality of life of physical therapists. Methods: A cross-sectional study was conducted among practicing physical therapists (n = 258). The International Physical Activity Questionnaires-Short Form was used to measure physical activity levels and the World Health Organization Quality of Life Questionnaire short form was used to measure the quality of life among physical therapists. Data was collected through a self- administered online survey using Microsoft Forms. Results: The eligible participants were 258 out of 297. The highest percentage of physical therapists had a moderate physical activity level (45.35%) and the median for overall quality of life score was 63.27(52.73–73.59). There was a significant positive correlation between physical activity and age with overall quality of life score ($r_s = 0.41$, $p < 0.001$; $r_s = 0.13$, $p < 0.036$) respectively and a significant negative correlation between body mass index and overall quality of life score ($r_s = -0.13$, $p < 0.04$). Conclusion: The results obtained revealed that physical therapists mostly have moderate physical activity level and relatively good perceived quality of Life. Furthermore, our study identified significant correlations between physical activity, age, body mass index, and the overall quality of life among practicing physical therapists.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Correlation Of Ankle Dorsiflexion Range Of Motion With Lower-Limb Kinetic Chain Function And Hop Test Performance In Healthy Male Recreational Athletes

Haifa Saleh Almansoof, Shibili Nuhmani, Qassim Almuaidi

Health affairs in the ministry of national guards - King Abdulaziz Medical City

## Abstract

Background. The study aims to identify the correlation of ankle dorsiflexion range-of-motion (ADROM) (with its related gastrocnemius and soleus extensibility) with lower-limb kinetic chain function and hop test performance in young healthy recreational athletes. Methods. Twenty-one young male healthy recreational athletes were tested for ADROM, gastrocnemius and soleus extensibility, lower-limb kinetic chain function with the closed kinetic chain lower extremity stability test (CKCLEST) and hop test performance with the single-leg hop for distance test (SHDT) and side hop test (SHT). Results. There was a positive significant (rho = 0.514, 95% CI [0.092–0.779], P < 0.01) correlation between the dominant lower-limb weight-bearing/closed-chain ADROM (that represented the soleus extensibility) and the CKCLEST. There were no significant correlations between the study performance-based tests and open-chain ADROM (P > 0.05). Conclusion. The CKCLEST is positively and significantly correlated with SHT and weight-bearing ADROM with knee flexion (and its related soleus extensibility) which suggests comparability among them. Open-chain ADROM has a negligible and non-significant correlation with the readings of this study performance-based tests suggesting that it is probably not an essential construct of their execution. To the best of our knowledge, this study is the first to investigate these correlations.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# A scoping review of scope of Physical Therapists in the Primary Health Care Settings – Game changer in the Physical Therapy labour market of Saudi Arabia

Ramya Ramasamy Sanjeevi, Karthick Balasubramanian

Department of Physical Therapy, College of Nursing and Health Sciences, Jazan University, Saudi Arabia.

## Abstract

Background Primary care is a model of care that provides first-contact, accessible, continuous, comprehensive, and coordinated person-focused care. Its goal is to optimise population health and reduce disparities by ensuring equal access to services for all subgroups. It also includes a range of prevention, wellness, and treatment for common illnesses. Musculoskeletal disorders (MSDs) are rapidly rising in Saudi Arabia, reaching levels similar to those of the Western world. MSDs are the 3rd reason to visit a hospital in Saudi Arabia and account for 38% of visits to primary health centres. Presently, in Saudi Arabia, Physical Therapy is not fully developed as an autonomous practice and is still a secondary care that needs physician referral. This could be one of the reasons for the reduced job opportunities for the graduates who completed Physical Therapy. Henceforth, this study aims to evaluate the scope of physiotherapists in primary health care (PHC) settings. Objectives To review and explore the possibilities and investigate the barriers of integrating physical therapy in primary health care (PHC) settings. Method A scoping review was done dependent on Arksey and O'Malley as discussed by Wood et al., (2002). PubMed, Scopus, Web of Science, and Embase were searched. Two independent reviewers were involved in screening, selecting, and extracting data. The referencing arrangements of every pertinent paper were additionally filtered for more studies. Results A total of 138 articles were included, 23 of which met the eligibility criteria. 14 studies reported that integrating physical therapists in primary care settings. Studies with different outcomes and methodologies were used in these studies. Conclusion Integrating physical therapy in the PHC is effective in rehabilitation and prevention of MSDs. The potential barriers are ineffective teamwork, lack of clarity over the role, knowledge of physical therapists and physician's poor knowledge of physical therapy. Implications Physiotherapists have a unique set of knowledge and skills, which in certain cases could contribute to improved patient care in the PHC settings and helps in avoiding further referral. Physical therapy education should focus on educating the students about their roles in primary health care. Further researches on physical therapy in PHC will guide for formulating educational and employment policies on this.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# An Open source Computer Assisted Technique for Wound Surface Area Measurement.

Taif Abdullah Al-Mufadhi, Heba A.Bahey El-Deen, Taif Abdullah Al-Mufadhi, Sarah Abdullah Alanazi, Reem Mohammed alshammari and Noor Mohammed Albalawi

Al-Jouf University

## Abstract

Open source Computer Assisted Technique for Wound Surface Area Measurement. Abstract Background: Precise wound measurement helps to improve predictive values of healing rates and facilitate more effective clinical decision-making. Therefore, objective methods are required for comparative results and analysis of treatment regimens. Objective: To evaluate the photographic method using ImageJ software for wound surface area measurement in relation to accuracy, speed and applicability in clinical environment. Methods: Twenty open wounds (9 diabetic foot ulcers, 6 venous ulcers and 5 pressure ulcers) were recruited in this study. Each wound was photographed by a digital camera in non-calibrated environment in terms of light and distance. However, a metric ruler was positioned right beside the wound in the image frame for calibration purposes. Wound surface area measurement was carried out using popular open source software ImageJ. The common and native image format in most digital cameras was JPG. The considered parameters were photography and “image downloading” times as well as calibration and tracing times. The areas of measured wound were recorded in Microsoft excel sheet for comparison and analysis. Conclusion: It can be concluded that ImageJ Photography was a non-contact method which is more comfortable for patients. Using Photography with ImageJ is an economic alternative for WSA calculation. Being an open source, ImageJ is available for various Computer platforms like mac OS X, Linux and windows. In addition, Photography and ImageJ method has a fewer number of steps and a lower implementation time due to its relative accuracy, less time taken, ease of use as well as affordability and applicability in clinical environment.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# The Relationship of Smartphone Dimensions with Upper Extremity Musculoskeletal Disorders among Smartphone Users of Young Adulthood in Jazan Region, Saudi Arabia.

Karthick Balasubramanian, Ramya Ramasamy Sanjeevi

Department of Physical Therapy, College of Nursing and Health Sciences, Jazan University, Saudi Arabia.

## Abstract

Background Smartphones are inevitable and are used for various day-to-day activities. However, excessive smartphone usage can lead to musculoskeletal disorders (MSDs), particularly in the upper limbs. In previous studies of the general population in Saudi Arabia, it was found that around 56.5% experienced wrist or hand pain due to excessive smartphone use. Previous research mainly concentrated on determining the prevalence of upper extremity MSDs and their association with smartphone addiction, neglecting to consider the impact of smartphone dimensions. Therefore, we aimed to investigate the prevalence of upper extremity MSDs and their association with smartphone dimensions. Objectives To investigate the Relationship between Smartphone Dimensions and Upper Extremity MSDs among young smartphone users. Methods In this cross-sectional study, a self-administered questionnaire with five sections was used for data collection. The sections were demographics-anthropometrics, smartphone usage, smartphone dimensions, smartphone addiction scale (SAS-SV), and the standardised Nordic musculoskeletal questionnaire. Results The study included 262 participants aged 18 to 30, with 125 females (47.5%). The average SAS-SV score was 34.5±10.1, and 56.5% (n=148) were found to be addicted to smartphones. The prevalence of MSDs in the neck, shoulder, elbow, and wrist/hand regions was 45.8% (n=120), 20.6% (n=54), 5.3% (n=14), and 32.4% (n=85), respectively. The study also revealed moderate positive correlations between smartphone length and weight with neck pain ($r=0.357$, $p<0.05$ and $r=0.326$, $p<0.05$), smartphone width with elbow pain ($r=0.304$, $p<0.05$) and wrist/hand pain ($r=0.317$, $p<0.05$). Conclusion We found that the prevalence of smartphone addiction was 56.5% (n=148). The upper extremity MSDs caused by smartphone usage are associated with smartphone dimensions. Neck pain was the most prevalent MSD among the participants and it was positively correlated with smartphone length and weight Clinical relevance Researches exploring the relationship between smartphone addiction, dimensions and MSDs are needed to create awareness about the harmful sides of smartphone usage and help prevent MSDs at a young age.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Feedback Accuracy Enhance Stepping Performance in Post Stroke

Dr. Saleh Alhirsan, Mohammad Al-Maharmeh, Saleh M Alhirsan

College of Applied Medical Sciences in Quarayyat, Department of Physical Therapy and Health Rehabilitation, Jouf University

## Abstract

Objectives: Our objective is to deeply understand mechanism of stepping for individuals after stroke while receiving general (oral) Vs accurate (measured number) feedback on their performance. Design: Within-subjects, repeated measures design. Participants: Twelve individuals with hemiparesis who were in the chronic phase of recovery from stroke who can follow instructions (Mini-Mental State Examination>24) and were able to walk independently without using assistive devices. Outcome Measures: Participants were asked to take the biggest step they could with each paretic and non-paretic leg, and when they did so, they were given three chances to take an even bigger step until they failed the three chances to step longer than their latest attempted maximum step length value (i.e., 1 cm longer than the previously attempted step length). Results: Twelve participants were included in the analysis, with a mean age of 53.25 + 11.48 years and a median stroke onset of 36 (24, 93) months. Participants could step at a median comfortable step length of 35 cm (30, 40) with a paretic leg and 38 cm (29, 45) with a non-paretic leg. 66.7% of participants had longer paretic step lengths than their non-paretic ones. Friedman test results revealed a significant effect of maximum step length with general feedback (Median= 69.02, IQR= 50-86 cm) to accurate feedback (Median= 77.41, IQR= 61-103cm) (p= 0.009). Conclusions: Accurate feedback, i.e., simply displaying step length number, relative to general feedback, i.e., oral given feedback, induced significant increase in paretic leg maximum step length in adults with chronic stroke. Participants, in general, had slightly longer step length with paretic leg compared to non-paretic leg.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Association Between Physical Activity And Health Related Physical Fitness With Gestational Diabetes Mellitus And Cardiovascular Health In Pregnancy In Saudi Arabia

Fatimah Abdullah Ibrahim Alsayegh, Samiha Mohamed Ibrahim Abdelkader.

Rehabilitation Sciences, College Of Applied Medical Sciences, King Saud University, Maternity And Child Hospital In Buraydah.

## Abstract

Background: Gestational diabetes is one of the most common medical complications of pregnancy that has a high prevalence in Saudi Arabia. Gestational diabetes mellitus increases risks and complications of both maternal and fetal, and it is associated with cardiovascular risk factors. Physical activity plays a vital role in maternal health. An increase in physical activity levels helps enhance an increase in physical fitness. Therefore, the aim of this study was to assess the association between physical activity and physical fitness with gestational diabetes and cardiovascular health in pregnancy in Saudi Arabia. Methodology: This cross-sectional study included pregnant women, who were submitted during the routine visits in the second trimester from maternity clinics in Riyadh. Physical activity was assessed via a pregnancy physical activity questionnaire. Physical fitness was assessed based on muscle strength, which was measured by five times sit-to-stand test and hand-grip strength test, and laboratory tests screening for gestational diabetes, and the measure of cardiovascular health based on 4 metrics: Body-mass index, blood pressure, avoidance of nicotine, and sleep quality. Results: 95 pregnant women were enrolled in this study. We found a negative significant association between PA with gestational diabetes, body-mass index, and smoking habits ($r= -0.36$, $r=-0.44$, $r= 0.22$, $p < 0.05$) and a positively moderate association with sleep quality ($r= 0.42$, $p < 0.01$). Upper-body muscle strength had positively weak significant association with blood pressure, sleep quality, and smoking habit ($r = 0.19$, $r = 0.21$, $r = 0.19$, $p <0.05$), However, lower limb strength had a negative weak to moderate association with gestational diabetes, and body-mass index ($r = -0.23$, $r = -0.41$, $p<0.05$) and associated significantly very weakly to moderately positive with blood pressure and sleep quality ($r = 19$, $r = 56$; $p < 0.01$). Conclusion: Increasing physical activity and physical fitness is beneficial, recommended, and represents a promising management for controlling gestational diabetes and promoting better cardiovascular health among Saudi pregnant women.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Does Honey Phonophoresis Improve Cartilage Thickness of Osteoarthritic Knee Joint?

Mohamed M Ahmed, assistant Professor, Department of Physical Therapy, Jazan University Nada Alomairy, Ehab Yones Elbendary, Mozdalifa M Alnaeem, Abdulraouf Hamad Ayoub, Azza A. Al Areefy, / assistant Professors Jazan University

Department of Physical Therapy, College of Applied Medical Sciences, Jazan University, Jazan, Saudi Arabia. / Department of Basic Science, Faculty of Physical Therapy, Beni-Suef University, Beni-Suef, Egypt

## Abstract

Osteoarthritis (OA) is a progressive chronic disease with the loss of articular cartilage. It is now well recognized that the progression of the disease involves erosion of the cartilage, osteochondral inflammatory damage, and bone distortion. Many recent medical procedures provide treatment through improving symptoms through tissue regeneration and restoring homeostasis to local cells. Unlike bone, articular cartilage is rather recalcitrant to regenerate. Honey is a natural material contain 200 distinct chemical compounds in honey including a wide range of phenolic compounds that have antioxidant, bacteriostatic, antimicrobial, and anti-inflammatory properties. Honey was found to increase the printability and chondrogenic potential of a naturally derived bioink are the main formulations used as hydrogel for Articular Cartilage (AC) regeneration due to their similarity to chondral tissue in terms of morphological and mechanical properties. Case Report: We report a case of 60 years old male with grade one lt. knee osteoarthritis and evaluate the knee cartilage thickness, knee pain, and functional ability before and after 12 sessions of Honey Phonophoresis on lt. Knee with conventional physiotherapy composed of TENS and knee exercises. Evaluation performed using diagnostic ultrasound, VAS, and WOMAC score.Conclusion:Diagnostic ultrasound revealed significant improvement of femoral cartilage thickness, which means that regeneration started, VAS revealed improvement of pain sensation, and functional abilities improved on WOMAC score, all occurred after 12 sessions of Honey Phonophoresis with conventional therapy.


INTERNATIONAL JOURNAL OF
PHYSICAL THERAPY RESEARCH & PRACTICE
AN OFFICIAL JOURNAL OF SAUDI PHYSICAL THERAPY ASSOCIATION

# Agreement between tele-assessment and face- to-face assessment of sit to stand and time up and go for Elderly in Saudi Arabia

Hani Al-balawi, Nada Al-atawi, Shaimaa Saleh, Deema Bedaiwi, Reema alamrani, Orub Alsenani - PT intern.

University of Tabuk

## Abstract

Background: The Five-Times-Sit-to-Stand (5TSTS) and Timed-Up-and-Go tests (TUG) are commonly used to assess functional mobility in older adults. TUG measures the time required to stand up from a chair, walk for 3 meters, and return back to the chair. 5TSTS measures the time required to sit and stand from a chair five times. Tele-assessed 5TSTS and TUG can replace traditional face-to-face assessment methods, reducing costs and saving clinicians' and patients' time while preventing disease spread, especially in pandemic situations. However, before using tele-assessment methods, it is important to examine their agreement with face-to-face assessments of both tests Objective: The study aims to examine the agreement between tele-assessment and face-to-face assessment of TUG, and 5TSTS tests in older individuals. Methods: Participants performed the TUG and 5TSTS tests twice: 1- face-to-face and 2- remotely over Zoom using a smartphone with a built-in microphone, camera, and high-speed Internet. Two trained assessors independently conducted these evaluations while being blinded to each other's assessments. Descriptive statistics were used to summarize participants' characteristics. Bland-Altman plots and the Pearson correlation test were used to assess the agreement between the two conditions for each test. Results: Thirty-three participants aged 57 ± 7 years completed the study. Bland–Altman plots indicated that, in general, the mean difference between face-to-face and tele-assessments in both tests were close to zero, indicating a similar rating. Analysis of the correlation also revealed a high statistically significant correlation between the tele-assessment and the traditional face-to-face assessments in both TUG and 5TSTS (Pearson's $r = 0.99$, $p < 0.001$) (Pearson's $r = 1$, $p < 0.001$), respectively. Conclusion: This study showed a good level of agreements between tele-assessment and face-to-face assessment of both tests for adults. Therefore, tele-assessment can be considered a potential application to assess functional mobility in old people.