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Key Factors Driving Physiotherapy Use in Patients with Non-Specific Low Back Pain: Retrospective Clinical Data Analysis

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Abstract

Background: Understanding the key factors influencing the utilization of physiotherapy among non-specific low back pain (LBP) patients is crucial for optimizing treatment strategies, healthcare resource allocation, and planning effective value-based initiatives. **Aims:** This study aimed to identify important factors that influence the number of physiotherapy visits per episode of care for the non-specific LBP population and to compare these key factors in individuals experiencing their first episode of LBP and those with recurrent LBP. **Methods:** The multiple regression model identified the number of physiotherapy (PT) sessions per week, compliance with PT sessions, and pre-pain score, accounting for 41.8% of the variance (adjusted $R^2 = 0.32$, $p < 0.001$). The number of PT sessions per week ($\beta = 0.34$, $p < 0.001$) and compliance with PT ($\beta = 0.31$, $p < 0.001$) were the most significant factors identified. Pre-pain score ($\beta = 0.29$, $p < 0.001$) was also recognized as a significant factor. **Results:** The study revealed that the number of PT sessions per week, compliance with PT sessions, and pre-pain score accounted for 41.8% of the variance in PT visits for LBP (adjusted $R^2 = 0.32$, $p < 0.001$). Among these, the number of PT sessions per week ($\beta = 0.34$, $p < 0.001$), compliance with PT ($\beta = 0.31$, $p < 0.001$), and pre-pain score ($\beta = 0.29$, $p < 0.001$) were identified as the most critical factors. **Conclusion:** This study reveals previously unreported findings and contributes to a better understanding of the variance related to PT visits for LBP. It highlights factors to consider when aiming for value-based care. Specifically, a higher number of PT sessions per week, compliance with these PT visits, and higher baseline pain scores predicted a higher number of PT visits per episode of care among patients with LBP. These findings were discussed in the context of Saudi culture and global literature, along with their clinical implications.

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Local Arabic Rehabilitation Measurement Studies: Shortcomings and Recommendations

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Abstract

Background: Rehabilitation measurement tools are crucial in assessing patient outcomes and guiding clinical decisions. In the context of Arabic-speaking populations, the development and validation of these tools face unique challenges. Despite the increasing number of Arabic rehabilitation measurement studies conducted locally, significant shortcomings exist in these measurement-related studies. These issues potentially compromise the validity and applicability of the tools in clinical and research settings. **Objectives:** This study aims to critically analyze the existing Arabic rehabilitation measurement studies conducted locally, identify key shortcomings, and provide evidence-based recommendations to address these issues. **Methods:** A literature review was conducted, focusing on published studies that developed or validated rehabilitation measurement tools for Arabic-speaking populations. The review included an assessment of the methodological rigor in addressing measurement properties of outcome measures. Methodological quality was appraised using standard evaluation criteria, and common patterns of shortcomings were identified. **Results:** The review revealed several common shortcomings in Arabic rehabilitation measurement studies conducted locally. Many studies demonstrated inadequate or inappropriate content validity assessment. Structural validity was frequently compromised due to a lack of rigorous factor analysis methods. Measurement invariance was rarely tested across different clinically relevant subpopulations. Responsiveness was often underreported or assessed using inappropriate methods. Furthermore, the interpretability of outcome measure scores or changes in scores was hindered by the absence of established thresholds, such as the patient acceptable symptom state and minimal important change. **Conclusion:** To improve the quality and applicability of Arabic rehabilitation measurement tools, it is essential to adopt more rigorous methodologies in their development and validation. This includes thorough content validity assessment, robust structural validation methods, testing for measurement invariance, and a stronger focus on responsiveness and interpretability. **Clinical Relevance:** Enhanced validity, reliability, and interpretability of rehabilitation measurement tools for Arabic-speaking populations will lead to more accurate assessments, better-informed clinical decisions, and improved patient outcomes in rehabilitation settings. The recommendations provided in this study aim to guide future research and practice in this field.

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Fall Prevention Among Elderly in Saudi Arabia: The Role of Physical Therapy

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Abstract

Background: Falls and fall-related injuries among the elderly are a growing public health concern. Although multiple factors and co-morbidities are associated with falls, disorders of balance and gait are among the most common causes. Physical therapists are experts in balance and gait training, as well as fall-risk assessment and management. **Objectives:** To assess the knowledge and practices of physical therapists toward fall prevention among the elderly, and the services provided by their departments. **Methods:** An online survey was conducted between November and December 2021 among physical therapists working in different regions in Saudi Arabia. The survey covered demographic and professional characteristics, knowledge of risk factors, practices related to fall prevention in elderly people, departmental services, and barriers. **Results:** A total of 289 physical therapists were included in the analysis. The top recognized fall risk factors were balance/gait disorders, impaired cognition, sensory/perceptive deficits, and environmental hazards. The most frequently used practices were asking about the history of falls, identifying risk factors for falling, and educating patients about fall prevention strategies. The most frequent preventive services provided by the departments included gait training, strength and balance exercises, and fall prevention education. Higher knowledge of physical therapists was significantly associated with several practices and services, but not with demographic and professional characteristics or service barriers. **Conclusion:** The current findings underscore good knowledge but suboptimal practices among physical therapists working in different regions in Saudi Arabia. The barriers to fall prevention among older adults identified in this study call for urgent restructuring of services with a particular emphasis on staff and patient education. **Clinical Relevance:** In Saudi Arabia, the population is predicted to approximate 40 million in 2050, with 25% of the population being 60 years old or more. Proactive measures are needed to address fall prevention effectively.

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Virtual Reality Circle Drawing Task: A New Assessment Tool for Upper Limb Impairments in Children with Cerebral Palsy

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Abstract

Background: Cerebral palsy (CP) is a major cause of upper-limb impairments. In recent years, there has been growing interest in using virtual reality (VR) in CP rehabilitation. The use of VR in clinical practice could complement traditional physiotherapeutic methods, offering a novel, safe, and accessible tool for objective motor function assessment. However, previous research has predominantly focused on VR as a tool to promote exercises, neglecting its potential role in targeting other therapeutic goals, such as assessments. **Objectives:** The aim of this study was to evaluate the feasibility of a VR circle drawing task in assessing the upper-limb motor function of children with CP. **Methods:** Nine children with CP (age: 13±2.9 years) completed a VR circle drawing task using a Meta-Quest-2 headset and controllers. Outcomes included children's ratings of the VR task on the System Usability Scale (SUS), as well as circle drawing metrics (movement time, mean velocity, and circle roundness) derived from the controllers' kinematics during the task. Associations between these measures and scores from the Box and Block Test (BBT) and Duruoz Hand Index (DHI) were examined using Spearman's correlations. **Results:** The average score for the SUS was 74±16, indicating good usability and acceptability. No adverse effects were reported by participants. BBT scores were correlated with mean velocity (rho=0.78, p=0.01) and roundness (rho=0.92, p<0.001). DHI scores were correlated with mean velocity (rho=-0.82, p=0.007) and roundness (rho=-0.75, p=0.02). **Conclusion:** This study demonstrates that the VR circle drawing task is a feasible tool for capturing the upper-limb motor performance of children with CP, highlighting the potential value of VR in CP physiotherapy. **Clinical Relevance:** The observed correlations with well-established clinical measures warrant further investigation before considering broader clinical application. VR-based assessment could complement conventional assessments, offering an engaging and interactive medium that may enhance the evaluation process.

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Responsiveness of the Arabic Version of the Lower Extremity Functional Scale in Individuals with Lower Extremity Musculoskeletal Disorders

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Abstract

Background: The Lower Extremity Functional Scale (LEFS) is widely used to evaluate physical function in individuals with lower extremity musculoskeletal disorders (MSDs). While the Arabic version of the LEFS has been validated for reliability and validity, its responsiveness—the ability to detect meaningful changes over time—has not yet been examined. **Objectives:** To evaluate the responsiveness of the Arabic version of the LEFS in detecting changes in lower extremity function in individuals with MSDs. **Methods:** A total of 69 participants with lower extremity MSDs received physical therapy care and completed the Arabic versions of the LEFS, RAND 36-item Health Survey, and Numeric Pain Rating Scale (NPRS) at initial and follow-up visits. At the follow-up visit after four weeks, participants also completed the Global Rating of Change (GRC) scale. Responsiveness was assessed by testing predefined hypotheses, correlating changes in LEFS scores with changes in other measures using the Pearson correlation coefficient. **Results:** The Arabic LEFS change scores demonstrated moderate positive correlations with changes in the RAND-36 physical function domain (r = 0.473), pain domain (r = 0.330), and GRC (r = 0.439). Lower correlations were observed with changes in the RAND-36 emotional well-being domain (r = 0.121) and the NPRS (r = 0.285). Predefined hypotheses were met in 86% of cases, supporting the scale's ability to reflect changes in lower extremity function. **Conclusions:** The Arabic version of the LEFS is responsive and effectively measures changes in lower extremity function in individuals with MSDs. This responsiveness underscores its utility in clinical practice for tracking functional improvements and informing decision-making during rehabilitation. **Clinical Relevance:** The study confirms the validity of using the Arabic LEFS change scores in clinical settings, enabling clinicians to evaluate and monitor functional progress in patients with lower extremity MSDs over time.

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Exploring Change in Self-Reported Physical Activity Behaviors During the COVID-19 Lockdown Compared with Pre-Lockdown: A Cross-Sectional Survey of Physically Active Adults in Saudi Arabia

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Abstract

Background: In March 2020, the World Health Organization declared COVID-19 a global pandemic. In response, Saudi Arabia, like many other countries, implemented lockdown measures to control the spread of the virus. These restrictions significantly impacted people's physical activity levels and opportunities. **Aim:** To investigate changes in self-reported physical activity behavior during the COVID-19 lockdown compared with pre-lockdown among physically active adults in Saudi Arabia and to identify barriers faced by those who reduced or ceased physical activity during the lockdown. **Methods:** A cross-sectional survey was conducted. The study surveyed 213 physically active adults aged 18–64 years (65.7% male) living in Saudi Arabia. An online version of the International Physical Activity Questionnaire (short form) was distributed via social media platforms between November 5 and December 15, 2021. Participants self-reported physical activity behaviors before and during the lockdown, focusing on intensity, duration, and frequency. **Results:** Activity Levels: 40.8% (n = 87) of participants did not perform any physical activity during the lockdown. Frequency Reduction: There was a significant decrease in the frequency of all intensities of physical activity (vigorous, moderate, and combined) during the lockdown compared with pre-lockdown. Duration Reduction: All physical activity intensities showed a significant reduction in duration, except for vigorous activity. Guideline Non-Compliance: Approximately 70% (n = 148) of participants did not meet international physical activity recommendations during the lockdown. Barriers: The most reported barriers were a lack of appropriate equipment or space and the closure of sports infrastructure. **Conclusion:** The COVID-19 lockdown negatively influenced physical activity behaviors among physically active adults in Saudi Arabia, with 70% failing to meet recommended physical activity levels. The findings highlight the need for healthcare professionals and policymakers to develop strategies to maintain physical activity during potential future pandemics.

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The Perceived Impact of Physiotherapy-related Debates on "X Social Platform" on Physiotherapists' Professional Development and Knowledge Acquisition: A Cross-Sectional Study

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Abstract

Background:
Professional debates are recognized as valuable teaching tools in health professions education, including physiotherapy. In Saudi Arabia, “X Social Platform” is widely used by healthcare providers and has recently become a venue for notable physiotherapy-related debates among practitioners. However, no research to date has specifically evaluated the impact of these debates on the professional development and knowledge acquisition of physiotherapists. **Aim:** This study aimed to assess the perceived impact of physiotherapy-related debates on "X Social Platform" on physiotherapists' professional development and knowledge acquisition. **Methods:** A quantitative cross-sectional study was conducted using a pre-designed questionnaire targeting licensed physiotherapists practicing in Saudi Arabia. The study collected data on participants’ engagement with debates, perceived impacts on professional development, and knowledge acquisition. **Results:** A total of 188 participants were included in the study. 76.06% of respondents had an active account on "X Social Platform." Positive impacts were reported in several areas, including changes in perspectives toward certain physiotherapy approaches, enhancement of critical thinking skills, and acquisition of new knowledge or insights (51.00% agreed, 18.20% strongly agreed). Participants reported gaining knowledge about research findings (62.24%) and new treatment techniques (62.94%). Perceived impacts on overall professional development were rated lower (30.10% agreed, 6.30% strongly agreed). **Conclusion:** The findings highlight the high interaction and active participation of physiotherapists on "X Social Platform." The debates on this platform positively influenced physiotherapists’ perspectives, critical thinking skills, and knowledge acquisition. This suggests that such debates may serve as valuable tools for professional growth and the dissemination of new insights and research findings in the field of physiotherapy.

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Efficacy of Virtual Reality-Based Rehabilitation Following Total Knee Replacement: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Abstract

Background: Virtual reality-based rehabilitation (VRBR) is an emerging intervention in post-operative care following total knee replacement (TKR). Its potential benefits on pain reduction, balance improvement, proprioception, joint function, gait speed, and health-related quality of life (HRQOL) are of growing interest. **Objectives:** To conduct a quantitative analysis of randomized controlled trials (RCTs) assessing the efficacy of VRBR compared to conventional therapy (CT) in improving clinical outcomes following TKR. **Materials and Methods:** Systematic searches of multiple databases were conducted to identify RCTs evaluating VRBR post-TKR. Meta-analyses of 13 RCTs involving 1,046 participants were performed using Cohen's standardized mean difference (SMD) with a 95% confidence interval (CI) for 11 outcome measures. **Results:** VRBR significantly reduced pain (SMD: −0.36, 95% CI: −0.73 to 0.00, P = .05), improved dynamic balance (SMD: −0.75, 95% CI: −1.32 to −0.19, P = .009), and enhanced knee function (SMD: −0.75, 95% CI: −1.05 to 0.13, P < .0001) immediately post-intervention. No significant improvements were observed in proprioception, gait speed, and HRQOL (P > .05). Benefits of VRBR on pain and function may persist for up to six months, although its efficacy was not superior to CT in areas like proprioception, gait speed, or HRQOL. **Conclusion:** Immersive and non-immersive VRBR are effective for reducing pain and enhancing knee function following TKR, with sustained benefits lasting up to six months. VRBR may expedite the rehabilitation process and complement CT but does not outperform it in all domains. **Clinical Relevance:** VRBR has the potential to optimize recovery, reduce rehabilitation time, and lower healthcare costs associated with TKR programs. Further studies are needed to explore its long-term benefits and broader applications in musculoskeletal rehabilitation.

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Perception of Physiotherapists in Saudi Arabia Regarding Their Role in Physical Activity Promotion

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Abstract

Objectives: This study aims to explore the perceptions of physiotherapists in Saudi Arabia concerning their professional responsibility in promoting physical activity among patients. By understanding their viewpoints, the study seeks to highlight the perceived significance of physiotherapists' roles in advocating for and facilitating increased physical activity. The findings may shed light on potential gaps in confidence, resources, or training that could hinder their effectiveness in this area. **Methods:** A self-administered questionnaire was designed specifically for this study and distributed to physiotherapists practicing across Saudi Arabia. The survey focused on gathering insights into their perceptions, confidence levels, and strategies for promoting physical activity to patients. The study engaged 279 physiotherapists, with a male predominance (68.8%) and a smaller proportion of female participants (31.2%). **Results:** The findings demonstrated a strong consensus among physiotherapists regarding the importance of incorporating physical activity advocacy into their practice. Notably: 74.2% (207 participants) strongly agreed that discussing the benefits of physical activity with patients is a fundamental aspect of their role. This emphasizes their recognition of the importance of education and awareness in patient care. 62% (173 participants) strongly agreed that offering patients a variety of practical strategies to integrate more physical activity into their daily lives is a core responsibility of physiotherapists. This reflects their acknowledgment of the need for patient-specific, actionable guidance. However, despite these positive perceptions, only 55.2% of respondents expressed confidence in recommending specific physical activity programs tailored to individual patient needs. This indicates a potential gap in knowledge, training, or resources required to provide personalized advice effectively. **Conclusions:** The study underscores that physiotherapists in Saudi Arabia largely recognize and embrace their critical role in encouraging physical activity among patients. Nevertheless, certain barriers, particularly limited consultation time and a lack of confidence in designing specific physical activity programs, hinder their ability to deliver tailored interventions. Addressing these barriers through targeted training, improved clinical workflows, and the development of resources or guidelines may enhance the capacity of physiotherapists to act as effective advocates for physical activity in patient care.

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Evaluating Factors That Influence How Older People in the UK and KSA Report Fear of Falling: A Cross-Sectional Study

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Abstract

Background: Falls are a major health concern for individuals aged 60 years and older, with fear of falling (FoF) being a critical psychological factor. The Falls Efficacy Scale-International (FES-I) is widely used to measure an individual's concern about falling, yet several studies have highlighted issues and biases in its application. This cross-sectional study aimed to explore these concerns by assessing participants using four versions of the FES-I: the standard FES-I, two modified instruction versions (worst-case and best-case FES-I), and the Iconographic (ICON) FES-I. **Methods:** A sample of community-dwelling older adults from the UK (n = 76) and KSA (n = 100) participated in the study. Participants completed four versions of the FES-I to assess changes in FoF. Additional measures included the Hospital Anxiety and Depression Scale (HADS), the Medical Outcomes Study Social Support Survey (MOS-SSS), a sociodemographic survey, a 6-month fall history, the Timed Up and Go test (TUG), and two bespoke Likert scales. Descriptive statistics, T-tests, ANOVA, correlation, and regression analyses were conducted to explore differences and relationships between FES-I scores and independent variables. **Results:** Significant differences ($P < 0.05$) were observed between the standard FES-I and the ICON FES-I when compared to the worst-case and best-case FES-I. Perceived health status, anxiety, and depression scores were significantly correlated with the standard FES-I, even after accounting for TUG and fall history. Mobility, fall history, and psychological factors collectively predicted reporting tendencies and deviations in FES-I scores across its versions. **Conclusions:** The study confirmed that participants' FES-I scores varied when additional clarity was introduced in the instructions and were influenced by other factors. Although the FES-I is a valid and reliable tool, its ambiguity may limit its effectiveness. Further studies are needed to refine the scale, examine its sensitivity to interpersonal factors, and deepen the understanding of its applications.

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Understanding Saudi Pelvic Health Physical Therapists' Perspective Toward Using Apps for Their Urinary Incontinence Patients

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Abstract

Introduction: Digital health is a key component of Saudi Arabia's Vision 2030. Urinary incontinence (UI), defined by the International Continence Society (ICS) as involuntary urine leakage, affects 45% of Saudi women, particularly postnatal and elderly populations. Pelvic floor exercises are the primary treatment for UI, but their effectiveness is limited by poor patient adherence and a shortage of pelvic health physical therapists in Saudi Arabia. Mobile applications can enhance adherence by reminding patients to perform exercises and tracking their progress. Although the Squeezy App was recently translated into Arabic for Saudi users, it was removed from app stores due to low uptake by local physical therapists. **Aim of the Study:** This study aims to explore the perspectives, opinions, and beliefs of Saudi pelvic health physical therapists (PHPTs) regarding the use of mobile applications for managing UI in their patients. **Method:** A survey was distributed to Saudi PHPTs via the Saudi Physical Therapy Association (SPTA) email and Twitter accounts, as well as through direct contact with members of the Saudi Women's Health Physical Therapy Association. **Results:** Fifteen PHPTs were recruited. Two key themes emerged: 1st **Facilitators:** Notifications reminding patients to perform exercises and adopt healthy habits were considered effective by 66.7% of participants and 2nd **Barriers:** The necessity of a first-time consultation with a physical therapist (60%) and the need for alternative treatments for postnatal UI were highlighted. **Conclusion:** PHPTs support the use of app-based treatments like the Squeezy App for postnatal UI, provided it is preceded by an initial consultation. The study recommends that the Squeezy App, developed by the UK's National Health Service, be reintroduced in Arabic and made freely available by the Ministry of Health to assist patients with limited resources.

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Physical Therapists' Perspectives and Clinical Practice on Assessment, Rehabilitation, and Return to Sport Criteria After Anterior Cruciate Ligament Injury and Reconstruction in Saudi Arabia

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Abstract

Background: The anterior cruciate ligament (ACL) is one of the most frequently injured structures worldwide. **Objectives:** This study aimed to explore physical therapists' (PTs) perspectives and clinical practices regarding assessment, rehabilitation, and return-to-sport (RTS) criteria after ACL injury and reconstruction in Saudi Arabia (SA). Additionally, it investigated associations between PTs' perspectives and practices with gender, level of educational qualification, years of clinical experience, and the number of individuals treated post-ACL injury and reconstruction. **Methods:** This descriptive cross-sectional study included 206 participants. An online survey was distributed to PTs with active licenses who had graduated, trained, or worked in SA and had treated at least one individual post-ACL injury and reconstruction within the last two years. The survey covered seven sections: participant demographics, the importance of ACL reconstruction (ACLR) rehabilitation, clinical measurements, practice, criteria to progress rehabilitation, return to running, and RTS. **Results:** Most PTs (84.9%) reported seeing individuals post-ACLR for the first time within the first week after surgery. About 24.8% preferred starting open kinetic chain (OKC) exercises within one to seven days post-ACLR. Timing for returning to running post-ACLR varied, with 39.8% allowing RTS between six to nine months. Over 40% of participants did not use patient-reported outcome measures (PROMs) to clear patients for RTS or evaluate psychological readiness. Most PTs (76.2%) recommended an ACL injury prevention program upon discharge. **Conclusion:** Significant variability in PTs' perspectives and clinical practices regarding assessment, rehabilitation, and RTS was observed. Many practices were inconsistent with evidence-based recommendations. **Clinical Relevance:** These findings highlight the need for improved adherence to evidence-based practices among PTs in Saudi Arabia. Policymakers in healthcare and sports organizations may utilize this information to address areas of weakness, bridge the evidence-to-practice gap, enhance long-term outcomes, and reduce both monetary and non-monetary costs.

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Musculoskeletal Pain Among Gamers in Saudi Arabia: A Prominent Challenge That, Surprisingly, Doesn't Disrupt Gaming Immersion

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Abstract

Background: The rapid growth of the electronic gaming industry has introduced challenges, particularly musculoskeletal (MSK) pain among gamers. Saudi Arabia's Vision 2030 seeks to position the country as a global Esports hub while promoting healthier lifestyles. **Objectives:** This study aimed to investigate the prevalence of MSK pain and its impact on flow states and self-efficacy among gamers in Saudi Arabia. **Methodology:** This cross-sectional, descriptive study included competitive and non-competitive gamers aged 18 or older in Saudi Arabia. Participants completed a researcher-developed online questionnaire with validated measures of musculoskeletal pain, flow state, and self-efficacy. The questionnaire was distributed via online platforms and contact lists from the Saudi Esports Federation. **Results:** A total of 593 gamers participated, with a mean age of 25.70 years; 71.3% were male, and 58.2% played for over four hours daily. Musculoskeletal pain was reported by 78.2% of participants, with a higher prevalence in females (86.47%) compared to males (74.95%). The most affected body regions were the neck (49.4%) and lower back (40.0%). Shoulder and upper back pain were significantly associated with specific game genres, especially sports/racing games. Despite high levels of MSK pain, participants demonstrated high flow states and moderate self-efficacy. No significant associations were found between flow states, self-efficacy, and MSK pain. **Conclusion:** Gamers in Saudi Arabia experience a high prevalence of MSK pain, particularly in the neck, back, and shoulders. Gender and game genres were key factors influencing MSK pain. However, this pain did not affect gamers' flow state or self-efficacy. **Clinical Relevance:** Understanding gamers' experiences and well-being is essential for fostering a healthier gaming environment. This study provides insights to guide the development of prevention and health promotion strategies that encourage balanced gaming habits, support physical health, and enhance overall wellness.

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Psychological Interventions within Physiotherapy: A Qualitative Exploration of the Perspectives of Paediatric Physiotherapists in the Kingdom of Saudi Arabia

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Abstract

Background: Paediatric physiotherapists play a vital role in improving the quality of life for children with disabilities. According to the General Authority for Statistics (GASTAT) 2017 disability survey in Saudi Arabia, 11.16% of Saudi children aged 5–19 years have disabilities. These children may face psychological and social challenges, making the biopsychosocial model a valuable approach in physiotherapy. Psychologically Informed Physiotherapy (PIP) integrates the biopsychosocial model into physiotherapy practice (Porter, 2016; Smart, 2023; Gervais-Hupe et al., 2022). Studies, such as Gray et al. (2021), highlight positive attitudes of physiotherapists toward PIP but emphasize the need for further development. **Methods:** This qualitative study employed epistemological philosophies to explore paediatric physiotherapists' perspectives on psychology, psychological interventions, and PIP in Saudi Arabia. Focus groups were conducted with paediatric physiotherapists, and qualitative data were transcribed and analyzed using hybrid thematic analysis. Data collection occurred between June and July 2023. **Result:** Four focus groups with a total of 10 participants (2–3 per group) contributed to the study. Three main themes emerged from the thematic analysis: Knowledge: Insights into academic education, post-professional education, and foundational knowledge in psychology and physiotherapy. Implementation: Discussions on conditions, interventions, strategies, techniques, and their purposes within the physiotherapy context. Future Needs: Recommendations for further training and learning opportunities to enhance PIP implementation. **Conclusion:** This study is the first to provide valuable insights into paediatric physiotherapists' perspectives on psychology, psychological interventions, and PIP in Saudi Arabia. The findings underscore the importance of enhancing knowledge and training to integrate psychological interventions effectively in paediatric physiotherapy practice.

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Validity and Reliability of the PhysioMaster Application in Measuring Wrist Range of Motion (ROM)

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Abstract

Background: The Universal Goniometer (UG) is widely recognized as the gold standard for measuring joint Range of Motion (ROM). However, it has limitations, including the need for manual positioning and alignment, which may introduce user error. Its accuracy heavily depends on the examiner's skill and experience. Recent technological advancements, such as smartphone inclinometer-based applications like PhysioMaster, offer potential alternatives to overcome these challenges. **Objective:** This study aims to assess and compare the validity and reliability of the Universal Goniometer with the PhysioMaster smartphone application in measuring wrist ROM. **Methods:** A comparative study was conducted with 30 female participants aged 19 to 50, recruited from Jouf University, Saudi Arabia. Participants were free from structural deformities in the upper limb. Wrist ROM was measured using both the UG and the PhysioMaster application. Three measurements were taken for each movement: flexion, extension, ulnar deviation, and radial deviation. Data were analyzed using SPSS (v.26), and the Inter-Class Correlation Coefficient (ICC) was calculated to evaluate reliability for both hands. **Results:** The findings revealed that the *PhysioMaster* smartphone application exhibited superior reliability compared to the Universal Goniometer (UG) in measuring wrist ROM for both hands. For the right hand, ICC values for wrist movements measured with the *PhysioMaster* ranged from 0.916 to 0.976, notably higher than those recorded for the UG, which ranged from 0.795 to 0.862. Similarly, for the left hand, the *PhysioMaster* application demonstrated ICC values between 0.911 and 0.981, consistently outperforming the UG, which recorded ICC values between 0.599 and 0.907. These results indicate that the *PhysioMaster* application provides more reliable measurements, particularly for wrist flexion, extension, and ulnar deviation, with the largest discrepancies observed in radial deviation measurements**. Conclusion:** The results demonstrate that the PhysioMaster smartphone application has higher reliability in measuring wrist ROM compared to the Universal Goniometer. This suggests that PhysioMaster could serve as a more accurate and practical tool in clinical settings.

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Prevalence and Associated Factors of Musculoskeletal Pain Among Barbers in Saudi Arabia: A Cross-Sectional Study

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Abstract

Background: Musculoskeletal disorders (MSDs) are a significant global health concern, particularly in occupations involving manual labor and repetitive tasks. Barbers are especially vulnerable to MSDs due to the nature of their work, which can adversely affect their quality of life and productivity. This study aims to assess the prevalence, severity, associated factors, and impact of musculoskeletal pain on the quality of life among barbers in Saudi Arabia. **Methods:** A descriptive cross-sectional study will be conducted among barbers working in various barbershops across Saudi Arabia. Data will be collected through a self-reported questionnaire capturing demographics, health status, occupational characteristics, and the presence and severity of musculoskeletal pain in different body regions. The Nordic Musculoskeletal Questionnaire, along with validated tools like the Numeric Rating Scale and Oswestry Low Back Pain Disability Index, will be used to measure pain levels and associated disability. Data analysis will be conducted using SPSS (v.29), with descriptive statistics for continuous and categorical variables. T-tests, Chi-square tests, and nonparametric tests (as necessary) will be employed. Logistic regression will determine factors associated with MSK pain, with significance set at $p < 0.05$. **Expected Outcomes:** The study is anticipated to reveal a high prevalence of MSDs among barbers, particularly in the neck, shoulders, and lower back. Over 50% of participants are expected to report moderate to severe symptoms. Key risk factors, such as prolonged working hours, poor ergonomics, and psychosocial stress, are likely to correlate with pain severity. These findings will highlight the substantial impact of MSDs on barbers' physical and emotional well-being and emphasize the need for ergonomic interventions and targeted health initiatives. **Significance of the Study:** This study will provide valuable insights into the occupational health challenges faced by barbers, offering evidence to guide clinical management and workplace improvements. By identifying critical risk factors and highlighting the detrimental effects of MSDs on quality of life, the findings aim to inform the development of targeted preventive strategies and public health policies to mitigate MSDs in the barbering profession.

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Contributing Factors to Smartphone Addiction and Adolescent Idiopathic Scoliosis Among Saudi Arabian Adolescents

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Abstract

Background: This study investigated the prevalence of Adolescent Idiopathic Scoliosis (AIS) in Saudi Arabia, focusing on adolescents aged 12 to 18 years. AIS, a structural spinal deformity occurring without a known cause during adolescence, poses significant public health concerns due to its potential impact on physical health and quality of life. Given the rising trend of smartphone use among adolescents, this study also sought to explore whether smartphone addiction contributes to the prevalence of scoliosis in this age group. The study aims to provide insights into the potential association between lifestyle factors, such as prolonged smartphone use, and spinal health. **Methods:** A cross-sectional observational study was conducted among 398 male and female students from intermediate and secondary schools in the Riyadh Region, Saudi Arabia. Participants were aged 12 to 18 years, and demographic data, including gender, age, weight, height, and BMI, were collected. Smartphone addiction was assessed using the validated Smartphone Addiction Scale-Short Version (SAS-SV), which measures patterns and intensity of smartphone use. Physical examinations were performed to identify signs of scoliosis, including shoulder asymmetry, scapula prominence, waistline inequality, and spinal abnormalities. Screening for AIS was conducted using the Adam's Forward Bending Test (AFT) and Scoliometer, reliable tools for detecting spinal curvatures indicative of scoliosis. **Results:** Out of the 398 participants, 203 were girls and 195 were boys. The overall prevalence of scoliosis was significantly higher in girls (34.7%) compared to boys (9.7%), highlighting a gender disparity in AIS occurrence. Additionally, the study found a high prevalence of smartphone addiction, particularly among girls, with 83.3% exhibiting scores indicating addiction on the SAS-SV. Despite these findings, no significant correlation was observed between smartphone addiction levels and thoracolumbar scoliosis. This suggests that while smartphone addiction is common among adolescents, its role as a risk factor for scoliosis remains inconclusive. **Conclusion:** The study underscores a notable prevalence of AIS among adolescents in Saudi Arabia, especially among girls, emphasizing the need for targeted awareness and intervention programs. Early detection and management of scoliosis are critical to mitigating its progression, reducing healthcare burdens, and improving health outcomes. Although no direct association was found between smartphone addiction and scoliosis, further research is needed to explore other potential contributing factors, such as posture and duration of smartphone use, to better understand their impact on spinal health.

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Association Between Work-Related Musculoskeletal Disorders and Burnout Among Physical Therapists Working in Saudi Arabia: A Cross-Sectional Study

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Abstract

Background: Work-related musculoskeletal disorders (WMSDs) are common health issues among healthcare workers, particularly physical therapists, due to tasks such as patient transfers, lifting, and manual treatments. The combination of physical demands and psychological stress contributes to the development of WMSDs. Burnout, characterized by emotional exhaustion and disengagement, is also associated with an increased risk of musculoskeletal pain. Both WMSDs and burnout negatively impact healthcare workers, leading to absenteeism, reduced well-being, and compromised patient safety. **Objectives:** This study aims to examine the association between WMSDs and burnout syndrome among physical therapists in Saudi Arabia. **Methods:** A cross-sectional study was conducted using a web-based survey among physical therapy professionals in Saudi Arabia. A self-administered questionnaire was distributed, which included the Oldenburg Burnout Inventory (OLBI), a Musculoskeletal Health questionnaire, and questions on sociodemographic data, pain locations, and pain duration. **Results:** A total of 187 physical therapists participated in the study, with women comprising the majority (n = 123, 65.8%). Among participants, 45.4% reported high levels of disengagement, and 28.4% exhibited high levels of exhaustion (OLBI subscales). Pain in various body parts affected their work, with the lower back being the most common (45.7%). A statistically significant association was found between WMSDs and the disengagement subscale of the OLBI (p = 0.031). **Conclusion:** The study revealed a significant association between WMSDs and burnout-related disengagement among physical therapists. **Clinical Relevance:** These findings suggest that healthcare organizations should implement programs to raise awareness and encourage the adoption of policies addressing WMSDs and burnout. Prioritizing the physical and psychological well-being of physical therapists can improve patient safety, job satisfaction, and overall workplace outcomes.

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Current Practice of Physical Therapists in Screening Fall Risk Among Older Adults with Knee OA: A Cross-Sectional Study

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Abstract

Background: Knee osteoarthritis (OA) significantly affects the mobility, work capacity, and social roles of older adults. Studies across Saudi Arabia report a prevalence of knee OA ranging from 30.8% to 60.9%, with higher rates observed among females. Additionally, approximately 54% of older adults with knee OA experience falls. **Objectives:** This study aims to investigate the current practices of physical therapists in screening fall risks among older adults with knee OA in Saudi Arabia. **Methods:** A cross-sectional study was conducted using an online survey distributed to Saudi physical therapists. The questionnaire included two sections: (1) demographic information of the physical therapists and (2) their knowledge, beliefs, and awareness regarding fall screening and prevention practices. **Results:** Out of 360 physical therapists, 223 completed the survey. Among the respondents, 87% held a bachelor's degree, and most reported having four years of clinical experience working with patients with knee osteoarthritis (OA). Additionally, 51.6% had received training or educational resources on fall prevention interventions, while 61.1% had access to such resources. In terms of clinical practice, 54.3% routinely used fall-risk screening tools during patient assessments, and 81.6% inquired about their patients' fall history, indicating a strong emphasis on fall prevention in their practice. **Conclusion:** Saudi physical therapists demonstrated a good level of knowledge and practice in screening fall risks, with more than half incorporating fall history inquiries into their assessments. **Clinical Relevance:** The findings emphasize the importance of integrating fall prevention rehabilitation into clinical practice. Developing structured fall-risk assessment protocols may improve care quality and reduce the health system costs associated with falls among older adults with knee OA.

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Normative Data for Patients Prior to and Following Total Knee Arthroplasty

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Abstract

Background: There is a lack of comprehensive outcomes data for a large sample of patients after total knee arthroplasty (TKA). Clinicians often rely on individualized goals and institution-specific milestones to guide rehabilitation. **Objective:** This study aimed to provide clinicians and researchers with normative functional outcomes data for patients before and after TKA and to describe changes over time. **Subjects:** A total of 2,907 participants (1,252 males and 1,655 females) were included, stratified into the following groups and time points: healthy controls, moderate knee osteoarthritis (OA), end-stage knee OA, and patients post-TKA at 1 month, 3 months, 6 months, 1 year, and 2 years. **Methods:** Demographic and clinical metrics included age, weight, BMI, knee range of motion (ROM), quadriceps strength, and quadriceps index. Performance-based tests included the Timed-Up-and-Go (TUG), Stair-Climbing Task (SCT), Six-Minute Walk Test (6MWT), and 30-Second Chair Rise Test (CRT). Descriptive data and comparisons were conducted for all groups. Regression equations and associated r2r^2 values were calculated within each group, using age as the independent variable. **Results:** Patients with OA and post-TKA were heavier than healthy controls. Knee ROM and strength were lowest at 1 month post-TKA, with significant improvements by 3 months. However, strength symmetry was not restored until 2 years post-surgery, and functional outcomes remained lower than those of age-matched healthy controls. The relationship between age and performance (TUG, SCT, 6MWT, CRT) was significant from 3 months to 2 years post-TKA but not before surgery. **Conclusions:** TKA improves function compared to preoperative status, but deficits persist when compared to healthy controls, even after 2 years. Age impacts functional performance post-TKA but not preoperatively, indicating that pain or other factors may influence pre-surgery function. **Clinical Relevance:** These normative values can serve as benchmarks for evaluating outcomes in patients with OA and TKA in research and clinical settings. Age-based tables derived from this data can be utilized in clinical practice to gauge patient progress effectively.

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Physical Therapy Appointment Planning: Exploring the Role of Therapists' Years of Experience

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Abstract

Background: Effective planning for physical therapy appointments is critical to ensuring timely access to care and optimizing resource utilization. Experienced therapists may rely on clinical judgment to plan fewer appointments, while less experienced therapists often adhere closely to guidelines. However, limited research has examined how therapists' experience levels influence appointment planning. **Objectives:** This study aimed to explore the current practices of physical therapy appointment planning and describe how therapists with varying levels of experience approach determining the number of appointments needed. **Methods:** An observational, questionnaire-based study was conducted among physical therapists (PTs) in Saudi Arabia. The survey included demographic information (12 items) and questions related to appointment planning (5 items). PTs were categorized into three groups based on their years of experience: 1–4 years, 5–8 years, and 9+ years (KSU-IRB#E-24-8553). **Results:** A total of 437 PTs participated, with 68.2% (n = 298) having 1–4 years of experience, 17.8% (n = 78) having 5–8 years, and 13.9% (n = 61) having 9+ years. Across all groups, most therapists determined the number of appointments based on their evaluations (66%, 64%, and 67%, respectively). However, challenges in appointment planning were reported: Among PTs with 9+ years of experience, 56% indicated that patients often did not complete all planned appointments or required more than initially planned. This percentage increased among less experienced therapists: 65% in the 1–4 years group and 68% in the 5–8 years group. **Conclusion:** While therapists of all experience levels primarily rely on evaluations for appointment planning, most report that patients either do not finish their planned sessions or require additional appointments. Less experienced therapists are more likely to report higher rates of patients needing more appointments. **Clinical Relevance:** The findings highlight the need for improved strategies for appointment planning. Suboptimal planning can negatively impact care quality, waiting times, and resource utilization. Developing clear protocols and evidence-based guidelines could enhance the consistency and effectiveness of appointment planning in physical therapy.

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Sleep Knowledge, Attitude, and Practice Among Healthcare Professionals

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Abstract

Background: Adequate sleep is essential for maintaining both physical and mental health. However, with the fast-paced and technologically advanced nature of modern society, sleep disruptions and poor sleep quality have become increasingly common. These challenges highlight the importance of having well-trained healthcare professionals to address sleep-related issues. In the absence of current assessments of healthcare professionals in the Saudi context, this study aims to evaluate their knowledge, attitudes, and practices regarding sleep hygiene in relation to clinical practice. **Methods:** This cross-sectional study used an online questionnaire to recruit healthcare workers in Saudi Arabia. The survey included sections on demographics, sleep knowledge (9 questions), sleep hygiene (29 questions), and sleep-related practices (2 questions). **Results:** A total of 288 healthcare professionals completed the survey. The mean age of participants was 31.2 ± 8.3 years, and 53.1% were female. Respondents included physicians (24.3%), nurses (11.1%), and physiotherapists (10.4%). Formal education on sleep was reported as 5–10 hours for 51.7% of participants. The average correct response rate for sleep knowledge questions was 25.1 ± 13.1%. Additionally: 43.8% of participants indicated they have sufficient knowledge about sleep to address sleep-related issues in their clinical practice. 49.6% reported currently addressing sleep-related issues in their practice. Sleep hygiene scores averaged 79.5 ± 26.2. **Conclusion:** Approximately half of the participants reported addressing sleep-related issues in their clinical practice despite low levels of sleep-related knowledge and relatively poor sleep hygiene scores. These findings underscore the urgent need to improve awareness and education about healthy sleep practices among healthcare professionals in Saudi Arabia to enhance patient care outcomes.

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Patient-Specific Functional Scale in Patients with Neck Pain

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Abstract

Background: The Patient-Specific Functional Scale (PSFS) has demonstrated validity and reliability in mul languages, including Arabic, for patients with lower extremity musculoskeletal conditions. However, no stu to date have investigated the psychometric properties of the Arabic PSFS in patients with neck pain. This s aimed to evaluate the psychometric properties of the Arabic PSFS in patients with neck pain. **Methodolog** prospective cohort study included patients with neck pain to assess the psychometric properties of the Ar PSFS. At the first physical therapy visit, patients completed the Arabic versions of the PSFS, Neck Disability In (NDI), Numeric Pain Rating Scale (NPRS), Global Assessment of Function (GAF), and RAND 36-item He Survey (RAND-36). At the second visit, patients repeated the same outcome measures, adding the Global Ra of Change Scale (GRC). Test-retest reliability was analyzed using the intraclass correlation coefficient (ICC Measurement error was evaluated through the standard error of measurement (SEM) and the minir detectable change (MDC90). Floor and ceiling effects were assessed, and construct validity was tested aga six predefined hypotheses. **Results:** A total of 109 patients participated in the study, comprising 61% fem and 39% males. The Arabic version of the PSFS demonstrated excellent test-retest reliability with an ICC2 0.81 (95% CI: 0.71 to 0.87). Measurement error was within acceptable limits, with a Standard Erro Measurement (SEM) of 0.79 and a Minimal Detectable Change at 90% confidence (MDC90) of 1.84, ensurir suitability for clinical use. No floor or ceiling effects were detected, further supporting its utility. Const validity was established through significant correlations: negative correlations with the Neck Disability In (NDI; r = -0.35) and Numeric Pain Rating Scale (NPRS; r = -0.38), and positive correlations with the Gl Assessment of Functioning (GAF; r = 0.41), physical functioning (r = 0.37), pain domain (r = 0.38), and emoti well-being domain (r = 0.34) of the RAND-36. These findings confirmed 83% of the predefined construct val hypotheses, highlighting the PSFS as a reliable and valid tool for assessing patient-specific functional outcor **Conclusion:** The Arabic PSFS is a reliable and valid tool for measuring activity limitations in patients with r pain. **Clinical Relevance:** The Arabic PSFS is suitable for clinical and research settings, accurately reflecting extent of activity limitations in neck pain patients while maintaining an acceptable magnitude of error for cli practice.

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The Influence of Home-Based Cardiac Rehabilitation on Health-Related Quality of Life of Patients Post-Coronary Artery Bypass Graft: A Systematic Review

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Abstract

Background: Coronary artery bypass grafting (CABG) is a major surgery intended to alleviate symptoms of coronary artery disease. However, surgical and mental complications often lead to a decline in patients' health-related quality of life (HRQoL), resulting in physical and psychological deterioration. While cardiac rehabilitation (CR) is strongly recommended to counteract this decline, participation and adherence rates are low due to multiple factors. A home-based cardiac rehabilitation (HBCR) approach has been proposed as an alternative model. Although previous reviews have assessed its suitability for cardiovascular diseases, limited attention has been given to its impact on HRQoL in post-CABG patients. **Objectives:** This review aims to collect, critique, and analyze literature on the influence of HBCR on HRQoL in post-CABG patients and compare it to usual care and center-based CR models. **Methods:** A comprehensive search of Medline, EMBASE, CENTRAL, CINAHL, and Web of Science databases was conducted between January 1 and January 15, 2023. Eight trials were identified and methodologically assessed for rigor by two independent reviewers. **Results:** Five studies (four randomized controlled trials and one quasi-experimental study) involving 530 participants met the inclusion criteria. HBCR demonstrated significant improvements in the physical domains of HRQoL across all trials ($p < 0.01$–$p < 0.05$). Two trials showed significant improvements in the social domain ($p < 0.05$). Psychological domain outcomes were inconsistent, with two trials showing significant improvements ($p = 0.001$–$p < 0.01$), while three trials showed no significant changes ($p > 0.05$). Compared to usual care, HBCR showed significant improvements in all domains ($p = 0.001$–$p < 0.05$), although one trial found no significant improvement in the psychological domain ($p > 0.05$). Compared to center-based CR, no significant differences were observed between the two models. Both demonstrated significant improvements in the physical and social domains ($p = 0.001$–$p < 0.05$), but neither showed significant improvements in the psychological domain ($p > 0.05$). **Conclusions:** HBCR consistently improves the physical and social domains of HRQoL in post-CABG patients, though its impact on the psychological domain is conflicting. HBCR appears superior to usual care in all domains of HRQoL and could serve as an alternative to center-based CR for improving physical and social outcomes. **Clinical Relevance:** Well-designed, multidisciplinary HBCR programs that include diverse sessions could enhance overall HRQoL in post-CABG patients and prove significantly superior to discharging patients without enrolling them in CR programs.

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Using Sleep Technology to Detect the Fall Risk in Older Adults

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Abstract

Background: Falls are prevalent among older adults and are associated with significant risk factors linked to mortality. However, the role of variability in sleep parameters in predicting falls remains underexplored. **Objective:** This study aimed to examine the association between sleep efficiency (SE) variability and the number of falls, and to identify a cutoff score for SE variability that predicts multiple falls (≥2 falls). **Method:** Data were collected from 342 participants aged 34–84 years (mean age 53.25, 63.5% females). SE variability was calculated as the coefficient of variance: (7-night standard deviation of SE / 7-night mean SE) × 100\text{(7-night standard deviation of SE / 7-night mean SE) × 100}. Negative binomial regression was used to analyze the association between SE variability and the number of falls, while receiver operator characteristics (ROC) and area under the curve (AUC) were used to determine the cutoff score for SE variability to predict multiple falls. Alpha was set at 0.05. **Results:** The mean SE variability was 10.65% (range: 1%–69%). Increased SE variability was significantly associated with a higher number of falls (incidence rate ratio = 1.02, 95% CI [1.01–1.04], p = 0.027), controlling for age, gender, BMI, depression, and total chronic conditions. The cutoff score for SE variability to differentiate multiple fallers (≥2 falls) from single or non-fallers was 7.38% (sensitivity = 0.67; specificity = 0.58), with an AUC of 0.61. **Conclusion:** Night-to-night variability in SE was positively associated with the number of falls in the general population. A cutoff score of 7.38% for SE variability can help differentiate multiple fallers from single or non-fallers. **Clinical Relevance:** Clinicians may consider promoting consistent sleep schedules to reduce fall risk. High SE variability could serve as an important screening and treatment target for individuals at risk of falling.

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Reflection on the Most Recent Early Detection of Infants at Risk for Cerebral Palsy Guideline

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Abstract

Background: Early identification of infants at high risk for neurodevelopmental impairments, including cerebral palsy (CP), is crucial to ensure timely referral to effective early intervention services. The neonatal period and early infancy are characterized by rapid brain growth and heightened neuronal plasticity, making this window of time critical for implementing interventions that can significantly enhance functional outcomes. Early diagnosis allows healthcare providers to maximize the benefits of neuroplasticity and improve long-term developmental trajectories. **Objective:** This abstract summarizes recent evidence-based guidelines designed to enable the early detection of CP in infants. The focus is on diagnostic strategies that aim to identify CP by six months of age, providing a foundation for early and targeted interventions. **Key Recommendations: Before 5 Months' Corrected Age:** A multimodal approach combining magnetic resonance imaging (MRI), the General Movements Assessment (GMA), and the Hammersmith Infant Neurological Examination (HINE) is recommended for optimal diagnostic accuracy. These tools leverage advanced imaging, movement pattern analysis, and neurological assessment to identify early signs of CP. **After 5 Months' Corrected Age:** Diagnostic evaluation should include MRI, the HINE, and the Developmental Assessment of Young Children. These methodologies allow for refined assessments of neurological and developmental milestones, improving diagnostic specificity as the infant grows. By integrating these evidence-based tools into routine clinical practice, healthcare providers can facilitate the early recognition of CP and initiate appropriate interventions during critical developmental periods. **Conclusion:** Recent advancements in CP detection guidelines underscore the importance of early identification to optimize care and developmental outcomes for high-risk infants. Adoption of these standardized protocols by clinicians and healthcare systems is essential to bridge the gap between early diagnosis and timely intervention. A collective effort from healthcare stakeholders is needed to implement these practices, ultimately enhancing neurodevelopmental outcomes and quality of life for infants at risk of CP.