DOI: 10.7860/JCDR/2025/80480.22490

Conference Proceedings

PhysioConnect 5

International Conference

Theme: One World, One Vision: Revolutionizing Physiotherapy Practice

1-2 Feb 2025

Organised by : The Mayra Foundation

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Sharda University | Greater Noida, Uttar Pradesh

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PhysioConnect 5

Theme: One World, One Vision: Revolutionizing Physiotherapy Practice

International Conference

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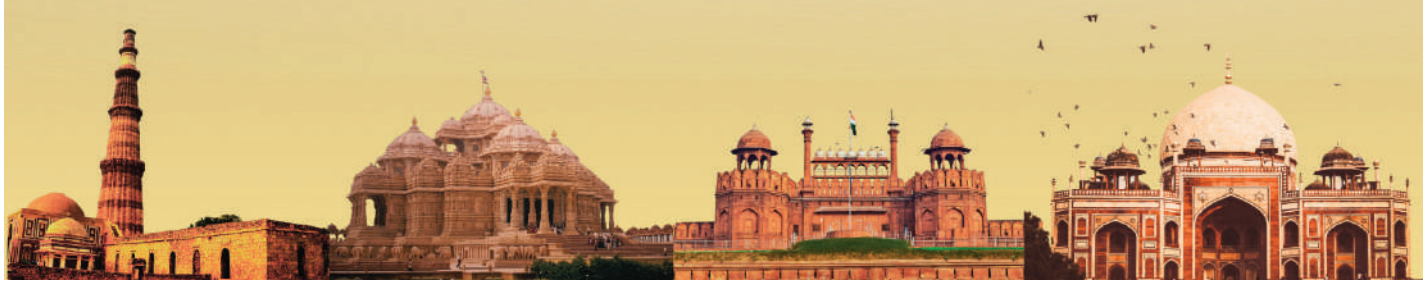

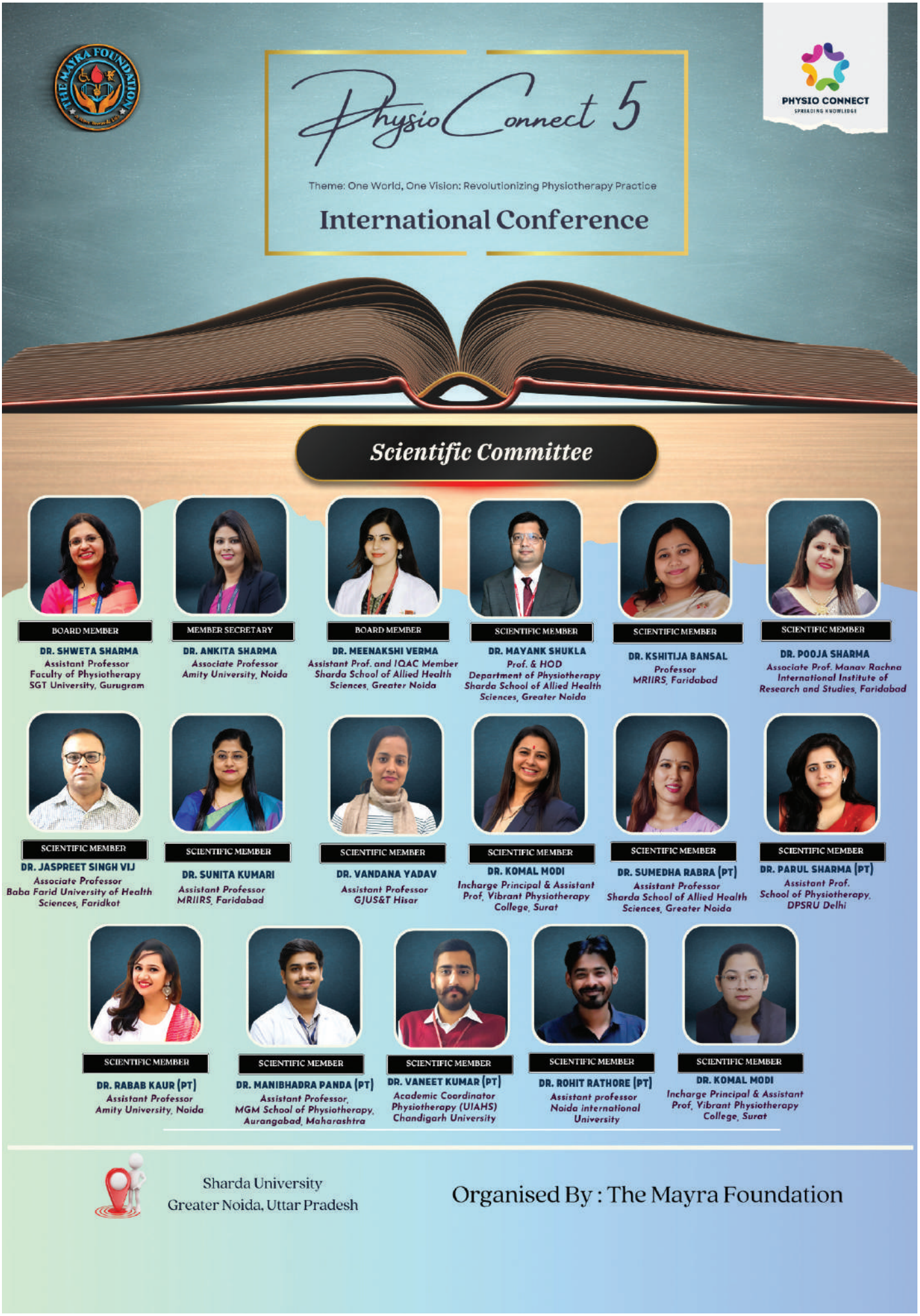
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Message from the Conference Organizing Chairman and Founder of The Mayra Foundation, Dr. Sarvotam Chauhan

DR. SARVOTAM CHAUHAN (PT)

Dear Colleagues and Friends,

It gives me immense pride and joy to extend a heartfelt welcome to each one of you to the PhysioConnect 5 International Conference, being held at Sharda University, Greater Noida, on 2nd February 2025. With the theme "One World One Vision: Revolutionizing Physiotherapy Practice", this year's conference marks a significant milestone in our journey to unite physiotherapy professionals from across the globe on one impactful platform.

Building upon the success of our previous editions, PhysioConnect 5 promises to be even more dynamic and transformative. With the participation of over 1,500 physiotherapy doctors from more than 50 universities, this event is set to foster an unparalleled exchange of knowledge, research, and clinical expertise in physiotherapy and allied health sciences.

At The Mayra Foundation, our vision has always been to empower the physiotherapy community through education, collaboration, and innovation. PhysioConnect 5 stands as a testament to that commitment — bringing together clinicians, researchers, educators, and students to shape the future of physiotherapy practice. This year, we are also proud to host sessions highlighting national women empowerment, interdisciplinary research, and cultural unity, making the event both academically rich and socially relevant.

We are honored to welcome distinguished speakers, including renowned poet Azhar Iqbal and social reformer Sh. Sunil Jaglan (Founder, Beti Bachao Beti Padhao Abhiyan), who will add a unique and inspirational dimension to our gathering.

My sincere thanks to our organizing committee, academic partners, volunteers, and every participant whose enthusiasm, hard work, and support have made this conference possible. Let us come together once again to inspire, learn, and lead the way in revolutionizing physiotherapy.

Warm regards,
Dr. Sarvotam Chauhan (PT)
Organizing Chairman
Founder, The Mayra Foundation

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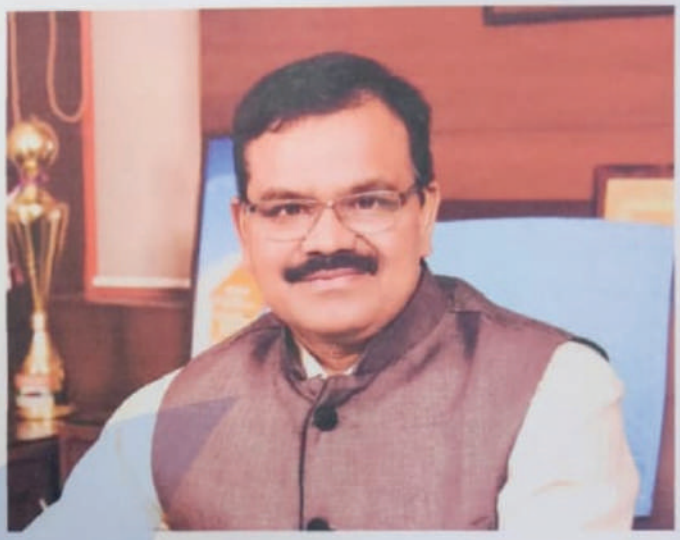

Research is a continuous and systematic pursuit aimed at gaining new insights and uncovering hidden truths. It plays a crucial role in establishing generalizations, principles, and theories that aid in predicting future trends and advancements.

Health is the most valuable asset in life, and it is imperative for all of us to prioritize it. I am confident that the International Conference of Physio Connect 5 will serve as an excellent platform to disseminate the latest advancements in physiotherapy and rehabilitation sciences. Organized by esteemed experts in the field, this conference will provide undergraduate and postgraduate students, researchers, faculty members, and healthcare professionals with invaluable knowledge about emerging trends and innovations in physiotherapy.

I extend my best wishes for the grand success of this conference and commend the dedicated team of organizers for their efforts in fostering academic excellence and professional growth in physiotherapy.

Prof. (Dr) Sibaram Khara

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कृष्ण पाल गुर्जर
KRISHAN PAL GURJAR

सत्यमेव जयते

केन्द्रीय सहकारिता राज्य मंत्री
भारत सरकार, नई दिल्ली
UNION MINISTER OF STATE FOR COOPERATION
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Message

It is truly a pleasure to learn that The Mayra Foundation (PhysioConnect 5) is organizing the 5th International Conference on February 2, 2025, at Sharda University, Greater Noida.

With the theme "One World, One Vision: Revolutionizing Physiotherapy Practice," PhysioConnect 5 promises to be a landmark event, bringing together global experts, academicians, researchers, and practitioners in the field of physiotherapy. This prestigious conference offers a unique platform for knowledge exchange, innovation, and collaboration, all aimed at advancing the practice of physiotherapy.

The event will showcase cutting-edge research, discuss advanced therapeutic modalities, and promote evidence-based practices, making it a fantastic opportunity to gain insights into transformative trends such as robotics in neuro-rehabilitation and the integration of AI in physiotherapy.

I commend the organizing committee for their efforts in creating such an impactful event that fosters meaningful discussions and progress. My best wishes for the grand success of PhysioConnect 5.

(Krishan Pal Gurjar)

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लखनऊः दिनांक 31.01.2025

शुभकामना संदेश

मुझे जानकर हार्दिक प्रसन्नता हो रही है कि **'फिजियोकनेक्ट 5 अंतर्राष्ट्रीय सम्मेलन'** 1 एवं 2 फरवरी 2025 को शारदा विश्वविद्यालय, ग्रेटर नोयडा में अयोजित किया जा रहा है यह सम्मेलन "Theme: One World One Vision: Revolutionizing Physiotherapy Practice" जैसे प्रासंगिक विषय पर केंद्रित है, जो न केवल फिजियोथेरेपी के क्षेत्र में बढ़ावा देगा, बल्कि फिजियोथेरेपी आधुनिक एवं उन्नति तरीकों को समझाने में सहायक सिद्ध होगा। इस पहल से वैश्विक विशेषज्ञों, शिक्षाविद, शोधकर्ताओं और फिजियोथेरेपी पेशोवरों को एक मंच पर आने और अपने अनुभव व ज्ञान को साझा करने का अवसर प्राप्त होगा। यह सम्मेलन प्रतिभागियों को प्रेरित करेग। और मुझे विश्वास है कि यह सम्मेलन शोध प्रकाशन और नैदानिक अभ्यास के क्षेत्र में नवीनतम प्रगति को सामने लाने में मील का पत्थर साबित होगा।

मैं, फिजियोकनेक्ट 5 अंतर्राष्ट्रीय सम्मेलन' के सफल प्रकाशन की कामना करता हूँ एवं हार्दिक शुभकामनाएं प्रेषित करता हूँ।

31.01.2023

डॉ० दिनेश शर्मा
सांसद, राज्यसभा
भारतीय जनता पार्टी

सत्यमेव जयते

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पूर्व राष्ट्रीय प्रभारी, भाजपा सदस्यता अभियान
पूर्व प्रभारी, गुजरात प्रदेश, भाजपा
पूर्व महापौर, नगर निगम, लखनऊ
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पत्रांक .....

दिनांक 28/01/25

सन्देश

मुझे यह जानकर अत्यन्त प्रसन्नता हो रही है कि दिनांक 1 व 2 फरवरी, 2025 को शारदा विश्वविद्यालय, ग्रेटर नोएडा में One World, One Vision: Revolutionizing Physiotherapy Practice विषय पर एक "फिजियोकनेक्ट–5 अंतर्राष्ट्रीय सम्मेलन" का आयोजन किया जा रहा है। उक्त विषय पर आयोजित अन्तर्राष्ट्रीय सम्मेलन से न केवल फिजियोथेरेपी के क्षेत्र में उन्नति को बढ़ावा मिलेगा, बल्कि अनुसंधान और प्रकाशन के नए आयामों को भी प्रोत्साहन मिलेगा।

उक्त विषय पर आयोजित सम्मेलन वर्तमान परिपेक्ष्य में अत्यन्त महत्वपूर्ण है। अन्तर्राष्ट्रीय स्तर पर हो रहे सम्मेलन में सम्पूर्ण विश्व से शिक्षाविद् एवं शोधार्थी तथा इससे जुडे लोग विचार विमर्श कर उक्त विषय पर हुए आधुनिकतम् शोध को प्रस्तुत कर, इस विषय को नया आयाम देने में सहायक सिद्ध होगें, जिससे सम्पूर्ण समाज लाभान्वित होगा।

अन्तर्राष्ट्रीय सम्मेलन की सफलता एवं स्मारिका के सफल प्रकाशन के लिए कृपया मेरी शुभकामनायें स्वीकार करें।

भवदीय,

(डॉ० दिनेश शर्मा)

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Abstracts

List of Abstracts

Abstract No.: 01

Chest Clearance Technique on Dyspnoea Management in Community-Acquired Pneumonia: A Study Protocol

RUPAL BHARDWAJ[1], NEHA GUPTA[2*], RITIKA KUMAR[3], ANUJ MISHRA[4]

ABSTRACT

Introduction: Dyspnoea is a common feature of Community Acquired Pneumonia (CAP) which affects the functional activity and Quality of Life (QOL) of patients. Airway Clearance Techniques (ACTs), in addition to antimicrobial and supportive therapies, are essential in the management of dyspnoea. ACTs reduce respiratory exertion by facilitating of movement of mucus from the lower respiratory tract.

Aim: To compare the effect of the Active Cycle of Breathing Technique (ACBT) and Postural Drainage (PD) on dyspnoea in CAP by using a modified Borg scale, MRC scale, oxygen saturation and chest expansion.

Materials and Methods: This experimental, randomised, parallel-group trial include 32 participants (CAP patients aged between 40-70 years) allocated into two groups, Group A (ACBT) and Group B (PD with percussion and vibration), as airway clearance technique. Both groups will receive 4 weeks of baseline treatment, diaphragmatic and segmental breathing exercises (10 repetitions, 3 sets, with one-minute rest between sets, tailored to individual chest radiograph results), and Range of Motion (ROM) exercise for both the upper extremity and lower extremity (10 repetitions, 3 sets) with ambulation.

Keywords: Active cycle of breathing technique, Community-acquired infections, Postural drainage

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Abstract No.: 02

Barriers To Smoking Cessation: Exploring Factors That Hinder Quitting Efforts- A Systematic Review

RAVEENA LODHI[1], MEENA GUPTA[1*]

ABSTRACT

Introduction: Smoking remains one of the leading causes of preventable diseases and premature deaths worldwide, contributing to conditions such as heart disease, stroke, respiratory disorders, and cancer. Smoking cessation is complex, as numerous factors contribute to the difficulty of quitting. A systematic understanding of these barriers can inform more effective cessation strategies.

Aim: To systematically review and analyse the barriers to smoking cessation that make quitting difficult.

An extensive literature search was conducted using the Scopus, PubMed, and Web of Science databases. The keywords included smoking cessation.

Methods: A systematic review of qualitative studies was conducted. An extensive literature search was conducted using the Scopus, PubMed, and Web of Science databases. Relevant studies on adult smokers' experiences and barriers to cessation were identified through databases. Articles were included if they explored the multifaceted obstacles to smoking cessation.

Results: The review identified psychological barriers, with stress and emotional dependence more prominent, environmental triggers, such as social cues, failed assisted smoking cessation, sociocultural norms, including the role of societal pressures and stigmas; and barriers related to access and awareness of cessation resources. Both genders emphasised the need for supportive, non-judgmental interventions tailored to individual needs.

Conclusion: Factors that significantly influence barriers to smoking cessation include nicotine addiction, ingrained cultural norms, and limited knowledge of cessation resources. Women benefit more from emotionally supportive, group-based interventions, whereas men may respond better to structured, incentive-

based approaches. Further research is needed to explore long-term effectiveness and sustainability of current cessation programmes.

Implications: The findings underscore the need to create supportive, nonjudgmental environments to reduce stigma and encourage individuals to seek help. Taxation and smoke-free laws should be implemented to support quitting efforts.

Keywords: Cessation strategies, Peer pressure, Psychological barriers

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Abstract No.: 03

Efficacy of Universal Exercise Unit on Trunk Control in Children with Spastic Cerebral Palsy: Study Protocol

IMTISENLA TZUDIR[1], NEHA GUPTA[1]*, RUCHIKA KALRA[1], HIMANDRI KAPIL[2]

ABSTRACT

Introduction: Universal Exercise Unit (UEU), a form of spastic cerebral palsy treatment, has potential in enhancing the strength of muscles, motor control, and postural alignment of patients. However, the scientific literature available on its efficacy, outcomes, and standardised protocols is scarce.

Need of the Study: The scarcity in literature is limiting its integration in clinical practice. Evidence to validate this potential and optimise therapeutic strategies in Spastic Diplegic Cerebral Palsy (SDCP).

Aim: To study the effectiveness of UEU on trunk control in SDCP children.

Materials and Methods: This randomised controlled trial will include 24 patients divided into two groups using computer generated randomisation. Physiotherapeutic intervention following stretching and strengthening wil be provided in Group A and followed with addition of UEU unit with the same regime in Group B. This study will include diagnosed Spastic Diplegic Cerebral Palsy (SDCP), both male and female ,GMFCS III and IV, aged 4 to 10 years, and Trunk Control Measurement Scale (TCMS) score of 9. Severe disability exceeding GMFCS level IV, history of seizures, hearing defi cits, any cardiac anomalies, usage of botulinum toxin A injection within three months prior will be included in the exclusion criteria.

Implications: Study will benefi t in management of trunk control and balance.

Keywords: Balance, Botulinum toxin A, Paediatric balance scale, Trunk control measurement scale

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Abstract No.: 04

Impacts of Occupational Head Loading on Cervical Degeneration: A Systematic Review

AMANDEEP SINGH BEDI[1]*, ROOPIKA SABHARWAL[2], RAVIA[3], BIRINDER KAUR[4], HARNEET KAUR[4], AKSHAT SINGH CHOUHAN[4]

ABSTRACT

Introduction: Occupational head loading is prevalent among porters and agricultural workers in many developing regions, posing risks to cervical spine health. This systematic review investigates the effects of habitual head loading on cervical spine degeneration and identifies the magnitude of associated health risks.

Materials and Methods: PubMed, Scopus, and Google Scholar were systematically searched for studies published between 1968 and 2023. Inclusion criteria encompassed

studies analysing cervical degeneration in head-loading workers compared to controls. The risk of bias was assessed using the Cochrane tool, and results were synthesised qualitatively and quantitatively.

Results: A total of 16 studies involving 1,080 participants were included. Cervical degeneration prevalence was significantly higher in head-loading workers (76.89%) compared to non-load carriers (9.90%) p-value. Key findings included reduced cervical lordosis, disc height reduction, and early onset of osteophytes.

Conclusions: Habitual head loading is strongly associated with accelerated cervical spine degeneration. Preventive measures, ergonomic interventions, and alternative load-carrying techniques are essential to mitigate health risks. Future longitudinal studies are warranted to explore the progression of these changes.

Keywords: Cervical spine degeneration, Cervical spondylosis, Ergonomics, Occupational health

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Abstract No.: 05

Impact of Using Wearable Devices in Rehabilitation of Knee Joint

HARNEET KAUR[1], AMANDEEP SINGH[2], KAJAL[3], BIRINDER KAUR[1], AMANDEEP SINGH BEDI[1]*, AKSHAT SINGH CHOUHAN[1]

ABSTRACT

Introduction: Knee joint injuries and degenerative conditions are becoming increasingly prevalent, leading to significant physical disabilities and socio-economic burdens. Effective rehabilitation is essential for restoring function and improving quality of life. However, traditional methods face challenges, including limited healthcare provider availability, inconsistent patient monitoring, and varying adherence to treatment protocols.

Aim: This study aims to critically evaluate the evidence on wearable devices for knee joint conditions, examining their effectiveness, limitations, and potential to enhance rehabilitation outcomes.

Materials and Methods: Peer-reviewed articles in English language published between 2013 and 2024 and focussing on using wearable devices for knee joint rehabilitation were included. A computer-based search on google scholar, PubMed, research gate was done to retrieve relevant articles. The keywords used for research were knee joint, rehabilitation, wearable devices. A review of existing literature was conducted, focusing on studies that utilised wearable devices such as Inertial Measurement Units (IMUs), accelerometers, and goniometers. Key parameters analyzed included Range of Motion (ROM), joint kinematics, and physical activity levels.

Results: Wearable devices have demonstrated significant potential in postoperative rehabilitation, especially after Total Knee Arthroplasty (TKA). They improve functional outcomes, pain management, and patient satisfaction while reducing rehabilitation costs. These devices enable remote monitoring and personalised treatment plans, facilitating better recovery. However, challenges such as sensor miscalibration, limited real-world applications, and gaps in research on patient self-treatment remain.

Conclusion: Wearable devices represent a transformative approach to knee joint rehabilitation, providing accessible, cost-effective, and efficient care. Addressing existing barriers and advancing research can further enhance their integration into clinical practice, improving patient outcomes globally.

Keywords: Degenerative conditions, Inertial measurement unit, Range of motion

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Abstract No.: 06

Effectiveness of Vestibular Rehabilitation In Vertigo – A Review

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ABSTRACT

Balance and quality of life are severely hampered by vertigo, which is frequently brought on by vestibular dysfunctions as Benign Paraoxysmal Positional Vertigo (BPPV). Exercises for Vestibular Rehabilitation Exercises (VRE) provide a non-pharmacological method of managing symptoms. This review aimed to assess how well VRE works to manage vertigo symptoms and enhance patient outcomes, both on its own and in conjunction with other therapies.

VRE increased quality of life, decreased vertigo symptoms, and improved balance. When VRE was used with yoga or medication, the results were better than when it was used alone. Yoga also provided accessibility and relaxation benefits. VRE works well for treating vertigo, and its effects are amplified when paired with other treatments. To confirm these results, larger, multicentric trials should be conducted in future.

Keywords: Balance, Benign paroxysmal positional vertigo, Vestibular dysfunction, Vertigo management

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Abstract No.: 07

Triangular Fibrocartilage Complex Injuries in Athletes: Management Strategies, Impact on Performance, and Return-to-Play Considerations – A Narrative Review

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ABSTRACT

Introduction: The Triangular Fibrocartilage Complex (TFCC) supports Distal Radioulnar Joint (DRUJ) stability, dissipates axial loads, and integrates with radioulnar ligaments. Its limited vascular supply and complex structure make it prone to recurrent injuries, especially in athletes. Understanding TFCC tears is crucial, as 3% to 9% of athletic injuries involve the hand and wrist, with a growing focus on pediatric and adolescent management and recovery.

Aim: This article compares conservative management to surgical procedures for treating TFCC injuries in athletes. It examines the impact on wrist function, athletic performance, and return-to-play outcomes.

Materials and Methods: A comprehensive search was conducted using PubMed and Google Scholar for studies from 2000 to 2024. Keywords included "TFCC injury," "athletes," "conservative management," "surgical control," "wrist function," and "return to play."

Results: Both conservative and surgical treatments offer similar long-term benefits in pain relief and improved grip strength. However, TFCC injuries significantly affect athletic performance. Inadequately managed injuries can lead to persistent instability and faster osteoarthritis development. Conservative management allows for a quicker return to play (6-12 weeks), while surgery often requires 3-6 months. Athletes undergoing surgery typically have higher chances of returning to pre-injury performance levels. Effective rehabilitation and gradual return-to-play are crucial for optimal outcomes.

Conclusion: The choice between conservative and surgical management should consider injury severity, sport-specific needs, and individual athlete characteristics. While conservative management may enable a faster return to activity, surgery might offer better long-term outcomes for complex injuries. Proper

treatment and rehabilitation are essential for a successful return to play and maintaining performance.

Keywords: Conservative management, Grip strength, Surgical management, Wrist function

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Abstract No.: 08

Variability, Difficulties and Expertise among Cardiopulmonary Physiotherapists in India's Cardiopulmonary Rehabilitation Practices: A Nationwide Survey

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ABSTRACT

Introduction: Pulmonary Rehabilitation (PR), a cornerstone in managing chronic respiratory diseases and Cardiac Rehabilitation (CR) for managing patients with heart conditions necessitates strict adherence to quality standards. Evidence-based Practice (EBP) is integral to cardiopulmonary physical therapy worldwide, requiring sufficient knowledge, skills and resources for effective implementation. This study investigates Cardiopulmonary Rehabilitation (CPR) practices in India, assessing service quality, provider affiliations, available offerings and structural components.

Aim: The purpose of this evaluation seeks to identifying gaps, highlight strengths and areas of improvement for offering actionable insights, contributing to enhanced CPR delivery and better outcomes for management of individuals with cardiac or pulmonary diseases in India and improving patient outcomes.

Materials and Methods: An electronic questionnaire was circulated for survey among ~90 licensed cardiopulmonary physical therapists via WhatsApp and Gmail, covering demographics, structural process and outcome quality indicators and CPR delivery challenges.

Results: The study found that 70% of therapists adhered to evidence-based guidelines, but gaps in follow-ups and resources persisted. Key challenges included limited equipment (70%), patient awareness (80%) and funding (50%) with 90% calling for standardised protocols and 75% advocating for professional training.

Conclusion: The study found that while most cardiopulmonary physical therapists in India adhere to evidence-based guidelines, challenges such as limited resources, low patient awareness and funding constraints hinder effective CPR delivery. Therapists emphasised the need for standardised protocols, regular audits and continuous training to improve service quality and patient outcomes. Addressing these gaps can enhance CPR practices and their impact on managing patients.

Keywords: Evidence-based practice, Pulmonary rehabilitation, Standardised protocol

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Abstract No.: 09

Effectiveness of Kinesio Taping in Basketball Athletes with Chronic Ankle Sprains Undergoing Rehabilitation: A Narrative Review

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ABSTRACT

Introduction: Basketball is a dynamic sport that demands athletes to maintain high levels of stability, strength, and flexibility in both the lower and upper limb. Ankle injuries, particularly sprains, are prevalent among basketball players, significantly impacting their performance and recovery due to the sport's high demands for agility and explosive movements. Kinesio taping (KT) method is a relatively new taping technique. Kinesiology tape can support tissues and joints without restricting the movements of structures around the joint.

Aim: To assess the existing literature on the effectiveness of KT in Basketball athletes with chronic ankle sprains undergoing rehabilitation, identify the limitation of previous studies, and justify the need for further research.

Materials and Methods: A literature search was performed using Google Scholar, PubMed, and Scopus database. A total of more than 60 articles showed up in which 10 is mentioned in the review on the basis of eligibility criteria. The search terms used were "Kinesio Taping", "chronic ankle sprain", and "rehabilitation". In this review we have included various parameters such as recurrent ankle sprain, in the past 1 year. Previous history of ankle fracture, ligament injury or recent sprain under 1 month were excluded. The articles were checked thoroughly and only full text articles were included for this review. These articles were reviewed in a narrative way. The duration of intervention varied across studies, ranging from 3 to 6 weeks, depending on the rehabilitation protocol used.

Results: As a result, this review appears to show significant improvement in the pain, ROM , functional performance, agility, functional mobility.

Conclusion: In basketball athletes with chronic ankle sprains undergoing rehabilitation, KT has demonstrated significant effectiveness in improving rehabilitation outcomes. The incorporation of KT into rehabilitation programmes should be prioritised, as it enhances functional performance, reduces pain, and supports recovery. Recommendations should focus on designing comprehensive rehabilitation protocols that integrate KT to optimise clinical outcomes and ensure athlete satisfaction.

Keywords: Ankle injuries, Functional performance, Rehabilitation protocols

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Abstract No.: 10

Effectiveness of Spencer Technique versus Capsular Stretching Along with Tens in Patients with Adhesive Capsulitis: A Narrative Review

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ABSTRACT

Introduction: Frozen shoulder also known as adhesive capsulitis is a common shoulder condition marked by pain and a gradual loss of shoulder movement. Three overlapping stages are seen by frozen shoulder patients: Stage I is inflammation, Stage II is frozen, and Stage III is thawing. The Spencer approach is a widely used set of standardised shoulder treatments that can be applied to diagnosis, prognosis, and treatment. Capsular stretching can ease intra-articular pressure and promote articular surface separation, while Transcutaneous Electrical Nerve Stimulation (TENS) therapy involves electrical stimulation to relieve pain and tension in muscles. This study aims to

compare the efficacy of the Spencer technique with capsular stretching in combination with TENS therapy in treating patients with adhesive capsulitis.

Aim: To assess the existing literature on the effectiveness of Spencer technique versus Capsular stretching along with TENS in patients with adhesive capsulitis, identify the limitation of previous studies, and justify the need for further research.

Materials and Methods: All the related literature were incorporated that was published from the year 2010 to 2024 and collected from various search databases like Google Scholar, PubMed, Scopus, etc., by using keywords "Adhesive Capsulitis", "TENS", "Capsular Stretching". In this review we have included various parameters such as clinical diagnosis of adhesive capsulitis (frozen shoulder) stage 1 & stage 2, duration of symptoms for at least three months, and no previous shoulder surgery or recent trauma. Systemic conditions affecting the shoulder & recent fractures were excluded.The articles were checked thoroughly and only full text articles were included for this review.These articles were reviewed in a narrative way.

Results: As a result, this review appears to show significant improvement in the pain, Range of Motion (ROM), functional mobility, and Quality of Life (QOL).

Conclusion: In patients with adhesive capsulitis, Spencer technique and capsular stretching did significantly improve rehabilitation results. Recommendations should be directed towards the development of rehabilitation programmes that encompass these interventions to achieve superior clinical outcomes and patient satisfaction.

Implications: This research highlights a novel approach to physiotherapy that is effective, economical and has a positive impact on saving recovery time and increasing satisfaction rates.

Keywords: Quality of life, Range of motion, Transcutaneous electrical nerve stimulation

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Abstract No.: 11

Advancements in Dysmenorrhoea Management: Comprehensive Narrative Review of Perineometer-Assisted Pelvic Floor Rehabilitation

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ABSTRACT

Introduction: Primary Dysmenorrhoea (PD) is defined by painful menstrual cycles in the absence of pelvic disease. It is characterised by recurrent cramps and lower abdomen discomfort during menstruation, affecting 50% to 90% of women. Adolescents with dysmenorrhoea had higher levels of anxiety and depression, and lower perception of their Quality of Life (QOL). Dysmenorrhoea among female students adversely impacted academic performance leading to absentism (Amza et al., 2024). Non-pharmacological therapies provide positive effective in reducing menstrual cramps in people with PD.

Aim: To assess the existing literature on the effectiveness of Perineometer assisted pelvic floor rehabilitation and Progressive Relaxation Technique (PRT) in managing dysmenorrhoea severity and associated psychological symptoms such as anxiety and depression in young women, identify the limitations of previous studies, and justify the need for further research.

Materials and Methods: A thorough search was done in PubMed, Scopus, and Google Scholar Library using keywords such as "pelvic floor rehabilitation," "biofeedback," "Perineometer," "Progressive Relaxation Technique," and "dysmenorrhoea." Studies published between 2014 and 2024 that focussed on women with PD, reported outcomes of PFMT with biofeedback, PRT, or combined interventions, and used validated measures such as the PERFECT score, Visual Analogue Scale (VAS), and psychological assessment tools were included, with only full-text articles.

Results: Evidence suggests that PFMT with biofeedback significantly enhances pelvic floor strength, as indicated by improved PERFECT scores and reductions in VAS pain scores. PRT consistently reduces anxiety and depression, improving psychological well-being. Combined interventions demonstrated superior outcomes, emphasising the synergistic effects of physical and psychological therapies.

Conclusion: Perineometer-assisted PFMT is more effective to traditional training due to precise feedback, enabling better adherence and outcomes. Combining with PRT addressees psychological distress, providing a holistic approach to managing Dysmenorrhoea.

Keywords: Biofeedback, Progressive relaxation technique, Quality of life

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Abstract No.: 12

Effect of Physiotherapy Rehabilitation on Luxatio Erecta and Brachial Plexus Injury: A Case Study

BHAWANA MANGLA[1*], BHAWNA SHARMA [2]

ABSTRACT

Introduction: The shoulder joint, comprising the Glenohumeral Joint (GHJ), scapulothoracic, sternoclavicular, and acromio-clavicular joints, is highly mobile but vulnerable to injuries like luxatio erecta. These dislocations often involve soft tissue and bony damage, including brachial plexus injuries. With the help of this study we are focussing on restoring strength, stability, and mobility, with scapular stabilisation and nerve recovery with the help of conservative management.

Case Report: A 28-year-old male presented with a traumatic shoulder dislocation, exhibiting an adducted and internally rotated shoulder. Patient presented with pain, altered sensations, and impaired ability to perform Activities of Daily Living (ADLs). Magnetic Resonance Imaging (MRI) revealed a partial supraspinatus tendon tear, subacromial impingement, bursitis, glenohumeral effusion, and a Superior Labrum Anterior to Posterior (SLAP) tear. Nerve Conduction Velocity (NCV) studies confirmed brachial plexus neuritis affecting the C5-C6 trunk. Initial assessment included restricted Range of Motion (ROM) (10°-20°), weak muscle strength [Manual Muscle Training (MMT) 1/5], absent reflexes, altered sensation, severe pain [Visual Analogue Scale (VAS) 10], and limited functional independence (SPADI 93%, [Disabilities of the Arm, Shoulder and Hand (DASH) 95%] 95%).

A 4-month physiotherapy programme comprised:

Stage 1: Pain management, ROM exercises, and electrical stimulation.

Stage 2: Strength training and functional independence via isometric and Proprioceptive Neuromuscular Facilitation (PNF) exercises with electrotherapy.

Stage 3: Resistance training to enhance and maintain strength.

Stage 4: Scapular stabilisation and functional strength development.

Significant improvements included pain resolution (VAS 0), intact sensations, improved strength (MMT 4/5), reduced SPADI (40%) and DASH (32.5%) scores, better sleep, and enhanced quality of life.

Conclusion: Conservative physiotherapy effectively managed the shoulder dislocation, SLAP lesion, and brachial plexus injury, restoring mobility, strength, and function without surgical intervention.

Keywords: Activities of daily living, Conservative management, Inferior dislocation.

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Abstract No.: 13

Inspiratory Muscle Training for Respiratory Muscle Strength and Pulmonary Function in Female Breast Cancer Patients: A Systematic Review

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ABSTRACT

Introduction: Breast cancer, common among women, weakens respiratory muscles and impairs lung function due to chemotherapy, radiotherapy, and surgery. Inspiratory Muscle Training (IMT), combined with aerobic exercise, improves respiratory muscle strength, and reduces dyspnoea. IMT can enhance quality of life for breast cancer patients dealing with fatigue, stress, and post-treatment symptoms.

Aim: The study aims to assess the impact of IMT on respiratory mechanics and pulmonary function in breast cancer patients to address treatment-related respiratory difficulties.

Materials and Methods: The review included Randomised Controlled Trials (RCTs) and clinical trials following the PICO method, involving women with stable breast cancer post-adjuvant treatment and reduced inspiratory muscle strength or dyspnoea. Interventions combined IMT with aerobic or other exercises, while control groups received low-intensity IMT. Primary outcomes were respiratory muscle strength and pulmonary function. Study characteristics, participant details, interventions, and trial quality were assessed using the 11-point PEDro scale.

Conclusion: The research supports using IMT for post-mastectomy breast cancer survivors, combined with therapy or aerobic exercise, to strengthen respiratory muscles, improve performance, and reduce stress and fatigue. While the results are promising, further large-scale, multicentre studies are needed to enhance the effectiveness of IMT in breast cancer rehabilitation.

Keywords: Breast neoplasms, Breathing exercise, Complications, Threshold inspiratory muscle training, Treatment protocols

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Abstract No.: 14

Effect of Active Release Technique to Improve Flexibility in Patients with Piriformis Syndrome: A Review

RASLEEN KOUR[1], RITA SHARMA[2*]

ABSTRACT

Introduction: The present review of literature has been undertaken to discover the "effect of Active Release Technique (ART) in improving the flexibility in patients with piriformis syndrome". Piriformis syndrome is a musculoskeletal ailment that causes discomfort. The piriformis muscle spasms and becomes inflammed as a result of long sitting positions, causing a persistent mechanical defect that eventually compresses the sciatic nerve and causes aches that radiate down the leg.

Aim: To identify the effect of active release technique to improve flexibility in patients with piriformis syndrome.

Materials and Methods: Using PubMed, Google Scholar, Research Gate, and Scopus, database searches were performed. The keywords: Piriformis, piriformis syndrome, pain, ART in piriformis syndrome, prevention and intervention of piriformis syndrome, range of motion, flexibility were searched. Articles released within the year 2019-2025 were selected. Languages apart than English were not included. The study encompassed both male and female sexual groups.

Data is extracted from proportion of clients in various systematic review and randomised controlled trials.

Result: Numerous studies have been conducted individually and on comparison to see the effect of active release technique

in reducing pain and improving flexibility in piriformis syndrome. This technique plays a significant role in reducing pain, improving flexibility, increasing the functional range of motion and promoting long term relief. However, it is often recommended to combine the use of ART with other physical therapy techniques such as stretching, strengthening, and posture correction.

Conclusion: ART has proven to be significantly better when compared to other techniques in reducing pain, improving the flexibility and range of motion.

Keywords: Active release technique, Flexibility, Pain, Physical therapy technique, Piriformis syndrome, Range of motion

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Abstract No.: 15

Compare the Effect of Theragun and Myofascial Release in Patients with Trapezius Myalgia

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ABSTRACT

Introduction: The complaint of upper trapezius muscle discomfort, stiffness, and tightness is known as trapezius myalgia. characterised by sudden or ongoing shoulder and neck discomfort. Various physiotherapy techniques have shown to be effective in trapezius myalgia but myofascial release technique and use of theragun is also proven to be effective. The goal of the current literature review is to compare the effects of theragun and myofascial release technique on trapezius myalgia.

Aim: Comparing the effects myofascial release technique and theragun in patients having trapezius myalgia.

Materials and Methods: Relevant literature was reviewed using databases like Google Scholar, Pubmed and ReseachGate focussing on studies from the last five years discussing theragun, myofascial release and other techniques in trapezius myalgia management. Data on pain relief, Range of Motion (ROM) improvement and functional outcomes were extracted from the selected studies to find out the effects of techniques such as theragun and myofascial release in trapezius myalgia.

Result: Numerous studies have been conducted individually on effects of myofascial release in comparison to other modalities or techniques for treatment of trapezius myalgia. Myofascial release improves the range of motion, increases the flexibility and reduces the pain. On the other hand, theragun has also shown more significant effect in patients with trapezius myalgia. It also increases ROM by reducing the tension on the muscle and causing pain relief.

Conclusion: Myofascial release technique and theragun has proved being significantly better when compared to other techniques or modalities in term of reducing pain, increasing flexibility, improving ROM in trapezius myalgia.

Keywords: Pain, Physical therapy technique, Range of motion, Piriformis syndrome, active release technique, flexibility

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Abstract No.: 16

Combined Therapeutic Strategies with Lumbar Stabilisation Training for Mechanical Low Back Pain: A Systematic Review

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ABSTRACT

Introduction: Mechanical Low Back Pain (MLBP) is a prevalent condition, often caused by overuse or repetitive strain on the lumbar spine, leading to significant functional impairments. Lumbar Stabilisation Training (LST) has been a key therapeutic approach, focusing on core strengthening to enhance spinal stability. Recent studies suggest that combining LST with other therapeutic strategies may provide superior outcomes in terms of pain reduction, functional improvement, and long-term management.

Aim: This review aims to evaluate the effectiveness of combined therapeutic strategies with LST for managing MLBP, by examining the outcomes of comparative and adjunctive studies.

Materials and Methods: A systematic search of PubMed, Google Scholar, and Research Gate was conducted using relevant keywords.

Randomised controlled trials published on or after 2017 were included in this review. After screening 61 articles, 23 studies focussing on combined therapies with LST for MLBP were selected for the review. Subjects in the study were at-least 18 years old, with pain for more than 12 weeks and site of pain was T12 to gluteal fold, with or without leg involvement.

Results: LST is highly effective in managing mechanical low back pain, especially when combined with adjunctive therapies. Studies show LST improves pain, disability, spinal alignment, and range of motion, with enhanced outcomes when paired with treatments like thoracic mobilisation, cervical posture correction, or Muscle Energy Technique (MET). Combinations with walking protocols or respiratory resistance training offer superior functional benefits. LST also performs as well or better than conventional therapies, highlighting its versatility in personalised treatment plans.

Conclusion: This review underscores the potential benefits of combining LST with other therapeutic strategies for managing MLBP. It suggests that personalised treatment plans, tailored to individual patient needs, are critical for optimal outcomes.

Keywords: Core stabilisation exercises, Muscle energy technique, Respiratory resistance training.

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Abstract No.: 17

Motion, Activities of Daily Livings, and Quality of Life in Patients with Non-Specific Low Back Pain - A Review

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ABSTRACT

Introduction: Non-specific low back pain has been found to limit activity, to reduce the productivity at work place and increased medical expenses. Muscle Energy Technique (MET) uses isometric and isotonic contraction that aids to improve musculoskeletal function and also helps in reduction of pain.

Aim: To analyse the effect of MET on range of motion, disability, activity of daily living and quality of life of a patient.

Materials and Methods: Different search engines were used such as Research gate, Google Scholar, and PubMed to extract relevant studies on MET and its effect on Range of Motion (ROM), disability and activities of daily livings. Studies like experimental studies, randomised controlled trials, and pilot studies were preferred.

Studies between 2014-2024 were included to collect the data. Keywords like, nonspecific low back pain, MET, functional

ability, quality of life, and activities of daily livings were used to find the relevant studies.

Results: Subjects introduced with MET along with with other conventional treatment protocol was helpful in improving ROM and disability. It not only improved ROM but also improved the functional ability that would help in improving the quality of life and activities of daily livings.

Conclusion: MET can be beneficial to improve ROM, disability and can also help the subjects to efficiently participate at their workplace and day to day life and can lead a better life.

Keywords: Muscle energy technique, Musculoskeletal function, Range of motion

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Abstract No.: 18

Effect of Postural Corrective Exercises in Forward Head Posture: A Systematic Review

HITAISHI TYAGI [1], RITA SHARMA[2*]

ABSTRACT

Introduction: Forward head posture is the most common misalignment of the neck. It can lead to headaches, unusual neck pain, and stiffness in muscles. Posture corrective exercises were used to correct this misalignment hence improving the quality of life of the patient.

Aim: To identify the effect of postural corrective exercises in forward head posture.

Materials and Methods: The articles included were randomised controlled trials and systematic reviews. The databases included were Google Scholar and PubMed. The systematic reviews were taken from 2015-2023. Researchers have used the English language. The studies included were about posture corrective exercises that were used to correct forward head posture. Data were extracted from the proportion of clients in various systematic reviews and randomised controlled trials.

Results: Several studies show that postural corrective exercises were effective in correcting forward head posture and improving the craniovertebral angle. These exercises help to improve posture, muscle strength and flexibility.

Conclusion: Forward head posture can be due to poor sitting posture, low height sitting or long hours of use of a laptop. Posture corrective exercises were beneficial for improving forward head posture and decreasing the craniovertebral angle, which decreases neck pain and enhances the quality of life of patients.Keywords: Forward head posture, exercises, posture, craniovertebral angle (CVA).

Keywords: Posture, Cranio-vertebral Angle (CVA)

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Abstract No.: 19

Effects of Treadmill-Based Perturbation Training on Balance Impairments in Chronic Obstructive Pulmonary Disease Patients and Older Adults at Risk of Falls : A Literature Review

RIYA SARKAR[1], SUMEDHA RABRA[2*]

ABSTRACT

Introduction: Chronic Obstructive Pulmonary Disease (COPD) is a illness characterised by persistent respiratory symptoms and airflow restriction due to airway abnormalities caused by harmful particles or gases. The main cause is smoking tobacco, but other factors include air pollution and occupational exposures. Diagnostic criteria include a ratio of less than 0.70 between FVC and FEV1. COPD is expected to become a major health issue by 2030.

Pulmonary rehabilitation is a multidisciplinary therapy programme that includes quitting smoking, taking prescribed corticosteroids and bronchodilators, and participating in exercise training. It is most effective for COPD patients with reduced quality of life, anxiety, dyspnoea, and those willing to commit to a rigorous education and exercise regimen.

Aim: This study is being performed to assess the effectiveness of treadmill based perturbation training on balance in people suffering from COPD, while drawing insights from studies on its application in older adults with balance impairments.

Materials and Methods: PubMed, Google Scholar and Research Gate were searched using phrases such as COPD, chronic obstructive pulmonary disease, balance training, perturbation, treadmill, and related topics. Out of the 63 articles that were retrieved, 20 were found to be pertinent following careful examination. Articles published on or after 2018 and randomised controlled trials were included. Systematic reviews, case control studies, articles without abstracts or full English text, articles published on or before 2017 and articles with subjects having a history or risk of dizziness and loss of consciousness were excluded.

Results: This review of the literature on perturbation-based balance training in older individuals encompasses a diverse range of research analysing different treatments and their impacts on fall risk, balance, and associated outcomes. Studies conducted by Jens Eg Nørgaard et al. (2023), Leon Brüll et al. (2023), and Natalie Hezel et al. (2023) shed light on the effectiveness of various PBT paradigms, demonstrating reductions in laboratory falls and improvements in fall-risk-related indicators. Investigations by Jacqueline Nestico et al. (2021) provide insights into the mechanisms underlying reactive stability and gait variability as markers of balance control. Additionally, studies by Jon D. Lurie et al. (2020), Yiru Wang et al. (2020), illustrate the ability of PBT to enhance proactive and reactive adaptation, reduce fall-related injuries, and improve voluntary step execution. Moreover, research such as that by Marissa H. G. Gerards et al. (2021) delves into the acceptance of PBT procedures among the elderly population, offering valuable insights for practical application.

Conclusion: Perturbation-based training (PBT) shows significant promise in improving balance and reducing fall risk, particularly in older adults. While specific evidence for its application in COPD patients remains limited, the potential benefits suggest PBT could be effective for this population as well. The reviewed literature consistently highlights the efficacy of PBT interventions—whether treadmill-based or stability-focused—in enhancing balance, improving reactive stability, and reducing fall risk. Key factors, such as optimal dose, progression, and training duration, have been identified as crucial for maximising outcomes. Furthermore, the importance of tailoring PBT protocols to individual needs and preferences has been emphasised, with an ongoing need for research to identify the most responsive subgroups. Future studies should focus on long-term effects and further refinement of PBT techniques to ensure broader applicability and effectiveness across diverse patient groups.

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Abstract No.: 20

Effect of Telerehabilitation in Patients with Plantar Fasciitis

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ABSTRACT

Introduction: Plantar Fasciitis (PF) is a common musculoskeletal condition. It is a inflammation of a PF caused by repetitive strain which is characterised by a pain and tenderness in the bottom of the foot which is usually worst in the morning triggered by long periods of standing. Various researches have shown to be effective in various musculoskeletal conditions. The present review of literature have been undertaken to know the efficacy of telerehabilitation in patients with PF.

Aim: To determine the efficacy of telerehabilitation in patients with PF.

Materials and Methods: These articles are collected from databases such as PubMed, Google Scholar, and Research Gate. They are from year 2017-2024.

Results: Telerehabilitation appears to be effective in reducing pain and improving physical function in a number of musculoskeletal conditions.

Conclusion: Telerehabilitation has shown promising results when compared with other conventional methods in terms of pain relief, improve range of motion.

Keywords: Pain, Physical function, Range of motion

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Abstract No.: 21

Analysing the Effect of Suboccipital Myofascial Release in Patients with Cervicogenic Headache

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ABSTRACT

Introduction: A cervicogenic headache is characterised by unilateral neck pain that originates in the neck and is referred from the neck's soft tissues or bones. It is a frequent, recurring, persistent headache that typically begins with neck movement. It typically comes with a decreased neck range of motion. People between the ages of 30 and 44 are most likely to experience a cervicogenic headache. Its incidence among headache sufferers ranges from 0.4 to 4%. It could be mistaken for another main headache condition, such as a tension headache or migraine. Cervicogenic headaches can be effectively treated with manipulative therapy and therapeutic activity programs.

Aim: To elicit evidence for the effect of the suboccipital release technique in reducing cervicogenic headaches.

Materials and Methods: A systematic search was conducted across databases such as PubMed, Scopus and Google Scholar. Keywords such as suboccipital release, physiotherapy, cranial base release, myofascial release, cervicogenic headache, secondary headache, treatment were used.

Six free full text articles were identified through PubMed and Google Scholar adhering to objective and inclusion criteria.

Results: Patients with cervicogenic headache showed a better improvement after going through suboccipital myofascial release technique than the conventional therapy. The result of this review provides evidence that suboccipital myofascial release has a significant positive effect on the improvement of cervicogenic headaches.

Conclusion: The result of this review provides evidence that the suboccipital myofascial release technique is helpful in releasing cervicogenic headaches.

Keywords: Subocccipital release, cranial base release, myofascial release, cervicogenic headache

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Abstract No.: 22

Comparing the Effects of Indoor versus Outdoor Exercises on the VO2 Max Amongst the Young Healthy Adults: A Narrative Review

RAJNISH MISHRA[1], BALDEV NEGI[2*]

ABSTRACT

Introduction: Indoor and outdoor exercises both positively impacted VO2 max in young healthy adults. Enhanced VO2 max a key indicator of cardiovascular fitness, higher intensity workouts yield greater improved VO2 max compared to moderate or low intensity workouts. Outdoor aerobic exercises provided psychological benefits such as increased motivation and reduced perceived exertion potentially led betterment in their performance and high heart rates in contrast indoor controlled environment helped in maintaining consistent training intensity . VO2 max is gold standard measure of cardiorespiratory fitness strongly predicts cardiovascular health.

Aim: This narrative review study summarises the effect of indoor and outdoor exercises on VO2 max level of young healthy adults in intense or moderate low intensity workouts .

Materials and Methods: The studies included were randomised controlled trials and were published in peer-reviewed journals between 2011-2024. The data was searched in databases like PubMed, Google Scholar and Scopus using the following keywords– indoor versus outdoor, aerobic exercises intense and moderate VO2 max with the help of Boolean operators like AND, OR. Inclusion criteria were studies involving healthy adults aged 18-30 years, with no history of cardiovascular or respiratory diseases, and not currently engaged in regular exercise.

Result: This narrative review found that exercises could be joyful in outdoor and indoor environment depending upon performing intense or less intense exercise which can improve psychological condition of the person.

Conclusion: This narrative review concluded that outdoor intense exercises not only boost up VO2 max but also developed athletic strength of endurance who ever taken participation in this randomised controlled trial indoor versus outdoor condition.

Keywords: Cardiovascular fitness, Endurance, Indoor exercise

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Abstract No.: 23

Effectiveness of Postural Training with Self-Management Exercises on Pain and Range of Motion in Patients with Text Neck Syndrome

AVINASH KUMAR[1], RITA SHARMA[2*]

ABSTRACT

Introduction: Text Neck Syndrome (TNS) is a prevalent musculoskeletal condition caused by repetitive forward head flexion during prolonged use of mobile devices. This condition can result in chronic pain, reduced cervical Range of Motion (ROM), and poor posture, impacting daily life and productivity.

Aim: The study reviews the combined effectiveness of postural training and self-management exercises in reducing pain and improving ROM in patients with TNS.

Materials and Methods: Randomised controlled trials in English language, published between 2020 and 2024, related to postural training and self-management exercises in TNS were included. A comprehensive literature review was conducted using databases such as PubMed, Google Scholar, and Research Gate, focussing on studies published between 2020 and 2024. After searching the databases, 10 free full text articles that fulfilled the objective and inclusion criteria were included in the review.

Results: Findings from the reviewed studies suggest that integrated postural training is more beneficial compared to conventional exercise programmes in treating TNS as a whole. Correcting awkward neck postures while using mobile devices is an important strategy to reduce or prevent neck pain among users of mobile devices. Postural Retraining Exercise

Programme (PREP) can improve the movement patterns and the alignment of the head, shoulder & thoracic spine in people with TNS.

Conclusion: The study concludes that postural training combined with self-management exercises is an effective strategy to alleviate pain, improve ROM, and enhance functional posture in patients with TNS. This integrated approach offers promising applications for physiotherapists and clinicians.

Keywords: Cervical range of motion, Functional posture, Neck pain management

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Abstract No.: 24

Effect of Tissue Flossing for Improving Hamstring Tightness in University Going Students: A Review

SIMREN PARIHAR[1], KRITI SACHAN[2*]

ABSTRACT

Introduction: Muscle tightness is the state of activity or tension of a muscle beyond that related to its physical properties, which is its active resistance to stretch. The typical pattern of tightness in striated muscles is responsible for the postural function. Tightness in hamstring muscle causes posterior pelvic tilt which lead to decrease in lumbar lordosis result in low back pain. There are many things that may cause hamstring tightness. Sitting for prolong period of time shortens the hamstring muscle. Prevalence is about 58.33% of males and 95.85% of females have hamstring muscle tightness. Tissue flossing was first proposed by Starrett and Cordoza (2015), who suggested that flossing can increase the range of motion and/or performance (e.g., strength or jumping performance), speed up recovery, and decrease pain caused by various disease or injurie's.

Materials and Methods: Various research articles was searched using the database such as PubMed, Research Gate, Google Scholar, and Scopus. Randomised controlled trials that studied both short and long term effects of tissue flossing were selected.

Randomized controlled trial, interventional studies, crosssectional studies, and surveys between 2018 to 2025.

Results: Majority of the reviewed studies indicated that tissue flossing improves the range of motion, increase the flexibility, muscle activation and reduce the pain. This technique have been proven to be effective in comparison with various other technique

Conclusion: Tissue flossing when given individually and in combination has proven to be effective in reducing pain, enhancing functional and improving the range of motion.

Keywords: Function, Pain, Range of Motion

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Abstract No.: 25

To Evaluate the Effect of Incentive Spirometer and Autogenic Drainage in Postoperative Recovery Following CABG for Triple Vessel Disease: A Case Study

SAKSHI TIWAR[1], SUMEDHA RABRA[2*]

ABSTRACT

Background: One crucial therapy for triple vascular illness is Coronary Artery Bypass Grafting (CABG), which aims to restore heart blood flow. Atelectasis, pneumonia, and decreased lung volumes are examples of pulmonary dysfunction that can impair postoperative recovery and prolong hospital stays. With procedures like autogenic drainage and incentive spirometer being frequently suggested to enhance pulmonary function and lower complications, physiotherapy is essential for improving postoperative recovery. In order to speed up recovery, these methods seek to increase lung expansion, mobilise secretions, and promote oxygenation. This case study aims to investigate these elements in further detail because, despite their widespread usage, there are gaps in the information about the comparative efficiency of various therapies in CABG patients with triple vessel disease.

Purpose: The aim of this case study was to evaluate the effect of incentive spirometer and autogenic drainage in postoperative recovery following CABG for triple vessel diseases. This case study provide a summary of the available data on the benefits of autogenic drainage and incentive spirometry for postoperative recovery after coronary artery bypass grafting (CABG) for triple vascular disease. To find the the effects of these interventions on pulmonary function, postoperative complications, and reduce the length of hospital stay.

Result: Both incentive spirometer and autogenic drainage were found to significantly improve pulmonary function, reduce respiratory complication and enhance the strength of the muscle, reduction in the hospital stay.

Conclusion: The Incentive Spirometer and autogenic drainage were very effective in postoperative coronary artery bypass grafting. There length of hospital stay was reduce & pulmonary function get enhanced.

Keywords: Coronary artery bypass grafting, Pulmonary function, Pulmonary rehabilitation

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Abstract No.: 26

The Role of Sensory Re-Education Exercises in Diabetic Peripheral Neuropathy Management: A Narrative Review

SOMYA SHARMA[1], APOORVA TIWARI[2*]

ABSTRACT

Diabetic neuropathy is a heterogeneous group of disorders with extremely complex pathophysiology and affects both somatic and autonomic components of the nervous system. The pathology of diabetic neuropathy is characterised by progressive nerve fibre loss that gives rise to positive and negative clinical sign and symptoms such as pain, paresthesia and loss of sensation. Neuropathy is the most common chronic complication of diabetes mellitus, resulting from long term high blood sugar levels that damage peripheral nerves, particularly in the limbs. This condition can lead to sensory loss, affecting somatosensation and balance. Articles published in peer-reviewed journals between 2015 to 2024 focussing on diabetic peripheral neuropathy and sensory re-education. The main outcome measures were semmes-weinstein, monofilaments neuropathic pain questionnaire, Cumulative Sensory Impairment Scale (CSIS), sensory and nerve conduction parameters, BBS, SF-36.

The review was conducted across databases such as PubMed, Scopus and Google Scholar. Keywords included "sSomatosensory," "diabetic population," "sensory re-education exercises," and "neuropathy".

Six free full-text articles were identified through PubMed and Google Scholar, adhering to objectives and inclusion criteria. Numerous studies have been conducted to analyse the role of sensory re-education exercises in diabetic population and significant changes were found, and improvement was noted in somatosensory component, post sensory re-education exercises. The study concluded that sensory re-education and interventions improve sensory and motor function in individuals with Diabetic Peripheral Neuropathy (DPN). Innovative tools like the diabetic exercise mat also enhance outcomes, reducing fall risk and improving quality of life for patients with type 2 diabetes.

Keywords: Diabetic neuropathy, Diabetic population, Somatosensory

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Abstract No.: 27

Anthropometric Analysis in Recreational Runners: A Narrative Review

ISHA KROLIYA [1], BALDEV NEGI[2]*

ABSTRACT

Recreational runners are a diverse group whose performance is influenced by multiple factors, including biomechanical, physiological, and anthropometric variables. Recent studies have explored how training modalities like running-specifi c strength training, endurance training, and concurrent training affect both performance and anthropometric parameters in this population. Understanding these predictors is crucial for optimizing performance and preventing injuries among recreational endurance athletes.

This review aims to evaluate the role of anthropometric variables in predicting performance in recreational runners, summarising findings from studies on various training methods and their impacts on these parameters. Thus study focussed on recreational runner, assessed anthropometric variables related to performance, and discussed training modalities such as strength, endurance, or concurrent training. The studies were published as full-text articles in English. PubMed and Google Scholar were searched using terms like "anthropometric analysis," "recreational runners," "performance predictors," and "training effects". Relevant data on anthropometric variables, training methods, and performance outcomes were extracted from selected studies.

A total of 5 studies were included. Studies from Brazil, Spain and Greece. Anthropometric variables such as body composition, limb proportions, and muscle mass were significant predictors of performance. Training methods had varying effects on these variables, infl uencing endurance and overall performance. Anthropometric analysis provides valuable insights into recreational runners' performance. Tailored training strategies can enhance outcomes and reduce injury risks.

Keywords: Concurrent training, Endurance training, Performance predictors, Strength training

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Abstract No.: 28

Effectiveness of Janda's Approach in Managing Upper Crossed Syndrome: A Systematic Review

PRERONA KRISHNA [1], MAYANK SHUKLA[2*]

ABSTRACT

Introduction: Upper Crossed Syndrome (UCS) is a common neuromotor disorder causing postural imbalance affecting the neck, shoulders, and postural asymmetries in sagittal plane as well as multiple planes frequently causing pain, thoracic kyphosis, myofascial disorder, load transfer, sensory and kinetic chain function and movement dysfunction. Janda's approach - emphasising muscle imbalance correction, motor control, and therapeutic exercises, provides a holistic framework for physiotherapy interventions. This study contributes to evidence-based practice by exploring the potential benefits of Janda's approach in managing UCS in multiple planes, thereby enhancing clinical management, physiotherapy education, and development in addressing postural asymmetry, myofascial disorder and postural disorders.

Aim: The primary objective of this study was to evaluate the effects of Janda's approach on individuals with neck and upper back pain due to UCS. Secondary objectives included assessing its impact on muscle imbalance, posture correction, range of motion, and flexibility improvement.

Materials and Methods: The study data bases were searched from PubMed, Google Scholar, and Research Gate. The systematic reviews were taken from 2015-2024. The papers articles investigating the effect of Janda's approach on neck pain, upper crossed syndrome and forward head posture were included.

Results: This approach is highly effective in reducing pain, improving range of motion and flexibility, and restoring proper movement patterns. It has been shown to be more effective compared to other approaches. Janda's approach for UCS focusses on strengthening weak muscles and stretching tight ones to correct muscle imbalances, posture, range of motion, and flexibility may vary based on individual factors and any underlying health conditions.

Conclusion: Janda's approach demonstrates substantial therapeutic benefits in managing UCS by addressing muscle imbalances and promoting proper postural alignment. Strengthening weak muscles while lengthening tight ones leads to improved posture, reduced pain, enhanced fascia and enhanced functional movement. However, its effectiveness may vary based on localized trigger point and tender points, individual and contextual factors.

Keywords: Forward head, Neck pain, Postuarl imbalance.

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Abstract No.: 29

Efficacy of Physiotherapeutic Intervention in Pneumonia Patients: A Narrative Review

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ABSTRACT

Pneumonia is an acute respiratory infection of the lower respiratory tract. It is actually an umbrella term for a group of symptoms caused by organisms which maybe bacteria, viral or fungal, manifesting a variety of clinical features. Chest physiotherapy has gained popularity for resolving pneumonia in the recent years. This review aimed to analyse the effect of physiotherapy interventions on pneumonia patients. Keywords like pneumonia, airway clearance, chest physiotherapy, and respiratory physiotherapy wereemployed to identify relevant studies. A comprehensive literature search was conducted across various reputable sources, including Google Scholar, PubMed, Scopus, and Web of Science. Relevant literature was systematically identified and analysed. A thorough evaluation of 20 articles was undertaken to draw a relevant result. A comprehensive review of several studies was conducted to assess the efficacy of chest physiotherapy in pneumonia patients. Out of the identified studies, 20 full-text articles were included in this analysis. These studies demonstrated that chest physiotherapy effectively improved functional ability, muscle strength, and SpO2 levels, ultimately enhancing the quality of life for pneumonia patients. Chest physiotherapy is a simple yet effective therapeutic intervention employed in the management of pneumonia patients.

Keywords: Airway clearance, Chest physiotherapy, Respiratory physiotherapy.

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Abstract No.: 30

Effect of Retro-Walking on Low Back Pain in Basketball Players: A Review

MOHIT KUMAR SINGH[1], ARCHANA KHANNA[2*]

ABSTRACT

Introduction: Basketball is a high-intensity, semi-contact sport characterised by rapid multidirectional movements that place significant strain on players' musculoskeletal system, particularly the lower back. Retro walking or backward walking has recently emerged as a new concept in rehabilitation that has different pattern of muscle activation. It improves balance, posture, and muscle activity simultaneously reducing stress on the joint.

Aim: To review the effect of retro walking on Low Back Pain (LBP) in basketball players.

Materials and Methods: Randomised controlled trials published from 2018 to 2024 that explored retro walking's impact on LBP and were openly accessible were included. A comprehensive literature review was conducted using various databases such as PubMed, Google Scholar, and Research Gate, using the following keywords: Retro Walking, Low Back Pain, Basketball Players, Performance Measures, Agility, Dynamic Balance, and Flexibility. After screening 10 free-full text articles were included in the review that fulfilled the requirements of inclusion criteria.

Results: Retro walking has a positive impact on both LBP and performance measures among basketball players. Participants who engaged in retro walking interventions experienced improved scores on pain assessment tools such as the numerical pain rating scale and Oswestry Disability Index. Additionally, retro walking contributed to enhanced dynamic balance, agility, and overall performance.

Conclusion: The findings from this review suggest that retro walking may offer a unique and effective intervention for managing low back pain and enhancing performance measures among basketball players. Further research is needed to validate these effects and establish retro walking as a standard part of rehabilitation and training regimens for athletes.

Keywords: Agility, Dynamic balance, Flexibility, Performance measures

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Abstract No.: 31

Blood Flow Restriction Training on Chronic Stoke Patient: A review

NEHA SINGH SHISHODIA[1], VISHAL SHARMA[2*]

ABSTRACT

Introduction: Stroke is a leading cause of long term disabilities characterised by muscle weakness, motor dysfunction and reduced physical activity. Conventional treatment approach consists of improving motor functions using stretching, strengthening and functional training. Blood flow restriction training is a newer form of strength training for stroke rehabilitation. Blood flow restriction training combines low intensity exercises with partial vascular occlusion, using a cuff or band that restricts venous blood flow while maintaining arterial inflow. This method allow patients to gain muscle strength & hypertrophy, thus improving functional mobility.

Aim: To review the effect of blood flow restriction training on chronic stroke patient for improving muscle strength and functional mobility.

Materials and Methods: Articles in English, published between 2018 to 2024, inluding chronic stroke patients were included. The review was conducted using databases like PubMed, Google Scholar, and Research Gate. After searching the databases, 25 full-text articles that fullfillied the inclusion criteria and objectives were included in this review. Qualitative analysis of data was

done. The major trends found were muscle hypertrophy, increased muscle strength and functional mobility.

Results: The search identified 40 studies, after the screening of titles, abstract and full text, 25 studies were included in the final analysis out of 25 studies,16 studies showed significant improvement of blood flow restriction training on chronic stroke patients. Nine studies suggested no significant improvement. However no side effects were noted in any study.

Conclusion: The key conclusion of the review is that blood flow restriction training is beneficial for chronic stroke patients and that should be included in clinical practice. However, blood flow restriction training is a new method and should be more explored in order to provide greater evidence to be recommended for patient usage.

Keywords: Long term disabilities, Low intensity exercise, Rehabilitation

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Abstract No.: 32

Comparative Effects of Kinesiology Taping and Mcconnell Taping on Chronic Ankle Instability in Recreational Runners

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ABSTRACT

Introduction: Running is one of the numerous activities that has grown in popularity as it can be done anywhere and anytime. A common ailment happens during running is ankle instability, which is linked to anomalies in postural stability. In recent times, there has been a growing interest in Kinesiology Taping (KT) and McConnell Taping (MT) as tools for injury prevention, rehabilitation, and stability enhancement.

Aim: To bring forth a comprehensive review of the present position in the literature about the study. The study included randomised controlled trials, experimental studies, and case studies and all studies published between 2018–2024.

Various databases like Google scholar, PubMed, ResearchGate were searched and articles from 2018-2024 and were reviewed in this study, total 20 articles were reviewed.

Result: MT seems to provide more stability as compared to KT, whereas KT provides better proprioception.

Conclusion: It can be concluded that, there were significant improvement in postural stability by using KT. Further, it was seen that MT improves stability more than KT and it also improves functional performance and dynamic balance. The limitation to this study was lack of research on effects of MT, hence further studies can consider studying the same.

Keywords: Postural stability, Rehabilitation, Stability enhancement

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Abstract No.: 33

Effect of Virtual Reality (VR) on Gait and Balance in Chronic Stroke Patients: A Narrative Review

OMARY MUSSA KARATA[1], VISHAL SHARMA[2*]

ABSTRACT

Background: Stroke causes sudden, focal (or global) cerebral function disturbance lasting over 24 hours. It is the second leading cause of death globally and a major cause of disability. Stroke rehabilitation often includes conventional therapies for lower limb impairments, but motivation remains a challenge. Virtual Reality (VR) technologies, such as immersive, non-immersive, augmented, gamified, and mobile VR, enhance patient engagement and feedback compared to traditional methods.

Objective: To evaluate the effects of VR on gait and balance in chronic stroke patients.

Inclusion Criteria: Reviews published from 2019-2025, involving adults (18-85 years) diagnosed with chronic stroke and treated with VR (immersive, semi-immersive, or non-immersive), alone or combined with conventional therapy. The primary outcome was gait and balance.

Methods: Articles (2019-2025) were sourced from PubMed, Google Scholar, Scopus, PEDro, HINARI, and Cochrane Library using keywords like VR, rehabilitation, gait, and balance. Of 36 initial articles, 15 met inclusion criteria.

Results: Studies showed significant improvement in balance and leg strength using VR. Stroke patients with immersive head-mounted displays demonstrated slower cadence, altered stance, and swing times. VR training, being intensive, engaging, and varied, provided realistic and safe simulations for daily activities.

Conclusion: VR, alongside conventional therapy, significantly improves gait, balance, trunk control, and functional mobility in chronic stroke patients, though it lacks real-life applications compared to game-based simulations.

Keywords: Chronic stroke, Functional mobility, Gait and balance, Rehabilitation

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Abstract No.: 34

Effect of Kinesio Taping in Shoulder Impingement Syndrome in Volley Ball Players: A Review

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ABSTRACT

Introduction: Volleyball requires extensive use of the shoulder joint, with repetitive overhead activities that may result in Shoulder Impingement Syndrome (SIS). SIS involves compression and abrasion of the rotator cuff structures, leading to pain, reduced range of motion, and diminished sports performance. Kinesio Taping (KT) is known for its potential to reduce pain, improve joint stability, and promoting muscle function among players.

Aim: To review the effectiveness of KT in addressing SIS and enhancing performance measures among volleyball players.

Materials and Methods: Randomised controlled trials in English language, published between 2010 and 2023, related to KT on volleyball players were included. A comprehensive literature review was conducted using databases such as PubMed, Google Scholar, and Research Gate, focussing on studies published between 2010 and 2023. After searching the databases, 10 free full text articles that fulfilled the objective and inclusion criteria were included.

Results: Findings from the reviewed studies suggest that KT can significantly reduce pain and improve scapular kinematics in athletes with SIS. However, its efficacy compared to conventional physiotherapy modalities or other interventions, such as subacromial corticosteroid injections, remains inconclusive.

Conclusion: KT offers a viable alternative for managing shoulder impingement syndrome among volleyball players, especially for short-term pain relief and functional improvement. However, more robust and controlled studies are required to establish its efficacy as a standalone treatment or in combination with conventional therapies.

Keywords: Functional mobility, Rehabilitation, Stroke, chronic stroke, gait and balance

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Abstract No.: 35

Effects of Hold-Relax Technique on Pain, Range of Motion in Patients with Knee Osteoarthritis

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ABSTRACT

Introduction: Knee osteoarthritis (OA) is a chronic condition that leads to significant pain and reduced mobility, impacting quality of life. Physical therapy, including manual techniques like mobilisation and stretching, plays a crucial role in managing OA symptoms.

Aim: This study aims to find out the effects of hold-relax technique on pain, Range of Motion (ROM) in patients with knee osteoarthritis

Materials and Methods: Patients diagnosed with knee OA, aged 40 years and above, experiencing pain and mobility limitations. were included. Relevant literature was reviewed using databases like PubMed, Google Scholar, and Cochrane Library, focusing on studies from the last 10 years discussing hold-relax techniques in OA management. Data on pain relief, ROM improvement, and functional outcomes were extracted from the selected studies and to fi nd out the effects of hold relax technique in knee OA. The review presents the effects of hold-relax technique in knee OA patients, focussing on the effect on pain reduction, joint function, and overall quality of life improvement.

Results: Hold-relax technique showed significant improvements in pain relief and ROM.

Conclusion: According to the studies, hold-relax technique appears effective in enhancing functional outcomes in knee OA patients. Further research with larger sample sizes is recommended to confirm these findings and optimise treatment protocols.

Keywords: Pain maangement, Physical therapy, Rage of motion

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Abstract No.: 36

Evaluating the Effectiveness of Motor Re-Learning with Task-oriented Approach versus Traditional Methods in Upper Extremity Rehabilitation for Post-Stroke Patients

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ABSTRACT

Introduction: Stroke accounts for the second leading cause of death in the western world. Upper limb disability is common & severely affects everyday activities. Muscle weakness, spasticity, decreased motor function as well as reduction in quality of life which highlights the need for effective rehabilitation to restore function.

Aim: The aim of the study is to analyse the effectiveness of motor re-learning with task-oriented approach in upper extremity rehabilitation for post-stroke patients.

Materials and Methods: A systematic search was performed across several electronic databases, including Google Scholar, Research-Gate, PubMed, and Scopus, using relevant scientific terms. Articles published between 2013 to 2024 assessing the effects of a task-oriented approach, motor re-learning on stroke patients were included in the review. Initially 81 articles were identified , after removing 10 duplicates, excluding 28 for non-eligibility, 13 for inaccessibility, 4 for inconsistent results, and 6 during data extraction, 20 relevant articles were included in this review. Selected studies were extracted, including study design, sample size, intervention methods (task-oriented approach, and motor re-learning), outcome measures (Box and Block Test, Fugl-Meyer Assessment, FIM, Nine-Hole Peg Test) and key findings.

Results: The results depicted that there has been marked increase in gross motor and fine motor skills, hand dexterity whereas decrease in tone when compared pre and post-test results. The combination of motor relearning with the task-oriented approach demonstrated superior outcomes compared to conventional therapy.

Conclusions: The study indicates that combining the motor relearning program with a task-oriented approach in stroke patients has been more effective than traditional training. For future physiotherapy applications, it can be explored as a standard practice to enhance functional recovery in stroke patients.

Keywords: Motor function, Upper limb disability

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Abstract No.: 37

A Comparative Analysis of Electrical Stimulation with Kabat and Proprioceptive Neuromuscular Facilitation Technique on Bell's Palsy Patients

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ABSTRACT

Introduction: Bell's palsy is a neurological condition influenced by immune, infective, and ischaemic mechanisms, though its exact cause remains unclear. This study aims to evaluate the effectiveness of electrical stimulation compared with Kabat and proprioceptive neuromuscular facilitation techniques in treating Bell's palsy patients.

Aim: This study aims to compares the efficacy of electrical-stimulation and Kabat-techniques and proprioceptive-neuro-muscular-facilitation in Bell's palsy rehabilitation, aiming to identify the most effective approach for improving muscle function, facial symmetry, and recovery.

Materials and Methods: In this study review was conducted using databases like PubMed and Scopus, focussing on studies published between 2014-2024. Inclusion criteria covered clinical-trials and studies comparing electrical stimulation with Kabat and proprioceptive neuromuscular facilitation techniques. Data on outcomes such as muscle function and facial symmetry were analysed to assess efficacy.

Result: The 21 articles-used various outcome measures, including the House-Brackman Scale, Sunnybrook Scale, and Facial Disability Index (FDI). Results show that therapeutic methods, especially the Kabat technique and electrical stimulation, are highly effective in treating Bell's palsy.

Conclusion: The therapeutic methods are very helpful in treating patients with Bell's palsy, specially according to our topic the Kabat technique and electrical stimulation shows great result.

Keyword: Electrotherapy, Facial symmetry, Muscle function

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Abstract No.: 38

Effectiveness of Tailormade Physiotherapy Protocol in 42-years Old Female Patient Suffering from Ankylosing Spondylitis: A Case Study

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ABSTRACT

Ankylosing Spondylitis (AS) is a chronic inflammatory arthritis that primarily affects the axial skeleton and is often underdiagnosed in females due to atypical presentations, such as peripheral joint involvement.

Early intervention, especially through physiotherapy, is crucial for symptom management and preventing disease progression. This case study evaluates the effectiveness of a tailored physiotherapy protocol in improving pain, stiffness, functional ability, and mobility in a 42-year-old female patient with AS. A 42-year-old overweight female (body mass index: 26.5) with a 10-year history of hip pain, stiffness, and reduced spinal mobility, along with a family history of HLA-B27 positivity and arthritis, underwent an 8-week physiotherapy programme. The 60-minute sessions included hot packs, Transcuataneous Electrical Nerve Stimulation (TENS), Ultrasound Therapy (UST), resistance and spinal mobility exercises, ergonomic training, and a home exercise plan. Outcomes were assessed using Numeric Pain Rating Scale (NPRS), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI), Modified Schober Test, and lateral spinal flexion test. The physiotherapy intervention significantly improved the patient's condition, reducing pain (NPRS: 8 to 2), functional impairment (BASFI: 5.4 to 2.1), and disease activity (BASDAI: 6.3 to 2.3). Spinal mobility also improved, with the Modified Schober Test increasing from 3 cm to 4.5 cm and Lateral Spinal Flexion improving bilaterally (right: 10 cm to 12 cm, left: 9 cm to 11 cm). These results highlight the program's effectiveness in reducing pain, enhancing mobility, and improving function.

The tailored physiotherapy programme effectively reduced pain and stiffness, enhanced mobility, and improved functional ability in a female AS patient. This case highlights the need for individualised physiotherapy regimens to address gender-specific challenges in managing AS.

Keywords: Functional ability, Gender-specific treatment, Pain management, Tailored physiotherapy.

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Abstract No.: 39

Two-Dimensional Analysis for Comparison of Biomechanical and Gait Parameters between Male and Female Young Adults with Obesity

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ABSTRACT

Objective: To compare the gait and biomechanical parameters among obese adult males and femalesusing two-dimensional analysis.

Materials and Methods: This observational study included 42 obese young adults (21 males, 21 females) from Department of Sports Physiotherapy, MGM School of Physiotherapy, Aurangabad, Maharashtra, India, with age between 18 to 25. Participants were chosen based on the inclusion and exclusion criteria, and test method was explained to them. Informed consent was taken. Each subject was asked to walk on treadmill at a speed of 0.50 to 1.75 m/s. The videos and pictures of lower extremity were taken from three views i.e. anterior, posterior and lateral. The videos and pictures were then uploaded on the Two-Dimensional (2D) motion analysis software "Kinovea". All the parameters were analysed further.

Results: The normality test using the Shapiro-Wilk test revealed that the data for most variables were not normally distributed, as indicated by p-values less than 0.05 for several variables, suggesting the use of non-parametric tests for further analysis. In gender distribution, both males and females were equally

represented (50% each), with 21 participants per group. Q-angle (p = 0.001) and Heel strike (p = 0.044) showed significant differences between both the populations, with males showing lower values compared to females. No significant differences were found for Tibial torsion and Leg heel alignment. Sagittal plane gait parameters showed significant differences in the maximum hip flexion (p = 0.002), maximum knee flexion (p = 0.008), and maximum knee extension (p = 0.009), with males demonstrating lower values for hip flexion and higher values for knee extension compared to females. However, no significant differences were observed in the maximum hip extension, maximum ankle dorsiflexion, and maximum ankle plantarflexion. Spatio-temporal gait parameters revealed significant differences in swing time (p = 0.049), toe-out angle (p = 0.001), and pelvic inclination (p = 0.004), with males showing shorter swing times, lower toe-out angles, and lower pelvic inclination compared to females. No significant differences were found in stance time, step length, or cadence.

Conclusion: Differences in Body Mass Index (BMI), Q-angle, joint movements, and pelvic inclination indicate distinct anatomical and biomechanical profiles between males and females. These variations have clinical implications, emphasising the importance of gender-specific treatment and rehabilitation strategies. The study highlights how understanding these differences can improve management of musculoskeletal conditions and optimise movement patterns based on gender.

Keywords: Body mass index, Gender, 2-D motion analysis

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Abstract No.: 40

Exploring the Role of Neuromodulation in Enhancing Creative Thinking: A Narrative Review

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ABSTRACT

Cognition comprises mental operations including reasoning, problem-solving, and decision-making. In this context, creative thinking would be an important function to be considered. Neuromodulation, through electrical or magnetic stimulation of specific areas in the brain, can be employed to modulate such processes by boosting cognitive performance as well as boosting creativity. This review aimed to cover all the existing evidence on the impacts of neuromodulation methods on creative thinking. This review focussed on experimental studies on neuromodulation for enhancing creativity among healthy adults, including students and professionals. The literature was narrowed down to studies published in the last 10 years, focussing on divergent and convergent thinking, verbal creativity, and intelligence tests, in order to make the literature relevant and rigorous. A literature search was conducted using PubMed, PEDro, and Google Scholar using the combined terms related to "neuromodulation" and "creative thinking." Thematic and qualitative analysis of the studies was conducted to analyse the impact on creative thinking, verbal creativity, and task-specifi c outcomes infl uenced by modulating parameters. The findings of the study indicate that neuromodulation techniques, specifi cally tDCS, improve creative thinking. Other techniques also exhibited positive effects but dearth of literature available on longitudinal and comparative studies involving other forms of neuromodulation such results are very encouraging. Neuromodulation enhances creativity through task-specific and modality-dependent effects. Long-term effects should be observed in future studies, and the standardisation of protocols with the optimisation of stimulation parameters would be essential.

Keywords: Cognition, Intelligence tests, Verbal creativity

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Abstract No.: 41

Immediate Effects of Fartlek Training on Blood Lactate Levels – Post-exercise in a Recreational Runner: A Case Study

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ABSTRACT

Fartlek training, a form of unstructured interval training, involves alternating between periods of high and low intensity during a single workout session. It is widely adopted by recreational and competitive athletes for enhancing both aerobic and anaerobic capacity. Blood lactate concentration is a key biomarker used to assess metabolic stress and performance adaptation following high-intensity exercise. While traditional interval training's impact on lactate dynamics is well-documented, there is limited research on the immediate effects of Fartlek training on blood lactate levels, particularly in recreational runners. Oxygen saturation (using pulse oximeter), pulse rate (breaths per minute), physical activity (6-minute walk distance) and perceived levels of exertion (RPE) using modified Borg scale corresponding to pre and post levels of blood lactate were measured in 19-year-old recreational runner. Before investigating the levels of blood lactate, participant performed 6-minute walk distance to quantify the physical exertion. The distance covered by participant was 690 metres. Pre and post blood lactate levels in participant were 11.40 mg/dL and 12.50 mg/dL respectively. According to the reports, participant maintained the normal limits of blood lactate levels. With this we can conclude that there is no or minimal effects of Fartlek training.

Keywords: Exercise, Oxygen saturation, Physical exertion

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Abstract No.: 42

Evaluating the Effectiveness of Virtual Reality and Conventional Therapy for Improving Balance and Fall Prevention in Geriatric Population: A Systematic Review

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ABSTRACT

Background: Elderly people are more susceptible to balance impairments and associated injuries. Innovative interventions including Virtual Reality (VR), Motor Imagery (MI) training have the potential to enhancing balance, mobility & functional outcomes. Through visual and auditory feedback, VR improves motor learning and MI stimulates brain pathways to strengthen motor patterns. This review evaluates evidence from studies comparing VR, MI & conventional exercises for enhancing balance and lowering fall risks among older adults.

Purpose: To evaluate the comparative effectiveness of VR-based and conventional therapies in enhancing balance and preventing falls in older adults.

Inclusion Criteria: All the articles included in this review involved interventions using VR and conventional exercises. The article has to be written in English language.

Methods: A comprehensive literature search will be conducted across multiple databases, including PubMed, Scopus, Web of Science, and Google Scholar focused on VR and conventional approaches. 20 articles included in the review.

Results: VR interventions demonstrated significant improvements in balance and fall risk metrics, comparable to conventional therapies. Common assessment tools including Time Up and Go Test and Berg Balance Scale demonstrated improvements across interventions. Participants in VR programs showed higher adherence and motivation, highlighting its practicality and acceptability among elderly. Combined interventions including VR and motor imagery, enhanced both physical and cognitive outcomes.

Conclusion: VR-based therapy is a promising alternative to conventional exercises for improving balance and reducing fall risks in older adults. However, further research is needed to optimize protocols and explore long-term effects.

Implications: These findings support integrating VR-based interventions into geriatric rehabilitation to promote independence and reduce fall-related injuries.

Keywords: Virtual reality, conventional therapy, fall prevention

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Abstract No.: 43

Revolutionising Muscular Dystrophy Rehabilitation: The Role of Cutting-Edge Physiotherapy Technologies

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ABSTRACT

Introduction: Muscular dystrophy encompasses a group of genetic disorders characterised by progressive muscle weakness and wasting. Although it is currently incurable, physiotherapy plays a vital role in managing the condition and enhancing quality of life. Traditional physiotherapy techniques include stretching, strengthening exercises, and electrical stimulation, while contemporary approaches have expanded to incorporate virtual reality, tele-rehabilitation, and Artificial Intelligence (AI) technology. This review aims to evaluate and synthesise available evidence on the effectiveness of both conventional and modern physiotherapy interventions in managing muscular dystrophy.

Aim: The purpose of this study helps in understanding the evolution of physiotherapy approaches and evaluating which among them is more effectively managed to get a sound informed decision for the practioner to support more evidence based practice.

Materials and Methods: The articles in English language, and articles relating to the usage of both the treatment approaches were used for the current review. A comprehensive literature search across PubMed Central, Google Scholar, Scopus, and Web of Science focussed on conventional exercise-based and technology-driven contemporary approaches. Of 35 articles reviewed, 20 met the inclusion criteria for this study.

Results: Telerehabilitation, Virtual Reality (VR) and AI based technologies are emerged in managing with multiple goals whereas aqua therapy, electrical stimulation and exercises are also support evidence based practices. Hence, treatment protocol are tailored to individual patient needs.

Conclusion: The current review provides a comprehensive overview that both conventional and contemporary approaches managing effectively as per the need and requirement of the patient population.

Keywords: Artificial intelligence, Hydrotherapy, Virtual reality

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Abstract No.: 44

Efficacy of Muscle Energy Technique versus Conventional Treatment on Pain, Range of Motion, Functional Disability and Quality of Sleep in Patients with Idiopathic Adhesive Capsulitis

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ABSTRACT

Introduction: Adhesive capsulitis is a common musculoskeletal disorder and is defined as a condition in which inflammation of the joint capsule that preserves the glenohumeral joint give rise to pain, stiffness, along with tightness during movement of glenohumeral joint.

Aim: To evaluate the efficacy of Muscle Energy Technique (MET) along with conventional treatment and conventional treatment alone on pain, range of motion, functional disability and quality of sleep in patients with adhesive capsulitis.

Materials and Methods: A total of 26 participants were included. Patients were divided into 2 groups Group A and Group B. Both male and females were included of 40-60 years of age, 2nd and 3rd stage of idiopathic adhesive capsulitis, unilateral involvement, having painful stiff shoulder for at least 3 months. Group A received MET along with conventional treatment and Group B received conventional treatment. Pre intervention measurements was taken on day 1 before treatment and post treatment measurements was taken on day 21 after treatment for pain, range of motion, functional disability and quality of sleep. The study protocol has been approved by the Institutional Ethics Committee of Saket College of Physiotherapy, Chandimandir, Panchkula. The study is registered under Clinical Trials Registry - India with Registration No. CTRI/2024/02/062932.

Results: Within group analysis was done using t-test and for between group t-test and non parametric test were used. There is a significant reduction in pain, increase in shoulder flexion, extension, abduction, external and internal rotation, reduces functional disability and improves quality of sleep ($p<0.05$).

Conclusion: The study finding demonstrated that both MET along with conventional and conventional treatment alone were effective but MET along with conventional treatment was more effective for reducing pain, improving range of motion, reducing functional disability and improving quality of sleep.

Keywords: Glenohumeral joint, Shoulder flexion, Stiff shoulder

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Abstract No.: 45

Testing the Immediate Effectiveness of Myofascial Release of Gastrocnemius on Pain and Dorsiflexion Range of Motion in Plantar Fasciitis : A Protocol

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ABSTRACT

Introduction: Plantar fasciitis or plantar heel pain is a commonly reported condition which causes inferior heel pain. Previous studies have shown significant association between the degrees of heel pain with the tightness of the gastrocnemius in cases of plantar fasciitis. Myofascial Release (MFR) is an effective hands-on approach of soft tissue mobilisation, can be used to reduce pressure in the fibrous bands of the connective tissue. We hypothesize that there will be an immediate effect of MFR on pain and dorsiflexion Range of Motion (ROM).

Need of the Study: This study will work towards finding the immediate effectiveness of myofascial release of gastrocnemius

on pain and dorsiflexion range of motion, if found effective it can then be used as an immediate pain-reducing and activity enhancing treatment in plantar fasciitis.

Aim: To test the immediate effectiveness of MFR of gastrocnemius on pain and dorsiflexion ROM in plantar fasciitis.

Materials and Methods: Convenient sampling method will be used. Participants will be screened using the patient screening form. Forty participants who meet the inclusion criteria (male/female, 40-60 years, diagnosed with plantar fasciitis, gastrocnemius tightness) will be included. The purpose, procedure and advantage of the study will be explained to the participants prior to participation. Group A (experimental group) will receive MFR and Group B (control group) will receive sham MFR for 15 minutes. Data will be collected before and after the intervention, followed by conventional treatment in both groups. The study protocol has been approved by the Institutional Ethics Committee of Saket College of Physiotherapy, Chandimandir, Panchkula. The study is registered under CTRI (The Clinical Trials Registry - India) with registration number CTRI/2024/06/068693.

Keywords: Gastrocnemius tightness, Plantar heel pain, Soft tissue mobilisation

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Abstract No.: 46

Effectiveness of Kinesiology Taping in Chronic Low Back Pain

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ABSTRACT

Background: Low back pain (LBP) is the most common musculoskeletal disorder and work-related health problem affecting millions of People. Kinesiology taping(KT) is acommonly used intervention for patients with chronic low back pain. Although it has been used as an additional treatment to conventional physiotherapy interventions the current evidence does not support this intervention.

Purpose: The primary goal of this study is to determine the efficacy of KT in relieving pain improving the disability of patients and increasing the range of motion in this patient with chronic low back pain.

Methodology: After carefully looking through many articles published on different databases such as Google Scholar, PubMed, Research Gate, etc. The articles researched and included in this paper are not older than 2018.

Data Extraction: Extracted data included participant demographics, baseline pain, VAS, NDI, intervention details (KT techniques, duration), and outcomes at 4 weeks.

Result: After carefully reviewing the above studies majority of the cases reviewed have shown a positive effect of KT in many cases of chronic lower back pain while improving movement and function of the lower back. KT combined with physical therapy provided better therapeutic effects regarding pain reduction and disability improvement compared with physical therapy alone in individuals with chronic low back pain.

Conclusion: Kinesiology taping effectively reduces pain and improves functional disability in CLBP patients.

Implication: Kinesiology taping results in decrease in CLBP and improve ROM.

Keywords: Taping and its indications, KT, chronic low back pain, sham KT on pain, disability in chronic low back pain(CLBP).

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Abstract No.: 47

Effectiveness of Mckenzie Technique Along with Spinal Manipulation in Mechanical Low Back Pain: A Narrative Review

NIDHI[1], RAMSHA AHMED[2*]

ABSTRACT

Mechanical Low Back Pain (MLBP) is a common musculoskeletal complaint, signifi cantly impacting quality of life and daily functioning. As one of the leading causes of disability globally, MLBP often requires effective therapeutic strategies to alleviate pain and improve mobility. The McKenzie method is a well-regarded approach for managing MLBP, focussing on patient- led exercises that centralise and reduce pain. Spinal manipulation is used to restore spinal alignment and relieve pain through manual adjustments. This review was done to evaluate the combined effectiveness of the McKenzie method and spinal manipulation in reducing pain and disability among patients with MLBP. The literature search was done from 2015-2023 using the databases Cochrane Library, Google Scholar and PubMed. Studies on McKenzie technique and spinal manipulation for low back pain were reviewed, focussing on treatment methods, pain relief, and functional outcomes. After carefully reviewing the above studies, majority of the cases reviewed have shown a positive effect of Mckenzie technique and spinal manipulation in treating low back pain while reducing pain, disability and improving lumbar Range of Motion (ROM). Above studies have shown that the effect of Mckenzie in reducing pain, disability and improving lumbar ROM is positive but Mckenzie in combination with other techniques such as manipulation has better therapeutic effects.

Keywords: Oswestry low back disability questionnaire, Range of motion, Visual analogue scale

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Abstract No.: 48

Effects of Dual Task Training on Geriatric Patients with Balance Impairment: A Narrative Review

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ABSTRACT

Dual Task (DT) training a promising approach that helps in improving gait and balance of especially geriatric patients. It includes simultaneous training of motor or cognitive dual tasks with conventional training. Examining and evaluating the effects of DT training on older adults with balance issues is the driving force for this research. In order to identify the best course of action for patients, this study will examine numerous well-established methods. Many databases were searched such as Research Gate, PubMed, and many more. The articles researched and included were not any older than 2013. Extracted data on participant characteristics (age, gender, baseline balance status), dual-task training specifics (type, duration, frequency), and outcomes (balance improvement, gait performance, and fall reduction) to assess its effectiveness in geriatric populations. Outcome of this examination reveals positive changes after introducing DT training in the treatment protocol of patients. This introduction also helped in improving both static and dynamic balance especially with patients having a history of tumbling. Outcome of this study further proves the scenario that dual task training is a promising approach and should be used in combination with other protocols for geriatric patients with balance impairment for better results.

Keywords: Cognitive dual task, Dual task exercises for elderly, Fall risk prevention

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Abstract No.: 49

Effect of Neuromuscular Training on Strength, Agility and Balance in Football Players

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ABSTRACT

Introduction: Football demands high level of physical conditioning including agility, strength, and balance apart from technical, tactical, and mental skills. It has been demonstrated that neuromuscular training techniques improve these elements, enhancing performance and lowering the risk of injury. This review consolidates evidence on the impact of these training methods on football players' agility, strength, and balance.

Aim: To evaluate how well neuromuscular and proprioceptive training affects football players' strength, agility, and balance.

Materials and Methods: The studies published in last 10 years, between 2015 to 2023 were examined for this narrative review. Search engines like PubMed and Google scholar were used to find relevant publications using keywords like "proprioception," "neuromuscular training," and "football players." Only English language publications that satisfied certain inclusion requirements were taken into account. Ten studies meeting the inclusion criteria highlighted the benefits of these training methods. While neuromuscular training improved strength, agility, and injury prevention, proprioceptive training on unstable surfaces improved balance, joint stability, and technical skills. For instance, tests of agility revealed notable gains of 0.3 to 0.5 seconds and increases of 5 to 10% in lower limb strength. In certain strategies, the incidence of injuries decreased by as much as 67%. Integrative neuromuscular training demonstrated improvements in dynamic stability, coordination, and sport-specific performance.

In conclusion, football players can improve their physical performance and lower their risk of injury by using proprioceptive and neuromuscular training. To maximise performance and guarantee injury prevention, these techniques should be incorporated into athletic and rehabilitation regimens.

Keywords: Joint stability, Proprioceptive training, Tactical and mental skills

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Abstract No.: 50

A Comprehensive Rehabilitation Protocol for a Patient with Left Hemiparesis and Cerebellar Ataxia: A Case Report

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ABSTRACT

Stroke is a prevalent condition leading to balance and coordination disorders such as cerebellar ataxia making daily activities increasingly challenging. Additionally, preexisting age-related conditions such as degenerative knee arthritis and cervico-occipital hump can further complicate the rehabilitation process for the therapists. Therefore, it becomes crucial to develop a comprehensive rehabilitation protocol tailored to such patient's needs. A 62-years old male was assessed in his home setting and clinical Outpatient Department (OPD) sitting, comprehensively for higher mental functions, sensory, and motor systems. A tailored rehabilitation protocol was implemented four times weekly, with three follow-up assessments after 45 days to adjust exercises. Interventions included balance and coordination exercises, physical conditioning, mobility training, postural correction, gait training, and electrotherapy modalities. The outcome measures used in this case were Scale for the Assessment and Rating of Ataxia (SARA), Berg Balance Scale (BBS) for balance and Functional Independence Scale (FIM) for functional improvement. The follow up assessment demonstrated significant improvement in balance and functional independence. Improvement in SARA score: from 29 to 8, BBS score: from 9 to 43 and FIM score: from 62 to 106. The patient was walking independently and shifting without any help. The multidimensional approach towards

patient's need has shown significant improvement in term of functional independence, balance and overall quality of life.

Keywords: Cervico-occipital hump, Degenerative knee arthritis, Gait training

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Abstract No.: 51

Effect of High Intensity Laser on Pain, Joint Range of Motion, and Functional Ability of Patients with Post-operative Rotator Cuff Tears: A Study Protocol

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ABSTRACT

Introduction: Rotator cuff tear is a common shoulder injury, often requiring surgical intervention to restore function and alleviate pain. Post-operative rehabilitation is critical for recovery, and various modalities are utilised to enhance healing. High-Intensity LASER Therapy (HILT) is an advanced treatment modality that uses LASER to promote tissue repair and reduce pain.

Need of the Study: This research explores the effects of HILT on pain, joint Range of Motion (ROM), and functional ability in patients recovering from rotator cuff repair.

Aim: To find out the effect of high intensity LASER on pain, joint ROM, and functional ability of patients with post-operative rotator cuff tear.

Materials and Methods: The present study will be a single blind, parallel group, randomised control trial recruiting 90 patients having severe partial thickness (>50%) and full thickness tear, undergone post operative rotator cuff repair and will be allocated through computerised randomisation into two groups as per the inclusion and exclusion criteria. The experimental group will be treated with HILT (Power 750 Joules, frequency 10 Hz, pulses width 50 ms, 5 minutes) along with conventional therapy (3 sets of 10 repetitions of wand exercises for shoulder ROM and shoulder isometrics for muscle strength followed by cold therapy for pain relief) whereas the control group will be treated with placebo HILT along with conventional therapy. The outcome measures; pain, joint ROM, and functional ability will be assessed using Numeric Pain Rating Scale, Goniometer, and Shoulder Pain And Disability Index (SPADI) score, respectively, at baseline and the fourth week of post intervention.

Keywords: Post-operative rehabilitation, Rotator cuff repair, Tissue repair.

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Abstract No.: 52

Effect of Neuromuscular Electrical Stimulation on Balance and Gait Recovery in Post Concussion Combat Sports Athletes: A Study Protocol

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ABSTRACT

Introduction: Combat sports athletes often suffer from Post-concussion Syndrome (PCS) due to repeated head trauma, leading to symptoms such as dizziness, balance issues, and gait abnormalities. Vestibular rehabilitation improves balance, while Neuromuscular Electrical Stimulation (NMES) enhances muscle activation making a combination of both therapies promising for PCS recovery.

Need of the Study: To find out the effectiveness of NMES on balance and gait recovery in post concussion combat sports athlete.

Materials and Methods: The present study will be single blinded, parallel group, randomised controlled trial recruiting 74 athletes with post-concussion and will be allocated through computerised randomisation into two groups as per inclusion and exclusion criteria. The experimental group will be treated with NMES (Pulse duration of 200 microseconds, frequency of 50 pps, ON time of 5.0 seconds, OFF time of 5.0 seconds, RISE time of 2.0 seconds, FALL time of 2.0 seconds & will be applied for 20 minutes per session) along with vestibular exercise whereas the control group will be treated with placebo NMES along with vestibular exercise protocol based on Herdman's guidelines. The outcome measures such as balance and gait parameters will be assessed using Balance Error Scoring System (BESS) score and stride time, step length, and gait speed. The data will be collected and analysed post fourth week intervention. The experimental group is might show significantly improved balance and gait parameters compared to the control group

Keywords: Balance recovery, Neuromuscular electrical stimulation, Post-concussion syndrome, Vestibular exercises.

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Abstract No.: 53

Effects of Kinesio Taping on Patellofemoral Pain Syndrome: A Narrative Review

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ABSTRACT

Patellofemoral Pain Syndrome (PFPS) is a common musculoskeletal condition affecting the knee joint, often characterized by anterior knee pain during activities such as running, squatting, or ascending/descending stairs. As a non-invasive therapeutic intervention, Kinesio Taping (KT) has gained attention for its potential to alleviate symptoms and enhance functional outcomes in individuals with PFPS. Open access randomised controlled trials related to KT on PFPS among young adults and athletes, published from 2018-24 and in English language were included. Databases like PubMed, Google Scholar were searched using the following keywords- Kinesio tape, taping, patellofemoral pain, pain, muscle strength, range of motion and athletes. After searching the databases, 10 free full-text articles that fulfilled the objective and inclusion criteria were included in the review. It was found that KT is effective in reducing pain, improving range of motion, improve function, and enhance muscle activity around the knee joint in individuals with PFPS. The effect of KT on PFPS suggests that KT can be a beneficial intervention for managing this condition. Studies have shown effective results in terms of reducing pain levels, improving functional outcomes, and enhancing muscle activity in individuals with PFPS.

Keywords: Muscle strength, Pain, Range of motion

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Abstract No.: 54

The Impact of Proprioceptive Based Exercise Programme on Agility, Muscle Strength and Dynamic Balance Among Athletes with Post Knee ACL Reconstruction: A Study Protocol

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ABSTRACT

Introduction: Anterior Cruciate Ligament (ACL) injury common among athletes often result from high-impact movements and lead to reduced knee stability and proprioceptive deficits. They are prevalent in males and females aged 18-25 years. Despite treatment advancements, many athletes face challenges in regaining pre-injury performance. Proprioceptive training plays a vital role in enhancing neuromuscular control, balance, joint stability, supporting recovery and reducing re-injury risk.

Need of the Study: To examine the impact of proprioceptive based exercise programme on agility, muscle strength and dynamic balance among athletes with post knee ACL reconstruction.

Materials and Methods: This study will be randomised, single blinded, parallel-group prospective study evaluate the effects of proprioceptive-based exercises on muscle strength, agility, and dynamic balance in 80 young athletes from 18 to 25 years of age with post knee ACL reconstruction which are actively involved in sports prior to injury and completed basic rehabilitation protocol (acute phase) and cleared for advanced exercises by the physiotherapist with no additional injuries, chronic illnesses, or surgical complications and non-compliance risk or pregnancy. Participants will be randomly assigned to experimental and control groups using computer-based randomisation. Experimental group will be on proprioceptive-based exercises for 4 times per week, progressing in intensity from stable to unstable surfaces, for each session 4 sets, 2 exercises per set with 3 repetitions each for 60 seconds per repetition including 5 min rest between sets. The outcome measure such as agility, muscle strength and dynamic balance will be assessed by using hexagon agility test, isokinetic dynamometer and Huber 360 score at baseline, 2nd and 6th week respectively.

Keywords: High-impact movement, Proprioception, Speed

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Abstract No.: 55

Effects of Instrument Assisted Soft Tissue Mobilisation on Calf Muscle Tightness Among Basketball Players: A Review

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ABSTRACT

Calf tightness is a common problem among athletes, especially in sports like basketball where players require sprinting, jumping, and change in directions frequently. It often leads to pain, discomfort and decreased performance in physical activities. Instrument- assisted Soft Tissue Mobilisation (IASTM) is a form of manual therapy that uses specialised tools in order to treat soft tissue dysfunction. It has emerged as a useful intervention in alleviating calf tightness. To find out the effectiveness of IASTM on calf muscle tightness. Open access randomised controlled trials related to IASTM on calf muscle tightness among young adults and athletes, published from 2018-24 and in English language were included. Databases like PUBMED, Google Scholar were searched using the following keywords: Instrument Assisted Soft Tissue Mobilization", "Calf Tightness", "Plantar Flexors", "Basketball players", 'Calf Pain.' After searching the databases, 11 free fulltext articles that fulfi lled the objective and inclusion criteria were included in the review. IASTM was found

to be effective in decreasing the pain, increasing the range of motion, fl exibility and overall performance of the individual. IASTM has shown positive trends in reducing calf tightness. The intervention not only effectively reduces pain but also contributes to a significant increase in range of motion.

Keywords: Calf pain, Calf tightness, Plantar flexors

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Abstract No.: 56

Efficacy of Core Stability Exercises with Kinesio 'I' And 'Y' Taping on Pain and Quality of Life in Individuals with Chronic Non-Specific Low Back Pain: A Case Series

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ABSTRACT

Chronic Non-specific Low Back Pain (CNSLBP) is among the most common musculoskeletal disorders reported worldwide. It is a principal factor contributing to pain, disability, and impairment globally. Acute or chronic lumbar diseases can also influence the structure and functioning of the body, directly leading to reduced muscle strength, endurance capacity, and ability to perform all daily activities (ADL). Core stability exercises enhance pain management, muscular strength, and spinal stability while substantially aiding neuromuscular control in the lumbar region. Kinesio taping, a therapeutic modality, alleviates pain and enhances muscle function by carefully aligning the tissue.

This study aims to investigate and determine pre-post improvement in Kinesio 'I' and 'Y' taping with core stability exercise and determine the better significant difference in the treatment. The study evaluates the combined effect of core stability exercise with Kinesio 'I' and 'Y' taping on pain and quality of life in patients experiencing CNSLBP.

Four elderly patients, as per the inclusion criteria were selected for treatment, three females and one male with CNSLBP underwent treatment core stability exercises with Kinesio taping, which were regularly given three times a week till a 4-week allergic test was done prior to the treatment, and then taping was applied to the patient. The pain and quality of life were assessed by 11-point Numerical Pain Rating Scale (NPRS) and Short Form 36 (SF-36) respectively.

The intervention leads to a considerable pain reduction from the baseline score (pre-treatment), from 5.50±1 to 2.75± 1.50 with a (p-value <0.05), indicating statistical significance. T-test score = 11 of this case series demonstrates significant improvement in pain intensity, and significant improvements were seen in the SF-36 score post-treatment (p< 0.05) in quality of life.

This case series indicates that taping with core stability exercise may effectively manage CNSLBP. Nevertheless, additional research with a larger sample size must determine effectiveness conclusively.

keywords: Neuromuscular control, Numeric pain rating scale, Short form-36

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Abstract No.: 57

Correlation between Fatigue and Insomnia Severity Among Women with Polycystic Ovarian Syndrome: Preliminary Findings

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ABSTRACT

Introduction: Polycystic Ovarian Syndrome (PCOS) is a common endocrine condition that affects reproductive, metabolic, and psychological health. Women with PCOS often report fatigue and insomnia, but limited research has examined their severity. This association must be studied to improve PCOS treatment and management for women.

Aim: To investigate the relationship between fatigue and insomnia severity in women with PCOS, providing a foundation for future integrated management strategies in this population.

Methods: Women diagnosed with PCOS (n=30) based on established clinical criteria and reporting fatigue or sleep complaints were recruited. Eligibility required completion of relevant questionnaires, excluding those with comorbidities, recent physical activity, pregnancy, lactation, or abnormal weight status. Fatigue and insomnia were assessed using the Fatigue Severity Scale (FSS) and Insomnia Severity Index (ISI). Participants provided informed consent and completed demographic forms and questionnaires. Ethical approval was secured, and data confidentiality was ensured.

Results: Descriptive analyses showed a median age of 26 years {Interquartile Range (IQR) 22-30}. Spearman's rank correlation indicated a strong positive relationship between insomnia severity and fatigue severity ($\rho = 0.698$, $p = 0.002$), suggesting that women with more severe insomnia also report higher levels of fatigue. These findings highlight the importance of integrated clinical strategies targeting both insomnia and fatigue in PCOS.

Conclusion: The findings of this study reported association between fatigue and insomnia severity in women with PCOS. These finding highlights the importance of addressing both insomnia and fatigue together in PCOS to optimise treatment plans.

Keywords: Metabolic, Psychological, Reproductive, Sleep

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Abstract No.: 58

Neurology and Neuropsychiatry of COVID-19 in Post-Stroke Patients: A Systematic Review of Early Central Nervous System Manifestations Among Elderly Stroke Patients

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ABSTRACT

Introduction: Post-stroke patients, particularly the elderly, have an increased risk of neurological and neuropsychiatric complications post COVID-19 infection. The interplay between stroke-related vulnerabilities and COVID-19's impact on Central Nervous System (CNS) requires a systematic exploration.

Aim: Systematically review the early CNS manifestations of COVID-19 among elderly post-stroke patients, and also identify its effect on neurology and neuropsychiatry outcomes.

Materials and Methods: A systematic search was conducted across PubMed, Scopus and Web of Science databases for related studies published from 2020 to 2024. The inclusion criteria focussed on elderly stroke patients with COVID-19, presenting early CNS manifestations and associated co-morbidities. Data were extracted and synthesised for neurological outcomes, functional impairments, and treatment strategies.

Results: Eleven studies with post-stroke elderly patients were included in this review. Common CNS manifestations included

non-specific white matter microangiopathy (55.4%) associated with higher 2-week mortality, chronic infarcts (19.4%), and acute onset haemorrhages (4.5%). Severe COVID-19 cases were seen to be associated with acute cerebrovascular diseases (5.7%) and neuropsychiatric symptoms, including impairment of consciousness (14.8%), alongside fewer typical respiratory symptoms. These conditions were linked to worsened functional outcomes, increased dependency, and heightened mortality. Multimodal therapies, including neurorehabilitation and pharmacological management, showed potential in mitigating complications.

Conclusion: COVID-19 exacerbates CNS vulnerabilities in elderly post-stroke patients, necessitating targeted neurorehabilitation and integrated care approaches to improve neurological and functional outcomes. Further research should focus on optimizing therapeutic strategies for this high-risk population. This study highlights the need for tailored physiotherapy strategies addressing post-stroke and COVID-19 neuropsychiatric effects to improve elderly rehabilitation outcomes.

Keywords: Coronavirus disease, Mortality, Neuropsychiatric

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Abstract No.: 59

Comparing the Effect of Dry Cupping to the Traditional Manual Therapy for Planter Fasciitis: A Randomised Controlled Trial

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ABSTRACT

Introduction:

Aim: The purpose of this research was to investigate how Dry Cupping (DC) impacts the pain and functionality of individuals suffering from plantar fasciitis.

Materials and Methods: Thirty subjects (age 20 to 40 years old, 19 females and 11 males), randomly assigned into the two groups (Manual Therapy [MT] and DC with MT groups), participated in this study. The study was conducted using a randomised controlled trial design. Treatments were provided to the subjects thrice a week for 3 weeks. Outcome measurements included the Visual Analogue Pain Scale (VAS), the Foot and Ankle Ability Measure (FAAM), the Lower Extremity Functional Scale (LEFS).

Results: The data showed that both manual therapy and dry cupping with manual therapy were effective in reducing pain and improving function in the group studied. Clinical outcomes at baseline and 3 weeks were compared in both groups utilising paired sample t-test. The results suggest that for all the outcomes – VAS (MT = 2.13; DC+MT = 2.80), FAAM (MT = -13.93; DC+MT = -17.40), and LEFS (MT = -15.93; DC+MT = -17.87), the difference was statistically significant across both the groups ($p < 0.05$). There was no significant difference between the DC therapy and DC with MT groups outcome measurements when assessed by independent t- test.

Conclusion: These results support that DC therapy combined with traditional MT could reduce pain and increase function in the population tested as compared to treating the patient with MT only.

Keywords: Foot ankle ability measure, Lower extremity functional scale, Visual analogue scale

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Abstract No.: 60

Maximising Functional Recovery in Cervical Hemivertebra through Physiotherapy: A Case Report

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ABSTRACT

Hemivertebra is a congenital failure in the formation and fusion of vertebral body ossification nuclei, resulting in the development of one side of the vertebral body. Its incidence is estimated at ~0.3 per 1000 live births. Hemivertebra of the cervical spine is even rarer and has been associated with cervical scoliosis and instability, neck pain, and torticollis. Congenital cervical hemivertebrae often remain asymptomatic unless triggered by a traumatic event or an increase in biomechanical stress. Physiotherapy interventions can play a vital role in helping patients recover from the mechanical strain on the cervical neuromuscular structure.

The present case involves a 19-year-old student who was referred for physiotherapy with complaints of neck pain (non-radiating) lasting for one week. The intensity of the pain had been fluctuating, with periods of increase and decrease, over the past year, occurring in 2–3 episodes per month. An X-ray revealed the presence of a right congenital cervical hemivertebra at the C5-C6 level.

Physiotherapy protocol focused on reducing pain, improving mobility, and enhancing spinal stability. Treatment includes manual therapy, stretching exercises and strengthening exercises, Postural correction and ergonomic advice were provided. Physiotherapy plays a crucial role in managing congenital cervical hemivertebrae by alleviating pain, improving range of motion, and enhancing spinal stability. Through targeted exercises, physiotherapy helps reduce symptoms and prevent further complications, signifi cantly improving the patient's quality of life.

Keywords: Congenital, Hemivertebrae, Neck pain

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Abstract No.: 61

Effects of Blood Flow Restriction Training on Knee Injury Rehabilitation in Athletes: A Systematic Review

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ABSTRACT

Introduction: Blood Flow Restriction (BFR) training, when combined with low-intensity resistance exercises, has been shown to induce physiological adaptations comparable to high-intensity training. BFR creates a localized hypoxic environment, facilitating the release of growth hormone, activation of myogenic stem cells, and suppression of myostatin, thereby promoting muscle hypertrophy. Knee injuries in athletes range from ligamentous and meniscal injuries to patellofemoral pain syndrome. BFR is emerging as a promising adjunct in knee injury rehabilitation, offering a potential alternative to traditional high-intensity strength training.

Aim: To evaluate the effects of BFR training in combination with low-intensity resistance exercises compared to conventional high-intensity strength training in the rehabilitation of knee injuries in athletes.

Materials and Methods: A systematic review was conducted using databases such as PubMed, MEDLINE, Embase, CINAHL Plus, pedro, and ERIC, covering the period from January 1, 2014, to January 1, 2025. The search focussed on studies investigating the efficacy of BFR in individuals unable to perform high-intensity exercises, particularly within the context of knee injury rehabilitation. Of the 85 initially identified studies, 11 met the inclusion criteria based on relevance, language, and study duplication. Primary outcomes included "Blood Flow Restriction Training in Clinical Musculoskeletal Rehabilitation," while secondary outcomes focussed on "The Role of Blood Flow Restriction Therapy Following Knee Surgery."

Results: The findings suggest that BFR training, when combined with low-intensity resistance exercises, provides physiological benefits similar to high-intensity strength training. This approach facilitates early-stage rehabilitation, muscle hypertrophy, and

strength development, enabling a faster return to sports for athletes recovering from knee injuries.

Conclusion: BFR training presents a viable and effective rehabilitation strategy for knee-injured athletes, particularly when high-intensity training is not feasible. It accelerates muscle adaptation and functional recovery, making it a valuable adjunct to conventional rehabilitation protocols. Further research with larger sample sizes and randomised controlled trials is warranted to optimize BFR applications in clinical settings.

Keywords: High-intensity strength training, Low-intensity strength training, Sports medicine

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Abstract No.: 62

Effect of Exercise on Pain and Depression in Mobile Gaming Addiction: A Randomised Controlled Trial

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ABSTRACT

Introduction: There is a growing behavioural issue among youth population that is addiction to mobile gaming. The youth have to suffer several significant psychological and physical consequences due to excessive gaming such as musculoskeletal pain that often results from prolonged static posture and repetitive strain and depression that often results from social isolation and disturbances in sleep. Keeping them little bit apart from mobile gaming and inclusion of aerobic and anaerobic exercises in their schedule can be helpful in reducing pain and improving mental health by triggering release of endorphins, by promoting blood circulation and enhancing muscle strength.

Aim: The purpose of this study is to find out the effect of structured aerobic and anaerobic exercises on pain intensity and the severity of depression in individuals with mobile gaming addiction with the help of Numeric Pain Rating Scale (NPRS) and Hamilton Depression Rating Scale (HDRS) as our assessment tool.

Materials and Methods: A total of 20 participants of age ranging from 21–26 years (11 males and 9 females) had participated in the study out of which 10 candidates (6 males and 4 females) were categorised under control group and rest of the 10 candidates (5 males and 5 females) were categorised under exercise group. Randomised Controlled Trials (RCT) with 20 participants was conducted for 5 weeks in which the exercise group was getting the structured exercise programme comprising of aerobic and anaerobic activities whereas the control group was not getting any such intervention. The scores of NPRS and HDRS were then recorded before and after intervention.

Results: This study supports the fact that structured exercise programmes effectively reduces pain and depressive symptoms in the population as the exercise group shows a significant reduction in pain intensity and depression severity as found in NPRS and HDRS scores ($p < 0.0001$) whereas the control group shows no significant or notable changes.

Conclusion: The potential of the structured exercise programmes intervention for the management of pain and depression in individuals with mobile gaming addiction is clearly highlighted in this study. Intervention of aerobic and anaerobic exercises into rehabilitation programmes can be proven as one of the significant approach towards addressing these modern life health challenges.

Keywords: Aerobic exercises, Behavioural addiction, Mental health, Structured exercise programme

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Abstract No.: 63

Effect of Myofascial Release on Pain and Quality of Life in Patients with Flexible Flat Foot: A Randomised Controlled Trial

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ABSTRACT

Introduction: Flexible flatfoot is a common musculoskeletal condition characterised by the loss of the foot arch during weight-bearing, leading to altered gait biomechanics, increased stress on soft tissues, and pain. Chronic foot pain can impair mobility, elevate the risk of falls, and negatively impact daily activities and quality of life. Myofascial Release (MFR) therapy has gained attention for its potential to alleviate pain and improve musculoskeletal function. This study aims to evaluate the effectiveness of MFR therapy in comparison to conventional exercise therapy for pain reduction and quality of life improvement in individuals with flexible flatfoot.

Aim: To assess the potential of MFR on reduction of pain in patients with fexible flat foot patients. It also aimed to evaluate the impact of MFR on addressing enhancement in quality of life in patients with flexible fl at foot patients.

Methods: A randomised controlled trial with 30 participants (aged 20–50 years) diagnosed with flexible flatfoot pain was conducted. Participants were randomly allocated into:

- Experimental group (n=15): Received MFR therapy along with exercise intervention.
- Control group (n=15): Received exercise intervention only.

The intervention lasted four weeks (five sessions per week). Pain intensity was assessed using the Numeric Pain Rating Scale (NPRS), while quality of life was measured using the Short Form (SF) 36 questionnaire. Statistical analysis included paired t-tests for intragroup and unpaired t-tests for intergroup comparisons.

Results: Both groups showed significant improvements ($p < 0.05$) in pain reduction and quality of life. However, the experimental group demonstrated superior improvements, emphasising the efficacy of MFR therapy over conventional physiotherapy.

Conclusion: MFR therapy, combined with exercise, provides greater pain relief and functional benefits in patients with flexible flatfoot compared to exercise alone. Future research with larger sample sizes and longer follow-up periods is recommended to establish long-term efficacy.

Keywords: Gait biomechanics, Numeric pain rating scale, Pain management

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Abstract No.: 64

Impact of Cardiac Rehabilitation on Autonomic Function: A Systematic Review

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ABSTRACT

Introduction: The rise in number of cardiac patients has significantly increased the demand for cardiac rehabilitation practises. Cardiac rehabilitation is the sum of activities and interventions required to ensure best possible conditions for patients with chronic or post-acute cardiovascular disease to resume an active life. This study sheds light on its contribution in maintaining autonomic homeostasis.

Aim: To identify and highlight the impact of cardiac rehabilitation on autonomic functioning, and its ability to achieve Sympathovagal balance in terms of parameters like Heart Rate Variability (HRV) and Baroreflex Sensitivity (BRS).

Materials and Methods: This study optimises the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) method for conducting a systematic literature review. Due to their reliability, google scholar, PubMed, Science Direct and Research Gate were used to obtain data.

Results: Upon interpreting physiological parameters such as HRV and BRS closely, it was seen that cardiac patients who had undergone cardiac rehabilitation achieved an improved sympathovagal balance and autonomic homeostasis, contributing to more smooth and effective autonomic functioning.

Conclusion: Parameters like HRV and BRS demonstrate significant improvement following cardiac rehabilitation. It is

reasonable to state that incorporating cardiac rehabilitation into patients' treatment regimen is beneficial in maintaining autonomic harmony and facilitating smooth autonomic functioning.

Keywords: Baroreflex sensitivity, Heart rate variability, Sympathovagal balance

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Abstract No.: 65

Role of Assistive Devices in Different Neurological Conditions: A Systematic Review

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ABSTRACT

Introduction: Assistive technology refers to a broad range of products, systems, and services designed to assist individuals to perform a particular task. These assistive devices aid neurologically impaired individuals in carrying out their activities within the community. Some examples of assistive technologies are mobility aids such as wheel chairs, walkers, canes,

crutches, prosthetic and orthotic devices.

Aim: To identify and highlight the role of assistive devices in enhancing mobility, Quality of Life (QOL) and functional independence in neurological conditions.

Materials and Methods: In this study, the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) was used. Because of their credibility and reliability, databases such as Google Scholar, Science Direct, PubMed, and Research Gate were utilised. Nevertheless, none of the databases, such as Science Direct and Research Gate, are comprehensive or entirely thorough.

Result: Assistive devices are frequently utilised in the rehabilitation process for neurological conditions. For stroke patients, wheelchairs, walkers, and crutches are mainly utilized for mobility and everyday activities. Individuals with cerebral palsy also utilize wheelchairs, walkers, and crutches to enhance quality of life. Certain assistive devices serve both therapeutic functions and modifications for activities of daily living, potentially enhancing and sustaining quality of life.

Conclusion: Assistive devices aid a physiotherapist in reaching optimal objectives during rehabilitation for various neurological conditions. Various assistive devices were utilized for both treatment purposes and modifications to activities of daily living, enhancing and preserving their quality of life. However, understanding the correct usage of these devices is crucial, along with addressing the significant concerns regarding their overuse and inappropriate application. Such misuse can result in increased dependency among neurological patients, ultimately hindering their rehabilitation progress.

Keywords: Activities of daily living, Rehabilitation process, Quality of life

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Abstract No.: 66

Role of Physiotherapy in Diastasis Recti - A Systematic Review

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ABSTRACT

Introduction: Diastasis Recti Abdominis is characterized by separation of the rectus abdominal muscle along the linea alba during pregnancy or postpartum period, impacting quality of life well beyond childbirth. This review emphasizes tailored management programs and encourages data driven decision making in physiotherapy practice to improve quality of life. This review was prompted by a lack of standardized assessment

and training protocols, and hence aims to identify effective management strategies, and address gaps and limitations in the existing literature.

Objective: Objective of the study is to consolidate existing evidence and explore potential areas for future research.

Inclusion Criteria: Selection criteria included randomized controlled studies and experimental studies investigating exercise therapy interventions both with and without adjunct modalities for Diastasis Recti Abdominis.

Methods: Search strategy: electronic search conducted on databases such as Google scholar, pubmed, Scopus, sciencedirect. Keywords included "diastasis recti abdominis", "postpartum", "core rehabilitation", "abdominal strengthening".

Data extraction: experimental studies or observational studies published in English were selected. Characteristics of the study (sample, diagnostic criteria, program design and outcome measures) were recorded from the articles fulfilling eligibility.

Data analysis: Guided by the standards of the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) Statement. Studies had varying sample sizes, different cut-off points for Diastasis Recti diagnosis and varying program duration.

Results: Exercises like abdominal and pelvic floor muscle training, functional exercises and adjuncts showed significant reduction in inter- rectus distance and dysfunction, with transverse abdominis training as a key component of most protocols. Apart from exercises, other interventions like abdominal binding, yoga etc have also contributed to the favourable results.

Conclusion: Reviewed studies provide valuable insights into the effectiveness of rehabilitation in correction of Diastasis Recti. It is evidently highlighted that a focused exercise program might be a potent approach for treating Diastasis Recti.

Implications: Diastasis Recti Abdominis being often under-diagnosed and considered a mere cosmetic problem underestimates its functional impact. This study aims to improve awareness and encourage use of evidence- based rehabilitation by therapists.

Keywords: diastasis recti, pelvic floor muscle training, inter-rectus distance

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Abstract No.: 67

Unravelling the Evidence: Epley Manoeuver in Managing Benign Paroxysmal Positional Vertigo: A Review

SIMRAN[1], SAMEER CHHIKARA[2*]

ABSTRACT

Introduction: Vertigo is the perception of motion without movement, which may be described as persuading, tipping, spinning, or feeling unstable. Benign paroxysmal positional vertigo (BPPV) is the most common cause of peripheral vertigo, counting for over half of all cases. According to multihued estimates, a minimum of 20 of cases presenting to the provider with vertigo have BPPV. This is associated with the threat of falling and is compounded in senior persons with other neurologic deficiencies and chronic medical problems. The aim of Epley's manoeuver, which is noninvasive, affordable, and fluently administered, is to move the canaliths out of the canal to the utricle where they no longer affect the canal dynamics.

Aim: To emphasise the effect of Epley Manoeuver in managing dizziness in BPPV patients.

Methods: Relevant articles were identified by searching major databases (PubMed, Physiotherapy Evidence Database, Cochrane Library, Google Scholar) published between 2015 and 2025 on adult participants who received Epley Manoeuver with a history of BPPV. The focus was to find whether effectiveness of Epley Manoeuver is superior to conventional interventions with vertigo.

Results: The present search identified 39 studies, of which only 10 trials met the strict criteria for inclusion in this review. These studies consistently showed that Epley Manoeuver was more effective than conventional treatments in repositioning the otoconia. Additionally, the results suggested that it not only decreases dizziness but also improves overall quality of life.

Conclusion: Epley Manoeuver is a gentle and effective approach and is a valuable complementary approach that helps to reduce both the frequency and intensity of vertigo episodes.

Keywords: Labyrinth Diseases, Physiotherapy

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Abstract No.: 68

Long-Term Efficacy of a Home-Based Intervention for Toddlers with Developmental Delays

HRITIKA MEHTA[1]*, KANIKA MARKAN[2]

ABSTRACT

Background: Developmental delays in toddlers require early and consistent intervention. A ten weeks home-based intervention program was designed to improve adaptive functioning in children with developmental delays.

Purpose: The purpose is to compare children diagnosed with delayed milestones who have undergone intervention training with those who have not received it.

Materials and Methods: Fourteen children with developmental delays, aged 1-4 years were randomly selected and assigned to either a control group or a home-based intervention group of seven children each. The control group received standard physiotherapy, while the intervention group had core stability training with strength and motor skill development. Both groups were evaluated pre- and post-treatment using Bayley Scales of Infant and Toddler Development (BSID), Peabody Developmental Motor Scales–Second Edition (PDMS-2), and Alberta Infant Motor Scale (AIMS).

Results: We observed a statistically significant improvement in strength and motor skills among children who underwent the 10-week intervention compared to those in the control group receiving regular physiotherapy.

Conclusion: The home based intervention program demonstrated improved efficacy in enhancing motor skills in children. Caregivers played a pivotal role in sustaining these gains.

Keywords: Adaptive functioning, Motor skill training, Skill enhancing through play

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Abstract No.: 69

Effectiveness of Kinesio Taping and Extracorporeal Shock Wave Therapy in Plantar Fasciitis: A Systematic Review

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ABSTRACT

Introduction: Plantar fasciitis impacts one's quality of life and necessitates appropriate, safe remedies. Extracorporeal Shockwave Therapy (ESWT) aids healing by lowering inflammation, regenerating tissue, and increasing blood flow. Kinesio taping (KT) provides temporary pain alleviation and support. This review evaluates the effectiveness of ESWT and KT for treating plantar fasciitis. A limited study explicitly compares their efficacy for pain and function. Randomised Controlled Trials (RCTs) included adults (18–70 years) with plantar fasciitis. Pain and foot function was assessed using Visual Analogue Scale (VAS), Foot and Ankle Outcome Score (FAOS), Foot Function Index (FFI), and Heel Tenderness Index (HTI).

Aim: This systematic review aims to determine the effectiveness of ESWT in comparison to KT in plantar fasciitis focussing on pain reduction and foot function improvement for the long term.

Materials and Methods: Database and search engines including PubMed, Cochrane Library, PEDro, and Google Scholar were searched using keywords related to "plantar fasciitis," "ESWT", "extracorporeal shockwave therapy" and "kinesio taping" from 2017 till date. PROSPERO registration with ID CRD42024594806. Data from all databases were compiled 3378 articles were found, 2856 were duplicates,132 titles/abstracts were screened, and 11 were sought for retrieval by two researchers. Nine were screened for methodological details, participant data, outcome measures, results, and dropouts, and were reviewed, and 5 articles were included. Following PRISMA guidelines, study quality was evaluated using CONSORT, PEDro, and ROB 2.

Result: Five rcts (373 participants) were included. ESWT showed better long-term pain reduction (VAS, $p<0.001$; FAOS, $p=0.003$), while KT demonstrated improved foot function (FFI, $p=0.027$, $p=0.001$). One study found no significant difference.

Conclusion: ESWT is more effective for pain relief, while KT enhances foot function and support. Treatment is determined by the individual's needs and the severity of their ailment. Recognizing the benefits of ESWT and KT helps clinicians customize treatments for ideal outcomes.

Keywords: Plantar fasciitis, extracorporeal shock wave therapy, Kinesio-taping.

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Abstract No.: 70

Impact of Physiotherapy Interventions on Post-Mastectomy Lymphoedema: A Systematic Review

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ABSTRACT

Introduction: Post-mastectomy Lymphoedema (PML) is a chronic condition caused by lymphatic disruption from mastectomy, lymph node dissection, or radiotherapy, leading to limb swelling, pain, and reduced range of motion. It affects up to 60% of patients a year post-surgery. With 2.3 million new breast cancer cases in 2020, effective PML management is essential. Physiotherapy interventions show promise, but their comparative effectiveness needs further investigation.

Aim: To assess the effectiveness of physiotherapy interventions in reducing lymphodema, alleviating symptoms, and improving quality of life for PML patients.

Materials and Methods: The review includes peer-reviewed articles from 2000 to 2024, focussing on Randomised Controlled Trials (RCTs) and pilot studies evaluating physiotherapy interventions. The review excludes non-physiotherapy interventions (pharmacological or surgical treatments), studies with insufficient data, and non-English publications or those not focused on PML. A systematic search of PubMed and Google Scholar using keywords like "post-mastectomy lymphoedema" and "physiotherapy interventions" extracted data on population, interventions, outcomes, and follow-up. Screening followed PRISMA guidelines, with quality and bias assessed using the PEDro scale and Cochrane risk-of-bias tool.

Results: The systematic review evaluates physiotherapy interventions for PML, finding Low-Level Laser Therapy (LLLT) and acupuncture as most effective for reducing limb volume and pain, while Shockwave Therapy (SWT) improves tissue elasticity. Education supports prevention and adherence. Personalized multidisciplinary care is recommended for optimal outcomes.

Conclusion: Physiotherapy techniques like LLLT, SWT, MFR, acupuncture, and education improve post-mastectomy lymphoedema management by reducing symptoms and enhancing quality of life. Personalised, multidisciplinary approaches, consistent protocols, and further research are essential to optimise long-term outcomes for breast cancer survivors.

Keywords: Breast cancer, Lymph node dissection, Radiotherapy

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Abstract No.: 71

A Study to Detect Effectiveness of Therapeutic Laser on Trigeminal Neuralgia: A Literature Review

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ABSTRACT

Introduction: Trigeminal neuralgia (TN) is a prevalent and debilitating neuralgia affecting the craniofacial region. Due to the limited efficacy of traditional treatments, there is growing interest in alternative therapies like laser therapy for TN management.

Purpose: This study aimed to investigate the effects of laser therapy on trigeminal neuralgia through a comprehensive literature review.

Participants: Adult patients diagnosed with chronic trigeminal neuralgia unresponsive to conventional treatments were included, with sample sizes ranging from 17 to 45, categorized by the type of laser therapy administered.

Methods: A systematic search was performed across pubmed, Scopus, Web of Science, Science Direct, and Google Scholar from 1980 to 2024 using the keywords "trigeminal neuralgia" and "laser." The inclusion criteria focused on experimental studies, including randomized clinical trials utilizing laser therapy for TN treatment. Out of 6,472 identified records, 20 were relevant after title and abstract reviews, with 15 articles ultimately meeting eligibility criteria for inclusion.

Results: The review indicated that low-level laser therapy is a potent and safe intervention for trigeminal neuralgia, particularly for patients resistant to standard treatments. It consistently demonstrated significant pain reduction, with some studies reporting up to 85% pain relief.

Conclusion: Laser therapy effectively alleviates pain associated with trigeminal neuralgia and enhances overall quality of life by reducing pain intensity and interference in daily activities.

Implications: These findings emphasize the need for clinicians to consider laser therapy as a viable treatment option for TN, especially in patients who have not responded to conventional therapies. Accurate diagnosis is crucial for optimizing treatment outcomes and improving patient quality of life.

Keywords: Trigeminal neuralgia, Laser therapy, Facial pain.

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Abstract No.: 72

Effectiveness of Physical Therapy Along with PEMF Therapy on Disability, Function and Balance in Knee Osteoarthritis Patients

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ABSTRACT

Introduction: Osteoarthritis (OA) is a degenerative joint disease affecting synovial joints, particularly the knee, leading to pain, stiffness, and functional limitations. It impairs mobility, balance, and quality of life, increasing the risk of falls. While physical therapy is a standard approach for OA management, Pulsed Electromagnetic Field (PEMF) therapy has shown potential in reducing pain, inflammation, and improving joint function.

Objective: The objective of this study was to evaluate the combined effect of physical therapy and PEMF therapy on disability, functional performance, and balance in knee OA patients.

Methodology: This experimental study included 30 knee OA patients (aged 40-75 years), randomly assigned to two groups. Group 1 (n=15) received physical exercises and hot pack treatment, while Group 2 (n=15) received the same treatment plus PEMF therapy. Both groups underwent a 4-week intervention

(five sessions per week, 55 minutes each). Pain, functional ability, and balance were assessed using the WOMAC Scale, Lysholm Scale, and Tandem Stance Test.

Result: Group1 has base value for womac scale, lysholm scale and tandem stance test (20±2.60,64.06±9.98 ,21.5±3.85)as compared to after the 4 week protocol post treatment values are for respective groups (16.98±4.02, 82.26±10.76,24.2±3.38) & Group 2 has base value (29.06±4.71,66.86±4.88,20.6±3.5) and the result are (15.46±4.77,79.46±7.52, 25.8±3.04) thus it indicates the treatment has shown the improvement.

Both groups showed significant improvements ($p < 0.05$) in all measured outcomes, with Group 2 demonstrating greater enhancements. WOMAC scores significantly decreased, and Lysholm scores increased, indicating reduced pain and improved function. The Tandem Stance test also improved significantly, highlighting better balance in Group 2.

Conclusion: Integrating PEMF therapy with physical therapy enhances pain reduction, functional recovery, and balance in knee OA patients. Future studies with larger samples and longer follow-ups are recommended.

Keywords: Osteoarthritis, Knee OA, Physical Therapy Modalities, Electromagnetic Fields (or Magnetic Field Therapy), Motor Activity (or Physical Functional Performance), Postural Balance, Pain Management.

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Abstract No.: 73

Comparitive Study to Find out Effects of High-grade Maitland Mobilization Technique with Scapular Mobilization versus Capsular Stretching with Hold Relax PNF Technique in the Management of Adhesive Capsulitis

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ABSTRACT

Introduction: Adhesive Capsulitis, or frozen shoulder, is characterized by pain and restricted range of motion (ROM). Physiotherapy techniques such as high-grade Maitland mobilization (HGM) with scapular mobilization and capsular stretching combined with hold relax proprioceptive neuromuscular facilitation (PNF) aim to alleviate these symptoms.

Background: Adhesive Capsulitis affects 3-5% of the general population, with higher prevalence in diabetic individuals. This condition involves thickening and fibrosis of the shoulder capsule, leading to progressive stiffness and pain.

Aim: This study compares the effectiveness of HGM with scapular mobilization and capsular stretching combined with hold relax PNF in reducing pain and improving ROM and shoulder function.

Methodology: A randomized controlled trial included 30 participants (ages 40-70) with Adhesive Capsulitis. Group A (n=15) received HGM and scapular mobilization, while Group B (n=15) underwent capsular stretching and hold relax PNF technique. Interventions were provided five days weekly for four weeks. Outcomes were assessed using SPADI, VAS, and ROM measures for abduction, flexion, internal rotation, and external rotation.

Results: Group A demonstrated significant improvements: SPADI reduced from 65.79±7.51 to 31.17±5.62, VAS decreased from 8.27±0.70 to 4±0.93, and abduction improved from 73.73°±13.65 to 140°±12.42. In Group B, SPADI reduced from 65.84±7.20 to 34.46±6.11, VAS decreased from 8.40±0.74 to 4.20±0.68, and abduction improved from 69°±13.13 to 118.8°±12.67.

Conclusion: HGM with scapular mobilization showed superior efficacy in improving ROM and reducing pain compared to capsular stretching with hold relax PNF technique, making it a preferred approach for managing Adhesive Capsulitis.

Keywords: **A**dhesive Capsulitis, Joint Mobilization, Scapular Mobilization, PNF, Capsular Stretching, Range of Motion, Pain Management

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Abstract No.: 74

Efficacy of HABIT-ILE Approach for Children with Spastic Cerebral Palsy: A Systematic Review

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ABSTRACT

Introduction: Spastic cerebral palsy is the type of cerebral palsy characterized by spasticity or high muscle tone often resulting in stiff, jerky movements. HABIT-ILE is an intensive therapy that focuses on improving bimanual coordination of hand-arm and lower extremities.

Aim: The study aims to systematically review the efficacy of HABIT-ILE approach for children with spastic cerebral palsy and to evaluate the scientific evidence endorsing the benefits of this therapeutic approach.

Materials and Methods: This review includes articles encompassing children patients aged 6-12 years with cerebral palsy, including both males and females. Using keywords such as, cerebral palsy, spasticity, hand-arm coordination, physiotherapy and rehabilitation, a comprehensive analysis of research on the role of HABIT-ILE approach in spastic cerebral palsy was conducted. Electronic databases such as PubMed, Research Gate, Web of Science and Google Scholar were searched to identify the literature. A total of 121 articles from the last 10 years (2013-2025) were identified according to inclusion and exclusion criteria, out of which 12 articles were included in the study using the PRISMA guidelines. Data was obtained from the included articles and summarised in PICO format.

Results: Finally 12 articles were analysed for the literature review providing evidence supporting the use of HABIT-ILE approach to manage symptoms of cerebral palsy patients in combination with exercise therapy. It significantly improves posture, gross motor functions, walking endurance, mobility, physical independence, and functional capacity. No adverse effect was observed after the therapy.

Conclusion: HABIT-ILE approach helps improve the overall quality of life of patients with cerebral palsy. More randomised control trials are needed to provide good-quality evidence of the extent to which HABIT-ILE approach can improve the function and quality of life of children with cerebral palsy.

Keywords: Cerebral palsy, Spasticity, Hand-arm coordination, Physiotherapy

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Abstract No.: 75

Empowering Patients: Transforming Physiotherapy Outcomes through Innovative Educational Strategies

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ABSTRACT

This abstract explains that patient engagement is essential for achieving successful outcomes in Physiotherapy, as it significantly impacts adherence to treatment and recovery and it discusses how evidence-based educational interventions can enhance patient engagement by improving their understanding of their condition and treatment plan and allow them to make decisions. The lack of patient engagement in physiotherapy often leads to struggle and with a limited understanding of the importance and benefits of physiotherapy, which can lead to a lack of motivation to adhere to prescribed exercises and treatments. Enhancing patient engagement in physiotherapy is to improve adherence and outcomes by increasing patient understanding of treatment benefits, personalising therapy plans offering flexible scheduling. This approach aims to boost motivation, accountability, and overall effectiveness of the therapy. Key strategies include the use of multimodal educational tools, such as video games, apps, interactive sessions combined with ongoing feedback from Physiotherapists. These interventions help patients overcome barriers like anxiety, misinformation, and low confidence in their ability to manage their health, leading to better adherence to prescribed exercises and more consistent attendance at therapy sessions.

The result is a more empowered patient who is actively involved in their care, leading to faster recovery and improved clinical outcomes. According to many researchers and their studies, we reach to a conclusion that decision making done by patients increase their interest and one can also introduce games and interesting apps with motivational feedbacks For their effective engagement, optimising patient engagement through targeted educational interventions is a promising approach to enhancing the effectiveness of Physiotherapy.

Keywords: Patient engagement, Adherence , Evidence based practice, Decision making, video games, Equity

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Abstract No.: 76

Effectiveness of Chin Tuck Exercises in Cervical Spondylosis

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ABSTRACT

Introduction: Cervical spondylosis, also known as cervical osteoarthritis, is a degenerative condition affecting the cervical spine, primarily due to age-related wear and tear of the intervertebral discs and vertebrae. This condition is prevalent in individuals over the age of 40, Modern sedentary lifestyles, prolonged use of digital devices, and poor posture have significantly increased the incidence of cervical spondylosis, even among younger populations.

Chin tuck exercises are designed to strengthen deep cervical flexor muscles, improve posture, and reduce stress on the posterior cervical structures. They help restore the natural curvature of the cervical spine, thereby reducing nerve impingement and alleviating pain.

Aim: The primary objective of this research is to evaluate the 'effectiveness of chin tuck exercises' in the management of cervical spondylosis in sitting/standing vs supine lying position. And comparing their pre-post data with Numerical Pain Rating Scale (NPRS) and Neck Disability Index (NDI).

Also to determine whether chin tuck exercises significantly reduce neck pain and discomfort & to study the role of chin tuck exercises in strengthening the deep cervical flexor muscles and to evaluate the influence of chin tuck exercises on daily activities and quality of life in affected individuals.

Materials and Methods: Following up the randomised controlled trial, the sample size will consist of 10 subjects with pre-diagnosed cases of cervical spondylosis having neck pain from the age group of 40- 60 years old, which will further be randomly allocated for the study. Ten subjects with pre-diagnosed cervical spondylosis who will be fulfilling inclusion and exclusion criteria will be selected for the study.

Ten subjects with pre- diagnosed cervical spondylosis with neck pain. There will be two groups, group A (study group, n= 5) and group B (control group, n =5).

Result:

1. **Standard Deviation (Pre vs. Post):**
   - For NPRS in Group A, variability slightly increased after the exercise, while Group B maintained a constant variability pre- and post-test.
   - For NDI, Group A showed a noticeable increase in variability post-test, while Group B showed reduced variability, suggesting more consistent outcomes for sitting/standing.
2. **T-Statistic and p-Value:**
   - The t-statistics and p-values indicate significant improvements ($p < 0.05$) in both NPRS and NDI scores across groups. Group B (sitting/standing) exhibited a much stronger statistical significance than Group A (supine), particularly for the NDI.
   - For NPRS in Group B, the high t-statistic and zero p-values suggest exceptionally consistent pain reduction outcomes.

The significant reduction in NDI scores for both groups (with Group B showing a more pronounced improvement) indicates that chin tuck exercises positively influence neck function, which directly impacts daily activities and quality of life.

Chin tuck exercises improve neck mobility, reduce pain, and enhance muscle strength, enabling individuals to perform everyday tasks with greater ease and less discomfort.

Conclusion: The effectiveness of the chin tuck exercise in Group B (sitting/standing position) showed more consistent and statistically significant improvements in reducing neck pain and disability compared to Group A (supine position).

This suggests that performing chin tuck exercises in a sitting/standing position might be more effective for managing cervical spondylosis. However, Group A still demonstrated substantial improvements.

While both positions are effective, the sitting/standing position is recommended for better outcomes in managing cervical spondylosis.

Chin tuck exercises significantly reduce neck pain and discomfort, strengthen deep cervical flexor muscles, and improve neck function, positively influencing daily activities and overall quality of life in individuals affected by cervical spondylosis. The sitting/standing position is particularly effective for achieving

these outcomes, making it the recommended position for chin tuck exercises.

Keywords: Neck disability index, Numeric pain rating scale, Supine lying, Sitting /standing position

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Abstract No.: 77

Role of Physiotherapy Management in Post-Fracture RSD Complications: A Case Study

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ABSTRACT

Reflex Sympathetic Dystrophy (RSD) is a neuropathic pain disorder characterised by ongoing pain disproportionate to the degree of tissue injury and persists beyond the usual expected time for tissue healing. Pain is accompanied by sensory, motor, trophic, and autonomic abnormalities. Pain does not follow a particular dermatome or myotome but is rather regional. This disabling condition often develops after a trauma, fracture, or surgery. Three stages are recognised, with clinical and radiographic features are- Stage 1: Acute which is up to 6 months with burning pain; Stage 2: Dystrophic which is from 6-12 months with continuing pain, atrophy of the skin and tissues and contracture of the joint; Stage 3: Atrophic which is after 1 year and the pain is less prominent, and as there is little active movement, the pain is most marked during passive movement. The objectives of physiotherapy management in RSD post-fracture complications include managing pain, reducing swelling, and restoring mobility. The goal is to improve function, prevent complications, and enhance the patient's overall quality of life. This case study involved a 62 years female with a history of a right-hand metacarpal fracture that healed in a malunion position, leading to refl ex sympathetic dystrophy at grade 1. The pain was burning and chronic, and exacerbated during physical activity and Inability to initiate movement of the right hand due to stiffness and reduced range of motion, dystonia and tremors. The patient reported the pain scale of 9 on Numeric Pain Rating Scale (NPRS) with, 30° wrist flexion; 20° wrist extension; 25° MCP flexion; 30° MCP extension. The physiotherapeutic intervention included moist heat therapy and gripping exercises to reduce the swelling and to increase the joint range of motion. Compression gloves were advised to control the oedema and for progression active range of exercises with joint mobilization techniques to improve the mobility. The treatment continued for 2.5 months and the patient responded well and the symptoms for RSD were not seen. The patient progressed with the treatment and started regaining her mobility. The range of motion was improved signifi cantly with continued precision exercises and strengthening. The pain score was also reduced to 6 on NPRS and no signs of visible swelling and oedema were seen. In conclusion, this case highlights the difficulties

faced by a 62-year-old woman living with RSD caused by a poorly healed metacarpal fracture. The persistent pain, hypersensitivity, swelling, and limited movement have deeply affected her daily life and independence. Her recovery journey requires a thoughtful, personalized approach, focusing on pain relief, restoring movement, building strength, and regaining her ability to perform everyday tasks. Considering her age and emotional well-being is just as crucial as physical treatment. With ongoing physiotherapy, guidance, and emotional support, the aim is to help her reclaim her functionality and improve her quality of life.

Keywords: Metacarpal, Numerical pain rating scale, Range of motion

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Abstract No.: 78

Effect of Therapeutic Ultrasound on Pain, Range of Motion and Functional Ability in Patients with Adhesive Capsulitis: An Experimental Study

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ABSTRACT

Introduction: Adhesive capsulitis is a condition that affects shoulder joints and causes pain, stiffness, and limited range of motion. The condition develops slowly over time and is caused by injury, surgery and medical conditions.

Aim: To assess the effect of therapeutic ultrasound on pain, range of motion and functional ability in patients with adhesive capsulitis.

Materials and Methods: Sixty-two participants between the ages of 30-60 years with low back pain following selection criteria were randomly assigned to the control and experimental group with 31 participants each. This is an experimental study with pre and posttest analysis in which the control group received conventional treatment and study group received conventional treatment with the addition of continuous therapeutic ultrasound of 1 MHz, intensity of 1.5 W/cm² for 8 minutes. The duration of treatment for both the groups was 14 days. Pain, range of motion and functional ability were assessed using Numerical Pain Rating Scale (NPRS), goniometer and Shoulder Pain and Disability Index (SPADI) score respectively. Pre and post data was gathered and analysed.

Result: Independent t test was performed between the groups. We observed that the study group showed significant improvement in pain (p=0.0004), increase in range of motion with external rotation (p=0.1876), abduction (p=0.0572), internal rotation (p=0.0095) and decrease in SPADI score (p=0.0001) as compared to the control group.

Conclusion: The study provides evidence supporting the efficacy of therapeutic ultrasound as management of adhesive capsulitis.

Keywords: External rotation, Goniometer, Stiffness

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Abstract No.: 79

Effect of Therapeutic Ultrasound on Pain, Range of Motion and Functional Ability in Patients with Frozen Shoulder

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ABSTRACT

Introduction: Frozen shoulder is a condition characterized by painful, progressive, and disabling loss of active and passive glenohumeral joint range of motion in multiple planes.

Aim: To assess the effect of therapeutic ultrasound on pain, range of motion and functional ability in patients with frozen shoulder.

Materials and Methods: Sixty-four participants between the ages of 40-60 years with frozen shoulder following selection criteria were randomly assigned to the control and experimental group with 32 participants each. This is an experimental study with pre and posttest analysis in which the control group received conventional treatment and study group received conventional treatment with the addition of continuous therapeutic ultrasound of 1 mHz, intensity of 1 W/cm² for 8 minutes. The duration of treatment for both the groups was 14 days. Pain, range of motion and functional ability were assessed using NPRS, goniometer and SPADI score respectively. Pre and post data was gathered and analysed.

Result: Independent t test was performed between the groups. It was observed that the study group showed significant improvement in pain (p=0.0003), range of motion with abduction (p=0.0257), flexion (p=0.0049) and external rotation (p=0.0463), decrease in SPADI scores (p=0.0007) as compared to the control group.

Conclusion: The study provides evidence supporting the efficacy of therapeutic ultrasound as management of frozen shoulder.

Keywords: Experimental study, Goniometer, Numerical pain rating scale

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Abstract No.: 80

Effect of TENS on Pain, Range of Motion and Function Ability Among People with Low Back Pain: An Experimental Study

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ABSTRACT

Introduction: Low back pain is often seen in patients above 30 years of age and is characterised by limitation of range of motion and pain in the joint along with stiffness. It presents a challenging scenario in musculoskeletal health and demands effective therapeutic strategies to alleviate symptoms and improve functional outcomes.

Aim: To assess the effect of Transcutaneous Electrical Nerve Stimulation (TENS) on pain, range of motion, and functional ability in patients with low back pain.

Materials and Methods: Sixty-two participants between the ages of 30-60 years with low back pain following selection criteria were randomly assigned to the control and experimental group with 31 participants each. This is an experimental study with pre and post-test analysis in which the control group received conventional treatment, while the experimental group received the conventional treatment along with TENS with 10 Hz frequency, 50 ms pulse width and 40 ma intensity for 20 minutes. The duration of treatment for both groups was 14 days. Pain, range of motion, and functional ability were assessed using Numerical Pain Rating Scale (NPRS), goniometer, and Oswestry Disability Index (ODI) respectively. Pre and post treatment data were collected and analysed.

Results: Independent t test was performed between the groups. Both groups showed improvement however, the experimental group showed a significant decrease in NPRS (p=0.0020), increase in range of motion with flexion (p=0.0065), extension (p=0.0055), left lateral flexion (p=0.0006), right lateral flexion (p=0.0218) and decrease in ODI scores (p=0.0161) compared to the control group.

Conclusion: These results provide substantial evidence supporting the efficacy of incorporating TENS into treatment plans for low back pain, which could offer more efficient and holistic care.

Keywords: Musculoskeletal health, Numerical pain rating scale, Stiffness

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Abstract No.: 81

Comparison of Gait Parameters in Typically Developing Children with Down Syndrome Children: A Literature Review

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ABSTRACT

Introduction: Down syndrome is a nonhereditary genetic condition, characterized by an extra abnormal chromosome set which is placed on the 21st chromosome and so it is also called trisomy 21 due to one extra chromosome which makes 47 chromosomes in total instead of normal 46. All the Down syndrome children may show some degree of motor delay, postural issues, gait impairment, balance issue, sensory and cognition impairment on the basis of their severity level. Due to generalized hypotonia and flaccid posture which is the major characteristics of Down syndrome condition, children often seen with delay in walking, abnormal gait patterns specially at spatiotemporal area. When compared with typically developing children, it has been noticed that some difference is seen in stride length, step length, cadence and base width which may vary on severity of the condition of particular individual.

Aim and relevance: The purpose of this review is to provide a vision into how Down syndrome children have different gait patterns for spatiotemporal area in age-matched typically developed children.

Material & Methodology: This literature includes those studies involving gait analysis on Down syndrome children and typical children for comparison purpose.

Inclusion criteria: Primarily 30 articles were retrieved on the basis of topic gait in typically and down syndrome children from Google Scholar, education Source, and PubMed were the primary medical databases for this review. We shortlisted 15 studies after using keywords like “Down syndrome, gait, spatiotemporal, cadence, stride length” used one & alternatively.

Result: Typically developed children and Down syndrome children have different gait patterns. When gait of Down syndrome children compared with typically developing children, it has been observed that stride length and step length in Down syndrome children found to be 65-75cm (centimetre) and 30-40cm subsequently, velocity around 0.6-0.8 m/sec which is much lesser than in typical children. Cadence found to be approximate 120 steps/min and base width around 10-14cm which is much larger when compared to age-matched typically developing children.

Conclusion: Down Syndrome children have different and unique gait patterns because of their physiology of the body structure and so this type of study for therapeutic intervention is needed to examine and work with the children with Down syndrome to obtain objective data to implicate in therapy to get better balance and improve gait patterns.

Keywords: Down syndrome, gait, spatiotemporal, cadence, stride length

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