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ABOUT THE INSTITUTE

MAEER'S Maharashtra Institute of Physiotherapy Latur, was established in August 2005. This institute is one of the branches of well known “Maharashtra Academy of Engineering and Educational Research (MAEER) Pune". MIPT, Latur is offering Bachelor (BPT), Masters (MPT) and Doctoral (PhD) Physiotherapy programs. MIPT, Latur is affiliated to Maharashtra University of Health Sciences, Nashik. The institute is situated in MIMSR Medical College Campus, which is spread over an area of 4,65,000 sq ft. The present premises consist of institute building, Hospital building, separate boy’s and girl's hostel, staff quarters and play ground. Departments includes Orthopaedic/Musculoskeletal Physiotherapy, Neuro-Physiotherapy, Community Physiotherapy, Cardiorespiratory Physiotherapy, Paediatric Physiotherapy, Sports Physiotherapy, Electrotherapy, exercise Therapy and, Therapeutic Gymnasium along with dissection hall, ICT enabled class rooms, central library, departmental library, digital library are some of the special features of the institute.

VISION

- To become a center of excellence in imparting Physiotherapy education.

MISSION

- To create Value-based physiotherapists capable of treating common ailments that require physiotherapy treatment.
- To build human resources in physiotherapy, offer physiotherapy rehabilitation services and serve the society.
- To prepare students for fostering greater creativity and original thought in the professional context of research.
- To develop educational pathways which will give students the most flexibility in their physiotherapy career opportunities.

VALUES

Integrity
Transparency
Quality
Team work
Execution with passion
Human touch

QUALITY POLICY

We pledge to meet the students and patient's requirements by offering expert Physiotherapy education and care with compassion through a dedicated and committed team of well qualified and trained professionals.

ABOUT ELECTROCON-24

Electrocon-24 is a prestigious national conference dedicated to exploring the advancements, innovations, and applications of electrotherapy in the field of physiotherapy. This event brings together leading experts, researchers, clinicians, academicians, and students, creating a platform for comprehensive knowledge sharing, professional networking, and collaborative growth.

Electrotherapy has long been a cornerstone of physiotherapy, with applications ranging from pain management and rehabilitation to enhancing functional recovery. With rapid technological advancements, the field of electrotherapy continues to grow, offering new tools and methods that enhance patient outcomes and expand the scope of physiotherapy. Electrocon-24 is designed to provide an in-depth look at these developments, focusing on evidence-based practices, emerging technologies, and the science behind effective electrotherapy interventions.

The conference features a range of activities, including scientific sessions, plenary sessions, and panel discussions led by esteemed experts from across India. Attendees will have the opportunity to engage with the latest research findings, explore innovative clinical techniques, and discuss future directions in electrotherapy.

Electrocon-24 is more than just a conference; it is a celebration of the physiotherapy profession's commitment to enhancing patient care through continuous learning and innovation. Maharashtra Institute of Physiotherapy (MIPT), Latur are proud to host this event as a means of supporting the professional development of physiotherapists, promoting best practices, and advancing the standards of healthcare.

Join us as we delve into the future of electrotherapy and explore how it can empower physiotherapists to meet the evolving challenges of healthcare. Together, let's make Electrocon-24 a memorable and impactful experience for all.

AIMS AND OBJECTIVES
OF
THE CONFERENCE

AIMS

- Advanced Electrotherapy Knowledge: To promote the latest developments and evidence-based practices in electrotherapy, ensuring better clinical outcomes for physiotherapists and patients.

- Foster Research and Innovation: To encourage scientific research and innovation in electrotherapy by providing a platform for researchers and clinicians to present and discuss cutting-edge technologies and methods.

- Enhance Clinical Skills: To provide practical training and skill enhancement opportunities for physiotherapists through workshops and live demonstrations of modern electrotherapy techniques.

- Encourage Interdisciplinary Collaboration: To facilitate collaboration between professionals from various fields of healthcare and rehabilitation, promoting an integrated approach to patient care.

- Explore Future Trends: To explore emerging trends, challenges, and future directions in electrotherapy and its role in healthcare, rehabilitation, and wellness.

OBJECTIVES

- Provide a Knowledge-Sharing Platform: To offer participants a platform to exchange knowledge, share case studies, and discuss research findings related to electrotherapy.

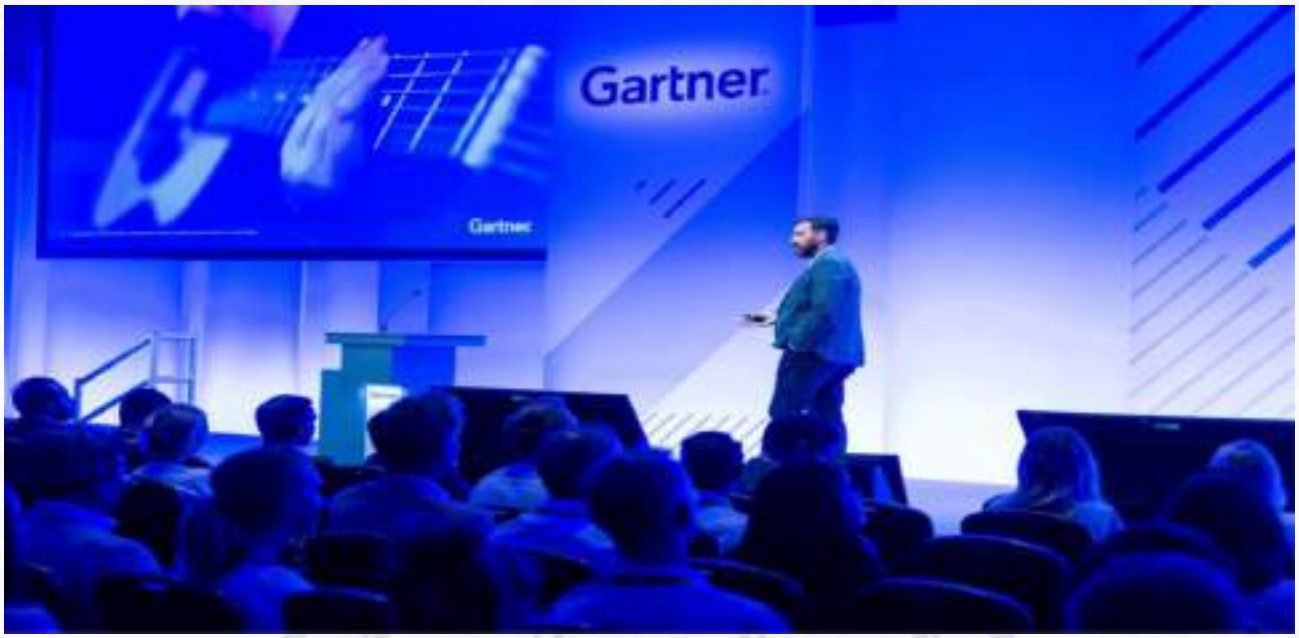
- Conduct Hands-On Workshops: To organize practical, hands-on workshops that enhance participants' clinic al expertise in using electrotherapy modalities in rehabilitation and pain management.

- Promote Research Presentation: To encourage students and professionals to present their research through oral and poster presentations, fostering a culture of scientific inquiry and innovation.

- Facilitate Networking Opportunities: To create opportunities for networking among physiotherapy professionals, researchers, industry experts, and academicians, promoting collaboration and partnerships.

- Showcase New Technologies: To exhibit the latest electrotherapy equipment and technologies, offering participants insights into the advancements shaping the future of physiotherapy.

HIGHLIGHTS OF THE CONFERENCE



1. Keynote speeches from renowned experts
2. Scientific paper/poster presentations (online & offline)
3. Panel discussion
4. Cultural competition
5. Quiz competition
6. Awards

SPEAKER'S ABSTRACT

SPEAKER'S ABSTRACT

Dr. Atharuddin Hakimuddin Kazi
Principal & Professor
Bhausaheb Mulak Physiotherapy College, Nagpur

Electrotherapy: Myths versus Facts

ABSTRACT

Electrotherapy is widely used in physical rehabilitation and pain management, yet it remains shrouded in myths that can mislead both practitioners and patients. These misconceptions not only influence patient expectations but can also shape clinical approaches, leading to variability in treatment outcomes. This keynote lecture aims to dissect common myths associated with electrotherapy modalities, such as TENS, ultrasound, and iontophoresis, and present evidence-based insights into their therapeutic value, limitations, and mechanisms of action.

The need to debunk these misconceptions is critical, as it directly impacts treatment efficacy, patient safety, and clinical outcomes. Some of the common myths are: “Electrotherapy Burns Fat or Builds Muscle Like Exercise” while the reality is Devices marketed for “muscle building” or “fat burning” often create unrealistic expectations about the scope of electrotherapy. While electrical muscle stimulation can help in muscle re-education post-surgery, it is not a substitute for active exercise, nor does it have any significant impact on fat loss.

Specific topics will include understanding pain modulation, tissue healing, and the bioelectrical impact of various currents. We will also address safety concerns, contraindications, and patient selection criteria to enhance treatment efficacy and minimize risk.

The lecture will equip practitioners with the knowledge to navigate myths, make informed decisions, and communicate effectively with patients about realistic outcomes. This session is essential for any healthcare professional seeking to refine their clinical practice and uphold the integrity of electrotherapeutic treatments.
contraindications, and patient selection criteria to enhance treatment efficacy and minimize risk.

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SPEAKER'S ABSTRACT

Dr. Purusotham Chippala
Professor
NITTE Institute of Physiotherapy, Mangaluru, Karnataka

Electrotherapy for Neurogenic Bladder

ABSTRACT

Introduction:

Neurogenic bladder, resulting from neurological disorders like spinal cord injury, stroke, traumatic brain injury and multiple sclerosis, impacts bladder control, causing symptoms such as incontinence and urinary retention. Conventional treatments often include medications and catheterization, but these can lead to side effects and complications.

Electrotherapy presents a promising alternative, aiming to restore bladder function through targeted nerve and muscle stimulation.

Objective:

To explore the mechanisms, applications, and effectiveness of electrotherapy for neurogenic bladder, offering healthcare professionals insight into practical applications and potential patient benefits.

Methods and Techniques:

This section covers key electrotherapy approaches.

Sacral Nerve Stimulation (SNS): An implanted device near the sacral nerve delivers controlled pulses to enhance bladder-sphincter coordination.

Transcutaneous Electrical Nerve Stimulation (TENS): A non-invasive option using electrodes on the lower abdomen or sacral area to stimulate bladder control.

Percutaneous Tibial Nerve Stimulation (PTNS): A minimally invasive technique using tibial nerve stimulation to regulate bladder reflexes is especially effective for overactive bladder.

Results and Benefits:

Studies indicate that electrotherapy significantly reduces incontinence episodes, increases bladder capacity, and reduces catheter use. Most patients report improvements with minimal side effects, particularly in overactive and underactive neurogenic bladder cases.

Conclusion:

Electrotherapy offers a safe and feasible, minimally invasive, effective treatment option for neurogenic bladder, enhancing quality of life by reducing symptoms and promoting bladder control. This session equips Physiotherapists with knowledge on integrating electrotherapy into neurogenic bladder care for optimized patient outcomes.

Keywords:

Neurogenic bladder, electrotherapy, sacral nerve stimulation, TENS, PTNS, bladder control.

SPEAKER'S ABSTRACT

Dr. Supriya K Vinod

Principal & Professor

College of Physiotherapy, Mother Theresa PG & Research Institute of Health Sciences

Electrotherapy Unplugged: Timeless Techniques and Cutting- Edge Trends in Lymphedema Management

ABSTRACT

Lymphedema is a disorder in which lymph accumulates in the interstitial spaces due to poor lymphatic flow resulting from hypoplasia or aplasia of the lymphatic vessels, or due to morpho-functional alterations that impair lymphatic flow.

Lymphoedema is a chronic, progressive swelling of tissue with protein-rich fluid as a consequence of developmental (primary lymphoedema) or acquired (secondary lymphoedema) disruption of the lymphatic system. Extremities are most commonly affected, followed by genitalia.

A comprehensive search of the Medline and Embase databases from 1990 to 2016 to identify relevant published studies, articles, and reviews reveals that Lymphoedema is a serious health problem globally. Lymphedema is a debilitating condition associated initially with inflammation that then degenerates into hardening of affected tissues and the formation of ulcers on the skin of the affected limbs. No definitive treatment is available. The only therapy for lymphedema consists of Physiotherapy, surgery, and compression to reduce impairment, which only treats the symptoms and not the causes.

It is a common clinical problem in India, as lymphoedema is the most common clinical manifestation of filariasis. There exists a vast number of patients afflicted by this crippling disease. The magnitude of this problem can be seen from the fact that nearly 200 million people (20% of the population) live in the endemic zone and more than 19 million suffer from the disease. Most cases are secondary to nematode infection (filariasis), malignancy, or cancer-related treatment. Typically presents with painless unilateral limb swelling; pitting oedema is present in early disease, whereas non-pitting oedema is a sensitive but non-specific finding in advanced disease.

Diagnosis is usually made on clinical grounds and confirmed by lymphoscintigraphy.

First-line treatment involves compression, ranging from static garments to manual massage and pneumatic compression devices. Associated pain, circulatory disturbances and joint stiffness are treated with low frequency, low intensity electrical stimulation and Interferential therapy. However reduction in lymph volume and limb girth can be achieved only in combination with Complete Decongestion Therapy, Compressive wearable devices and rehabilitative limb exercises with active limb hygiene and care.

Successful care requires a long-term, collaborative approach between patients and providers. Clinical trials have proved that low frequency low intensity electrical stimulation has a significant effect in improving the health related quality of life in patients with Lymphoedema by reduction in symptoms of pain, heaviness and tightness of the skin when compared to conventional treatments making it a possible effective therapy tolerated by even post surgical patients. Neurogenic bladder, electrotherapy, sacral nerve stimulation, TENS, PTNS, bladder control.

SPEAKER'S ABSTRACT

Dr. Sandeep Bhagwat
Director
Niramay Institute of Rehabilitation, Solapur

Energizing Healing with Electromagnetic Field Therapy in Musculoskeletal Disorders

ABSTRACT

There is mounting evidence to suggest that exogenous electromagnetic fields (EMF) may play a significant role in various biological processes that are crucial to therapeutic interventions. EMFs have been identified as a non-invasive, safe, and effective therapy that appears to have no apparent side effects. Numerous studies have demonstrated that pulsed EMFS (PEMFs) have the potential to become a stand-alone or adjunctive treatment modality for managing musculoskeletal disorders. However, several questions remain unresolved. Before their widespread clinical application, further research from well-designed, high-quality studies is required to standardize treatment parameters and determine the optimal protocol for healthcare decision-making.

This article provides a comprehensive overview of the impact of musculoskeletal diseases on overall well-being, the limitations of conventional treatments, and the need to explore alternative therapeutic modalities such as electromagnetic field (EMF) therapy. EMF therapy uses low-frequency electromagnetic waves to stimulate tissue repair, reduce inflammation, and modulate pain signals, making it a safe and convenient alternative to conventional treatments. The article also discusses the historical perspective of EMF therapy in medicine. The article highlights the potential of EMF therapy as a personalized and comprehensive care option for musculoskeletal diseases, either alone or in conjunction with other therapies.

It emphasizes the imperative for further research in this field and presents a compelling case for the use of EMF therapy in managing musculoskeletal diseases. Overall, the available findings on the underlying cellular and molecular biology support the use of EMF therapy as a viable option for the management of musculoskeletal disorders and stresses the need for continued research in this area.

SPEAKER'S ABSTRACT

Dr. Vijaya Kumar
Professor
Dr. D.Y. Patil College of Physiotherapy, Pimpri, Pune, Maharashtra.

Electrotherapy today "A Bright sun behind the clouds"

ABSTRACT

Electrotherapy has progressed from ancient methods involving electric fish to sophisticated, precise treatments in modern rehabilitation. Early innovations by scientists Luigi Galvani and Benjamin Franklin resulted in nineteenth-century devices that relieved pain and stimulated muscles. Today, electrotherapy includes innovative, customizable devices as well as new modalities such as low intensity class 4 lasers, matrix rhythm therapy, extracorporeal shock wave therapy, PEMF and LIPUS etc.

Electrotherapy is frequently overshadowed by manual therapies and other therapeutic techniques in physiotherapy, despite the fact that it provides distinct, non-invasive benefits. Electrotherapy enhances cellular repair and regeneration by boosting ATP production, improving blood flow, and reducing inflammation, which accelerates healing as well as re-establishing normal physiology of cellular function of musculoskeletal system, nervous system and visceral system as well. It also modulates pain by blocking signals and releasing endorphins, aiding recovery and muscle re-education by using recent modalities in addition to traditional methods of cryotherapy, TENS and IFT. Non electrotherapeutic techniques enhances physiological movement but it hold less significance in restoring the physiology of tissues and have limited cellular impact but pain often limit proper movement, preventing its full effectiveness.

Electrotherapy has shown exclusive results in wound healing, inflammation, tissue proliferation, muscle re-education and conditions such as lymphadenopathy and neuropathies but still it is being underutilized and less focused in today's era. As today's world is moving towards faster recovery of symptoms but not complete recovery at cellular level which leads to recurrence of similar symptoms, affecting long term health. Despite being a foundational tool in physiotherapy, electrotherapy is used less frequently. Newer non electrotherapeutic methods have become more popular in practice, shifting its role to a supportive one in the evolving field of rehabilitation. To strengthen the foundation of electrotherapy and enhance its role in rehabilitation for various conditions, it is important to promote and integrate electrotherapy modalities more effectively.

In conclusion, just as a day without sunlight feels incomplete, rehabilitation without electrotherapy lacks a key element.

SPEAKER'S ABSTRACT

Dr. S. Sridevi
Professor
Sri Ramachandra Institute of Higher Education and Research
(Deemed to be University), Chennai- Tamilnadu

Electrodiagnosis :A Boon to Physiotherapy

ABSTRACT

The lecture would focus predominantly on Electrodiagnostic procedures done by Physiotherapists Strength Duration curve and Faradic Galvanic Testing- the real boon to physiotherapists in diagnosing nerve lesions .The lecture would start with the evolution of Electrodiagnostic procedure and implicating the integral part of these tests in Physiotherapy practice.

The Electrophysiological basis of how the nerves and the muscles would respond to Electrical stimulation in severed conditions would be taken up for discussion in presentation. The importance of strength duration curve in diagnosing neuromuscular disorders and assessing the extent of nerve damage, identifying the type of nerve lesion which would help Physiotherapists in planning the treatment protocol would be a part of the lecture.

The clinical implication of interpretation of Rheobase, Chronaxie and utilisation time values in diagnosing and guiding treatment planning, the normal variations in values, the influence of certain aspects of technique on the strength duration curves and understanding the influence of these factors in interpreting accurately would be emphasised. Participants would be engaged in group discussion by sharing few reports.

The lecture would be covering on the basics of Nerve Conduction Velocity Testing and Electromyography. Identifying the variations in NCV and EMG, considering the changes and integrating it in the diagnosis and prognosis of the disease conditions would be discussed.

The advantages and disadvantages of Electrodiagnostic procedures, reliability of the testing procedures and the importance of Evidence Based Practice, clinical implications of knowledge on Electrodiagnostic procedures would be the ending note of the lecture.

SPEAKER'S ABSTRACT

Dr. Rinkle Hotwani
Principal & Professor
MGM School of physiotherapy, Chh. Sambhajinagar

Pain Modulation and Neurotags

ABSTRACT

Neural processes that diminish the transmission of pain signals from the body to the brain are known as pain modulation. This complex system involves various neural pathways and mechanisms that can either intensify or lessen pain perception. The endogenous pain control system plays a crucial role in this process, influencing how nociceptive information is processed and how pain is perceived within the central nervous system. Furthermore, the placebo and nocebo effects highlight the importance of expectations and learning in pain perception.

Neurotags, which are neural representations, consist of neuronal networks in the brain and spinal column associated with pain and other sensations. These networks can contribute to chronic pain by creating connections between experiences, such as pain, and thoughts, actions, or memories. For instance, if you hurt your back while bending forward, a neurotag might form, linking that movement with pain. Neurotags are categorized into two types: modulators, which only affect the brain, and action tags, which produce effects outside the brain, such as pain. Comprehending these mechanisms is essential for developing new treatments and enhancing care for patients with chronic pain.

SPEAKER'S ABSTRACT

Dr. R. S. Gangatharan
Principal & Professor
Dhaneswari College of Physiotherapy, Chh. Sambhaji Nagar

Enhancing Post-Stroke Swallowing Recovery: Advances in Electrical Stimulation Therapy

ABSTRACT

Dysphagia, a common and serious consequence of stroke, impairs the swallowing process, leading to increased risks of aspiration, malnutrition, and decreased quality of life in affected individuals. Electrical stimulation therapy has emerged as a promising intervention to restore swallowing functionality in post-stroke patients by stimulating muscle contractions and reactivating neural pathways. This presentation explores the application of electrical stimulation techniques, focusing on neuromuscular electrical stimulation (NMES) and transcranial direct current stimulation (tDCS), both designed to target neuromuscular coordination and cortical plasticity.

A detailed overview of swallowing physiology highlights the importance of cranial nerves and brainstem coordination. The presentation discusses the impact of stroke on these complex processes, particularly the disruption in neural control, leading to dysphagia. Key types of electrical stimulation, their physiological effects, and placement protocols are explained, including differences between surface and intramuscular approaches for optimal muscle engagement.

The presentation further examines current research findings, demonstrating the efficacy of electrical stimulation in improving swallowing function when combined with conventional therapies. Case studies illustrate clinical applications, shedding light on the benefits and challenges, such as patient adherence and access to trained practitioners. Emphasis is placed on individualized treatment protocols to enhance therapeutic outcomes.

Emerging directions for electrical stimulation therapy in dysphagia rehabilitation are discussed, including adaptive devices with real-time biofeedback and artificial intelligence-driven customization. This evolving landscape underscores the potential for personalized interventions and highlights the need for longitudinal research to better understand the therapy's impact across various patient populations. In conclusion, the use of electrical stimulation in post-stroke dysphagia rehabilitation offers a valuable approach to improving patient quality of life, with ongoing innovations likely to further refine its effectiveness

SPEAKER'S ABSTRACT

Dr. Basanta Kumar Nanda

Professor

Swami Vivekanand National Institute of
Rehabilitation training and research center, Odisha

Clinical Reasoning in Electrotherapy

ABSTRACT

Low frequency, Medium frequency and High frequency current therapies, Actino therapies, Clinical reasoning in Electrotherapy and actino therapies, and recent advances in Electrotherapy and actino therapies.

Key highlights:

1. Different electro and actino Therapeutic modalities, their indication and contraindications.
2. Clinical reasoning and its methods.
3. Clinical reasoning in Electrotherapy and actino therapies for application to patients.
4. Recent advances in Electrotherapy and actino therapies.

SPEAKER'S ABSTRACT

Dr. Abhijit Satralkar
Principal & Professor
AIMS College of physiotherapy, Dombivli

Biofeedback on Neurological Rehabilitation

ABSTRACT

Biofeedback is a technique that uses electronic monitoring of a normally automatic bodily function to train someone to acquire voluntary control of that function. In neurological rehabilitation, biofeedback has shown promise in enhancing motor recovery and functional outcomes for patients with conditions such as stroke, traumatic brain injury, spinal cord injury, etc. It is a technique which enables the individual to readily determine the activity levels of a particular physiological process, and with appropriate training, learn to manipulate the same process by an internalized mechanism.

Biofeedback is a type of complementary and alternative medicine called mind-body therapy.

Principle- "Operant conditioning of motor learning" Schmidt defined motor learning as & quot a set process associated with practice or experience leading to relatively permanent changes in capability for producing skilled action" It works on Knowledge of result & Knowledge of performance.

Mechanisms and Applications: Biofeedback methods, including electromyography (EMG), real-time ultrasound imaging (RTUS), and wearable devices, provide real-time feedback on muscle activity, movement, and physiological parameters. This feedback helps patients gain awareness and control over their bodily functions, facilitating motor learning and improving engagement in rehabilitation exercises. Effectiveness: Studies have demonstrated the effectiveness of biofeedback in improving balance, gait, and muscle function in patients with neurological conditions. EMG biofeedback, for instance, has been effective in post-stroke rehabilitation, while RTUS biofeedback has shown positive results in treating low back pain and pelvic floor muscle dysfunction. Wearable devices have also been used to provide biomechanical feedback, enhancing dynamic balance and gait in patients with neurological diseases. Technological Advancements: Recent advancements in biofeedback technology, such as virtual reality (VR) and exergaming, have further enhanced its application in rehabilitation.

These technologies provide immersive and interactive feedback, making rehabilitation exercises more engaging and motivating for patients. Future Directions: While biofeedback has shown promising results, further large-scale studies and systematic reviews are needed to establish its effectiveness across different clinical populations and conditions. Additionally, the integration of biofeedback with other rehabilitation techniques and the development of personalized biofeedback protocols could further optimize its benefits. Conclusion: Biofeedback is a valuable tool in neurological rehabilitation, offering a non-invasive and effective approach to enhance motor recovery and functional outcomes. Continued research and technological advancements will likely expand its applications and improve its efficacy in clinical practice.

SPEAKER'S ABSTRACT

Dr. Akshaya Iyer
Professor
BR Harne College of Physiotherapy, Mumbai

All About Pain- A Novel Way To Know, Acknowledge, Approach, Deal And Manage

ABSTRACT

One of the vital functions of nervous system is to provide information about occurrence or threat of injury. The sensation of pain contributes to this function and the role of brain in pain processing has long remained elusive. Multiple regions of brain are activated during complex experience of pain. Without pain there is no motivation to treat individuals or do any physical activity, therefore pain is the greatest motivator. Pain is associated with considerable variability and it has its own robust differences in their threshold and tolerances to stimuli and understanding the basis of such individual differences would benefit for therapeutic development efforts, prediction and prevention of risk and individual tailoring of existing therapies.

Overall pain is an inevitable consequence of living. Thus from public health viewpoint it is of greater interest to consider the episodes of pain and important to study to detect association between exposure and outcome. This greater understanding of pain offers promise of rationally developed treatments based on manipulation, physical therapy, electrotherapy and various drug combinations and managing it will develop progress in elucidating neural circuits involved in pain modulation.

HIGHLIGHTS: Neural circuits, manipulation techniques, pain modulation.

SPEAKER'S ABSTRACT

Dr. Ashish Bele
Principal & Professor
Laxmibai Gorule College of physiotherapy, Washim

Electrical Stimulation in pelvic floor rehabilitation

ABSTRACT

The key note lecture "Electrical Stimulation in Pelvic floor Rehabilitation by Prof. Dr. Ashish W. Bele focuses on the use of electrotherapy modalities for pelvic floor rehabilitation.

Pelvic floor dysfunction is a common condition that affects individuals across different age groups, leading to symptoms such as urinary incontinence, pelvic organ prolapse, and sexual dysfunction. Physiotherapy, including the use of electrical stimulation, has emerged as a widely used intervention for the rehabilitation of the pelvic floor muscles.

Electrical stimulation (ES) therapy involves the application of electrical currents to induce muscle contraction, enhancing muscle strength, endurance, and coordination. This method has been shown to improve pelvic floor muscle function, reduce incontinence symptoms, and promote tissue repair. This paper reviews the mechanisms of electrical stimulation, its application in pelvic floor rehabilitation, and the current evidence supporting its effectiveness. Additionally, we discuss various parameter of electrical stimulation, including frequency, intensity, and duration, and how these factors influence clinical outcomes. Despite promising results, variability in treatment protocols and patient response highlights the need for further research to optimize and standardize the use of electrical stimulation in pelvic floor rehabilitation. Ultimately, when integrated with other physiotherapy modalities, electrical stimulation offers a non-invasive, cost-effective, and patient- friendly approach to improving pelvic health and function.

Pelvic floor dysfunction (PFD) encompasses a wide range of conditions that affect individuals, often leading to urinary incontinence, fecal incontinence, pelvic organ prolapse, and sexual dysfunction. These conditions are prevalent across different life stages, particularly in women after childbirth, during menopause, and in older adults. Traditionally, pelvic floor rehabilitation focuses on strengthening and retraining the pelvic muscles through exercises, behavioral therapy, and biofeedback. One such modality, electrical stimulation (ES), has gained increasing attention as an effective adjunct or alternative to cortional treatment.

Electrical stimulation involves the application of low-voltage electrical currents to induce muscle contractions, which helps to improve pelvic floor muscle strength, tone, and coordination. There are two primary types of electrical stimulation used in pelvic floor rehabilitation:

Intravaginal or Intrarectal stimulation (delivered via a probe), and transcutaneous electrical nerve stimulation (TENS) through surface electrodes placed on the skin. ES therapy works by stimulating the motor nerves of the pelvic floor muscles, causing them to contract and enhancing their strength and endurance over time. It also promotes muscle re-education by stimulating sensory nerves, which improves neuromuscular control and coordination.

Several studies have demonstrated the efficacy of electrical stimulation in improving symptoms of urinary incontinence, especially in individuals who have not responded to pelvic floor muscle exercises (PFME) alone.

In women with stress urinary incontinence (SUI) or urge incontinence, ES has been shown to significantly reduce leakage episodes, improve muscle strength, and enhance pelvic floor function. Electrical stimulation has also been utilized in the rehabilitation of pelvic organ prolapse and to address sexual dysfunction, including increased vaginal tone and sensation.

The clinical outcomes of electrical stimulation can be influenced by various parameters such as frequency, intensity, pulse width, and treatment duration. For instance, lower frequencies (1-10 Hz) are typically used for muscle strengthening, while higher frequencies (20-50 Hz) may be applied for pain relief and improved circulation. Treatment regimens often involve sessions lasting 15-30 minutes, 2-3 times per week, with improvements typically noticed after 6-8 weeks of consistent therapy. While ES is generally well-tolerated, individual response to treatment may vary, and some patients may experience discomfort or skin irritation.

Despite the positive outcomes reported in clinical studies, there remain inconsistencies in the treatment protocols and a need for standardized guidelines to optimize electrical stimulation use. Factors such as patient selection, severity of pelvic floor dysfunction, and device settings must be carefully considered for maximal benefit. Additionally, while electrical stimulation is beneficial for some individuals, it is often used in combination with other pelvic floor physiotherapy techniques, including PFME, biofeedback, and lifestyle modifications, to provide a comprehensive, multidisciplinary approach to pelvic floor rehabilitation.

In conclusion, Prof. Bele encourages a deep understanding of how electrotherapy interventions work as electrical stimulation represents a promising, non-invasive intervention for pelvic floor rehabilitation, offering an effective alternative or complement to traditional therapies. Continued research is needed to refine treatment protocols, establish optimal parameters, and better understand the long-term effects and mechanisms underlying its success. When tailored to individual needs, electrical stimulation can significantly enhance pelvic health, improve quality of life, and reduce the burden of pelvic floor dysfunction.

SPEAKER'S ABSTRACT

Dr. T. Sureshkumar
Principal & Professor
Shri Sidhheshwar College of Physiotherapy, Solapur

Effects of Transcranial direct current stimulation and Deep Brain Stimulation on brain function

ABSTRACT

The key note lecture "Electrical Stimulation in Pelvic floor Rehabilitation by Prof. Dr. Ashish W. Bele focuses on the use of electrotherapy modalities for pelvic floor rehabilitation.

Trans Magnetic Stimulations(TMS) was developed in 1985 and has been utilized intensively over the last 30 years as a research tool in neurophysiology. TMS provides a way to induce electrical current in the brain without the need for invasive surgery.

It involves passing an electric current through conductive wires of an insulated coil to induce a local magnetic field, which transfers energy across the skull to induce a secondary electric current in the brain. Transcranial direct current stimulation (tDCS) is a popular brain stimulation method that is used to modulate cortical excitability, producing facilitatory or inhibitory effects upon a variety of behaviors. tDCS involves the emission of a weak electrical current, traditionally via the placement of two electrodes attached to the scalp of a participant.It has various types:

Anodal Transcranial direct current stimulation (atDCS)
cathodal Transcranial direct current stimulation (ctDCS)
bilateral Transcranial direct current stimulation (bitDCS)

Studies say that the anodal stimulation typically increases the resting membrane potential of neurons, making them more likely to fire. This can facilitate learning, memory, and other cognitive processes.

cDCS tends to decrease cortical excitability in the area under the cathode, potentially leading to reduced neural activity in that region. cDCS involves delivering direct current through electrodes, which can either increase (anodal stimulation) or decrease (cathodal stimulation) neuronal excitability.

Studies have shown mixed results regarding efficacy, and ongoing research aims to clarify optimal parameters (like current intensity and duration) and target populations.

As this stimulation has effects on increased neuronal excitability, enhanced synaptic plasticity, changes in neurotransmitter release, on blood flow, neuroplastic changes,on inhibition of action potential, on brain oscillatory activity.

In conclusion, Prof. Sureshkumar encourages the use of Transcranial direct current stimulation on pain management, stroke rehabilitation, parkinsonism, multiple sclerosis, sleep disorders, cognitive disorders and speech disorders.

SPEAKER'S ABSTRACT

Dr. Vaibhav Mahajan
Principal & Professor
Motiwala College of Physiotherapy, Nashik

Electrotherapy for wound healing

ABSTRACT

WOUND

Wound is a break in the integrity of skin or tissue often, which may be associated with disruption of the structure and function. Wound is an injury to the body that is usually associated with damage to underlying tissues. Common causes are violence, accident or surgery that typically involves laceration or breaking of a membrane (as skin).

CLASSIFICATION OF WOUND

(Rank & Wakefield): 1. TIDY-Incised, caused by sharp object, no tissue loss, heal by primary intention. 2. UNTIDY-Crushed, teared, devitalised, burn, tissue loss, heal by secondary intention.

Other Classification: 1. CLOSED WOUND- Contusion or bruising, Abrasion, Haematoma 2. OPENED WOUND -Incised, Lacerated, Penetrating, Crushed or contused wound

CLASSIFICATION OF WOUND HEALING

By Primary intention:Occurs in clean incised wound,edges opposed and minimal scar that is clean,neat and thin. By Secondary intention:Occurs in infected wound,discharging pus and skin loss like in major trauma,burn or sepsis.Wound left open,increased inflammation and proliferation. it heals by granulation,contraction and epithelialisation.Poor,ugly and wide scar.

By Tertiary intention:Wound initially left open,edges later opposed when healing condition favourable.

STAGES OF WOUND HEALING

1. Inflammatory phase, 2. Proliferative phase, 3. Remodelling phase (maturation phase) All these 3 phase involve: -stage of inflammation, stage of granulation tissue formation and organisation, stage of epithelialisation, stage of scar formation and resorption, stage of maturation.

FACTORS AFFECTING WOUND HEALING

General Factors - Age (older) - healing delayed, Obesity and weight loss, Smoking, Malnutriton, Trace Metals- Zinc, Copper, Mg, Anemia, Diabetic patient, Jaundice and uraemic patient, Colonisation (gram-ve bact) and translocation in GI tract Malignancy, HIV and immune suppresive disease, Peripheral vascular diseases, Drugs.

Local Factors - Local infection, Presence of necrotic tissue and foreign body, Poor blood supply and perfusion, Venous or lymph stasis, Tissue tension, Haematoma and dead space, Large defect or poor opposition, Recurrent trauma, X-ray irradiated area, Site of wound-eg. over joint and back has poor healing, Type of wound, Hypoxia, Faulty technique of wound closure.

HEALING OF WOUND

Wound healing is a mechanism where by the body attempts- To restore the integrity and function of injured part, To reform barrier to fluid loss and infection, Limit further entry of foreign organism and material, Re-establish normal blood and lymphatic's patterns.

ELECTROTHERAPY MODALITIES FOR WOUND HEALING

Electric stimulation – Accelerate the wound healing process by improving circulation, Pulsed short wave diathermy – Reduces Inflammation, encourages elastin and collagen layering with orientation, Ultra violate radiation – Antibiotic effect, promotes granulation, stimulates epithelial growth, Laser – Photo-bio-stimulation, collagen synthesis, improves immune system.

Ultra-sound therapy – Reduces inflammation by degranulation of mast cells, enhances early proliferative phase, Phonophoresis – With 20% Zinc oxide ointment, Infrared Radiation improves blood circulation, bactericidal effect.

SPEAKER'S ABSTRACT

Dr. T. Karthikeyan
Professor,
Gurugram University, Hariyana

Role and Importance of Physiotherapy Modality in Sports Injuries Appropriate Treatment Choice Modalities between Electro & Exercise Therapy for MSK

ABSTRACT

Introduction: Physiotherapy includes treatment of MSK subjects with manual therapy, exercises and electrotherapeutic modalities. Manual therapy and exercises correct the biomechanical malalignments and strengthen the muscles whereas modalities work on reducing pain by pain gate mechanism, reducing inflammation or relieving spasm. Satisfied MSK subjects adhere more towards to treatment, and have a higher quality of life. MSK subject's satisfaction has emerged as an important subjects focused indicator of the quality of patient care, improve overall, musculoskeletal health, well- being, wisdom. If the perception of subjects towards electrotherapy machines is more it may hamper with consistency and continuation of the prescribed exercises. Aim: To find if the MSK subjects perception is more biased towards electrotherapy modalities or exercise therapy, for pain modulation. Method: Total 194 MSK subjects participated in the study. A questionnaire was filled from them. Validity of the questionnaire was established. The questionnaire given pre-treatment. Graphical representation of data was done. Results: Perception of MSK patients for pain modulation was positive for exercises as well as electrotherapy (exercises therapy & electrotherapy). Conclusion: MSK subjects have a perception of use of both electrotherapy modalities as well as exercise in reducing their pain; electrotherapy having immediate effect and exercise having a sustained effect.

Keywords: MSK, Treatment Choice modalities, Electro therapy & Exercise therapy.

SPEAKER'S ABSTRACT

Dr. Pallavi Tayade
Professor
SVSS COPT, Latur

LASER Therapy and its Implication

ABSTRACT

The lecture focuses on Photo biomodulation effect of Laser therapy and its clinical Implications.

Concept of Physiological effect of Laser is based on 'Photo biomodulation, it is defined as laser light delivered photonic energy to tissue by inducing biological process within tissue. The Photobiomodulation can have both effect of Photo biostimulative effect and Photo inhibitive effect.

Recent Evidence Based Practices shows that various benefits of laser therapy in wound healing reducing inflammation, ulcers, and soft tissue injuries. But underlying Mechanism is unclear.

Photo biomodulation effect gives us idea about possible mechanism and also different Parameters affect the interaction of light and biological tissues such as wavelength, laser dose.

The lecture also Focus on method of application of Laser like Direct and indirect Methods.

In Conclusion Dr. Pallavi emphasis on Concept of Photobiomodulation and its applications in various conditions.

SPEAKER'S ABSTRACT

Dr. Naaz Kapadia Desai

Professor

Department of physical therapy, University of Toronto, Canada.

Functional Electrical Stimulation: "What is the way forward"

ABSTRACT

The plastic nature of the brain has prompted researchers to investigate various means of manipulating it. Whereas electrical stimulation of the central and the peripheral nervous system has long been identified as one of the promising methods, there are very few techniques that have shown positive results in systematic RCT's and fewer have been adopted in clinical practice. In the recent years, given the increase in number of individuals living with consequences of conditions like stroke, spinal cord injury, traumatic brain injury, movement disorders and other types of acquired neurological conditions, there is a real push to investigate rehabilitation techniques that can make meaningful improvements in function.

Peripheral electrical stimulation (PES) is used in clinical settings for a diverse range of applications from facilitation of voluntary muscle contraction to management of pain in neurological and musculoskeletal conditions to training of lost functional movements. Although evidence for clinical effectiveness of PES is growing, the physiological bases for such effects are not completely understood. Changes at the muscle or spinal motor neuron level include an increase in oxidative capacity, increase in number of capillaries and transformation of muscle fibre type within a muscle. Recent studies have shown that PES can also induce plastic change in motor regions of the human cortex. Corticomotor excitability, assessed by transcranial magnetic stimulation (TMS), is increased following PES at intensities sufficient to produce muscle contraction. The mechanisms responsible for the changes observed following tetanic type contractions are poorly understood. However, there is a growing body of evidence related to the effectiveness of such PES application both by itself and in combination with non invasive brain stimulation techniques like transcranial magnetic stimulation, transcranial direct stimulation, and transcranial focused ultrasound stimulation.

This talk will focus on one such peripheral electrical stimulation technique called Functional electrical stimulation (FES). FES is a methodology that uses bursts of short electrical pulses to generate muscle contraction. In one embodiment, FES technology is used as a permanent orthosis and in another embodiment, it is used as a therapeutic tool. In this presentation I will talk about the methods of FES application (second embodiment) for retraining upper extremity function, in particular reaching and grasping, in individuals with stoke and spinal cord injury, commonly used stimulation parameters, identification of patients appropriate for FES applications, indications and contraindications to FES, the results of various RCT's in stroke and spinal cord injury subjects and combination therapies using FES with non-invasive brain stimulation techniques.

SCIENTIFIC SESSION

FACULTY PAPERS [Senior category]

FACULTY PAPERS

Presenter: Dr.Trupti Siddapur

Associate Professor

PES Modern College of Physiotherapy,Pune

Comparison Between Effects of Electrical Muscle Stimulator and EMG Biofeedback on Patients with Bell's Palsy

ABSTRACT

BACKGROUND: Idiopathic peripheral facial paralysis or Bell's palsy is a lower motor neuron lesion of the seventh cranial nerve, affecting all ages and both sexes and is the most frequent cause of facial paralysis. Electrical Muscle Stimulation can be an effective method for increasing facial muscle strength. EMG Biofeedback facilitates neuromuscular retraining of facial paralysis modifying facial movement patterns.

PURPOSE: To Compare the Effects of Electrical Muscle Stimulator and EMG Biofeedback on patients with Bell's palsy.

METHOD: Patients aged between 18 to 60 years having acute idiopathic Bell's Palsy were chosen for the study, except patients with central facial palsy, recurrence, or bilateral facial palsy or with any skin disease. They were divided systematically into 2 groups – Group A and B. Group A was treated by using Electrical Muscle Stimulator while Group B was treated with EMG Biofeedback. Facial expression exercises were administered to both the groups as a conventional method. House Brackmann – Facial Nerve Grading System and Sunnybrook Facial Grading System were used as outcome measures.

RESULTS: There is no statistically significant improvement in the mean value of House Brackmann Scores and Sunnybrook Scores by using Electrical Muscle Stimulator and EMG Biofeedback with p-Value of 0.595 and 0.807 respectively.

CONCLUSION: Both the groups showed statistically significant improvement in overall outcome measures when compared within the groups. But EMG Biofeedback was found clinically better when compared between t0he groups.

KEYWORDS: Bell's Palsy, House Brackmann Scale, Electrical Muscle Stimulator, Sunnybrook Scale, EMG Biofeedback.

FACULTY PAPERS

Presenter- Dr. Sukirti Mohun
Associate Professor
Harsha Institute of physiotherapy, Banglore.

Use Of Super Inductive System Therapy In The Field Of Electrotherapy

ABSTRACT

The technology is based on a strong & high electromagnetic field that has a beneficial effect on human tissue, when this electromagnetic field generated in the applicator coil.

The therapy is based on the interaction between the high intensity EMF and human body.

Once the EMF is generated by a coil placed in the applicator, neuromuscular tissue is depolarized and muscle contraction occurs.

NEED OF THE RESEARCH:

Not much research and literature has been found on this topic so far, hence there is a need for more research.

METHODS:

Super inductive system works on the different theories of pain. sr.no Frequency Works on different theories of pain Stages of Pain.

1) 2 -10Hz Endogenous opioid theory of pain chronic pain.

2) 60-100Hz Pain Gate control theory acute & sub acute pain.

3) 120-140Hz peripheral pattern theory of pain sub acute pain.

The value of induction is in the order of 2.5 units of tesla. High-intensity electromagnetic field targets neuromuscular tissue and induces electric currents, which depolarize neurons resulting in concentric muscle contractions. The high-intensity electromagnetic field in-depth penetration and the stimulation of the entire area are resulting in anti-spastic effect.

RESULTS:

One of the previous study had done on the footballer players by Telmo Firmino, showed that out of 50 patients 46 patients got relieved, Regardless of diagnoses there was overall decrease of pain.

Recent research concludes it is also an effective and safe non-invasive method for mobility restoration and pain relief in case of joint contractures in comparison to conventional physiotherapy method.

CLINICAL IMPLICATIONS:

Modern applications of EMF are used to heal non-unions of bone fractures as it stimulate osteogenesis and to treat some bone-related conditions.

Research studies showed that it is useful therapy in the treatment for muscles strengthening, pain relief, joint mobilization, myostimulation, contractures, spasticity reduction, improve circulation, heal joints & inflammation.

CONCLUSION:

This is one of the ideal treatment, non invasive, safe & it does not require any direct contact between the skin and the applicator. It is one of the very important modality in orthopaedic and sports medicine & can be used in the rehabilitation plan.

KEY WORDS:

Super Inductive system, Electro magnetic field, Theories of pain

FACULTY PAPERS

Presenter Dr. Komal Sambhaji Gunjal
Associate Professor
Dr. APJ Abdul Kalam College of Physiotherapy, Loni

Efficacy of Transcutaneous spinal cord stimulation on Respiratory functions, trunkstability and wheelchair mobility in patient with Myelomalacia - A case study

ABSTRACT

Background:

Myelomalacia, characterized by the softening and degeneration of the spinal cord, often leads to significant motor and sensory impairments, affecting respiratory function, trunk stability, and wheelchair mobility. Transcutaneous spinal cord stimulation (tSCS) has emerged as a potential therapeutic modality to enhance motor functions in spinal cord injury patients, but its impact on individuals with myelomalacia remains underexplored.

Case Presentation:

56-year-old male operated case of cervical spine with myelomalacia. The patient presented with moderate respiratory deficits, poor trunk stability, and reduced wheelchair mobility due to spinal cord damage. After baseline assessments of respiratory function (Forced Vital Capacity and Forced Expiratory Volume in 1 sec (FEV1)), trunk stability (Trunk Control test), and wheelchair mobility (Wheelchair use confidence scale), the patient received tSCS therapy along with conventional treatment. After 3 weeks of intervention reassessment of outcome measures was performed and analysis was done.

Results:

Significant improvement was noted in Respiratory functions (15% increase in forced vital capacity (FVC) and a 10% improvement in forced expiratory volume). Trunk stability scores improved by 20%, Wheelchair mobility and wheelchair use confidence scale also showed improvement in developing patient confidence during wheelchair mobility.

Conclusion:

This study suggested that Transcutaneous spinal cord stimulation (tSCS) may be an effective, non-invasive adjunctive therapy for improving respiratory function and trunk stability and wheelchair mobility in patients with myelomalacia.

Key words:

Myelomalacia, Transcutaneous spinal cord Stimulation, Respiratory Function,Trunk Stability. Knowledge, attitude and experience of Bioethics in Physiotherapy students in Pravara.

Presenter Dr. Shrikant Sunil Sant
MGM School of Physiotherapy, Ch Sambhajinagar

FACULTY PAPERS

Knowledge, Attitude And Experience of Bioethics In Physiotherapy Students In Pravara Institute Of Medical Sciences, Loni

ABSTRACT

Background:

Ethical and moral ground of healthcare education is continuously evolving. Concurrently, the training of emerging health care professionals including Physiotherapists for ethical issues arising from regular practices is in process of evaluation. Development of comprehensive curricula for Bioethics, especially in auxiliary health professions is still a slow process and needs to be prioritized. The development of Bioethics as a integral part of Physiotherapy curriculum is still in the process in many developing countries, the nature of complexity arising from challenges for combining bioethical contents, subjective characteristics of adolescent students and professional contexts. Physiotherapy students are one of the health care professionals who are spending more time with the patients during assessment and treatment sessions, specifically in Indian education scenario, which demands best communication skills and moral behaviors. It is necessary to assess the perception and understanding of students towards importance of bioethics in health professions. This research study was designed to identify the existing circumstances for developing new curriculum for bioethics education in Physiotherapy profession.

Methodology:

Current study was a cross-sectional study, which included all Physiotherapy students from Dr. A. P. J. Abdul Kalam College of Physiotherapy, Pravara Institute of Medical Sciences (Deemed to be University), Loni, Maharashtra in India. A total of 400 subjects were selected from all academic batches of the college. A pre-validated questionnaire was used with two sections, in first section the demographic data was collected including name, age, gender, academic qualification, current level of education and academic batch, and contact details. The second section included 37 pre-validated questions in 9 specific components compromising knowledge, attitude and practice of Bioethics in Physiotherapy academics and practice. The response was analysed using Microsoft Excel software, and summarized using a descriptive statistic of percentage and frequency distribution.

Result:

312 subjects responded successfully out of 400 participants. 40 responses were not received till final date of data collection, 36 participants were absent during data collection period, and 12 participants responded partially to the questionnaire. Component of general awareness received highest positive response of participants (86.2%), Most of the responders responded that, they have functional Institutional Ethical Committee and ethical approval is seek and attached with their academic research projects. Component of Accountability and Transparency received least positive response, (59.75%), as the question about effect of research on socio-economic status of the subject received most negative response (39%).

Conclusion:

This study demonstrates that, Physiotherapy students have basic primary knowledge about Bioethics and know the importance of using it in day-to-day professional practice, but they are not aware about the actual practice or application of Bioethical principles in academic and professional practice scenarios. Which demands curricular involvement of Bioethics as a subject of study and practice in Physiotherapy profession to develop ethical attitude in upcoming Physiotherapists in India.

Keywords: Physiotherapy, Bioethics, Knowledge, Practice, Attitude

Presenter Dr. Shellette D. Almeida
School of Physiotherapy, D. Y. Patil, Navi Mumbai

FACULTY PAPERS

Effect of Matrix Rhythm Therapy on Hamstring Extensibility, Pain and Function in Individuals with Chronic Non - Specific Low Back Pain: A Randomized Control Trial

ABSTRACT

Introduction:

Hamstring tightness contributes to nonspecific low back pain (NSLBP) by altering lumbar and pelvic biomechanics, increasing stress on the spine, and exacerbating pain and disability. Matrix Rhythm Therapy (MRT), a novel approach targeting muscle oscillations, may enhance outcomes when combined with evidence-based exercises. This study evaluates the combined effects of MRT and exercises versus exercises alone in managing NSLBP.

Materials and Methods:

Fifty-two individuals with chronic nonspecific low back pain and hamstring tightness were randomized into two groups: Group A (MRT with exercises) and Group B (exercises only). Both groups underwent thrice-weekly sessions for four weeks. Outcome measures included the Active Knee Extension (AKE) test for hamstring extensibility, the Numerical Pain Rating Scale (NPRS) for pain assessment, and the Roland Morris Disability Questionnaire (RMDQ) for functional disability evaluation and were conducted at baseline and post-intervention.

Results:

Both groups demonstrated statistically significant improvements in hamstring extensibility (effect size Right leg= -2.20, left leg= -0.20, p value= 0.0001), pain (effect size= - 1.77, p value= 0.0001), and disability (effect size= -1.31, p-value = 0.0001). However, Group A exhibited significantly greater improvements in mean differences compared to Group B.

Conclusion:

Matrix rhythm therapy when combined with evidence-based exercise can be added as an effective adjunct in improving the symptoms of individuals with chronic nonspecific LBP with hamstring tightness.

Key words:

Chronic nonspecific low back pain, Matrix Rhythm therapy, Hamstring tightness, Active knee extension test, core stability exercises.

SCIENTIFIC SESSION

FACULTY PAPERS [Junior category]

FACULTY PAPERS

Presenter: Dr. Aishwarya Bhandare

Associate Professor

MGM School of Physiotherapy, Chh. Sambhajinagar

To Assess The Quality Of Life And Functional Capacity 3months After Phase 2 Cardiac Rehabilitation In Coronary Artery Bypass Graftpatients.

ABSTRACT

BACKGROUND:

The coronary artery bypass graft technique is frequently required for coronary artery disease, which is characterized by inflammation and atherosclerosis, particularly in cases with multivessel disease. Following such treatments, functional ability and quality of life are frequently impaired. Sf-12 evaluates the patient's quality of life, and DASI evaluates their functional ability.

OBJECTIVES:

To find out impact of cardiac rehabilitation phase 2 on quality of life and functional capacity in post op CABG.

METHODOLOGY:

Study design-quasi experimental, study type-experimental subjects were selected based on inclusion and exclusion criteria with convenient sampling technique subjects with post op CABG were taken SF-12 and DASI scales were taken to asses the pre and post effect of cardiac rehabilitation phase-2.

RESULT:

Student's paired t test analysis was used to examine outcome .The analysis that met statistical significance was ($p<0.05$). The mean of SF-12 physical component summary post intervention (53.18) is greater than pre intervention (26.75). The mean of SF-12 mental component summary post intervention (56.95) is greater than pre intervention (27.27). The mean DASI scale post intervention (30.71) is greater than pre intervention (13.51).

Conclusion:

The study concluded that improvement in Quality of Life and functional capacity is seen after implementing Cardiac Rehab Phase -2

KEY WORDS:

CABG, Cardiac Rehabilitation, Quality of life, Functional Capacity.

FACULTY PAPERS

Presenter: Dr. Bhagyashree Salekar
Associate Professor
MAEER MIT Pune's Physiotherapy College, Talegaon Dabhade, Pune

Pressure-Induced Short-Duration Low-Frequency Current (PISD-LFC) as a Treatment for Hemarthrosis in Severe Hemophilia A: A Case Study of a 14-Year-Old Patient

ABSTRACT

Background:

Children with severe hemophilia can experience serious challenges as a result of hemorthrosis, including joint abnormalities, chronic discomfort, and a reduced quality of life. The beneficial effects of Pressure-Induced Short-Duration Low-Frequency Current (PISD-LFC) in treating a 14- year-old boy with severe hemophilia A with hemarthrosis is examined in this case study.

Need of research:

In severe hemophiliac patients, the significance of physiotherapy remains unclear. Thus, in severe hemophiliac patients with hemomarthrosis, it is imperative to take early physiotherapy intervention into consideration. For this patient, the goal of the physiotherapy method was to relieve discomfort and facilitate functions by PISD-LFC and exercises.

Method:

Throughout the course of six weeks, a comprehensive physiotherapy protocol was constructed using PISD-LFC with crepe bandage and exercises, that included pre and post-treatment assessments. We measured quadriceps strength by 1 Repetitive Max (RM), pain level by VAS, limb girth and joint functioning by Lower Extremity Functional Scale (LEFS) and extension lag.

Results:

The PISD-LFC method showed encouraging results in reducing symptoms associated with hemarthrosis by significant improvement in joint mobility, 1 RM and LEFS scores and a significant decrease in pain levels.

Conclusions:

Children with severe hemophilia A may benefit from pressure-induced short duration low frequency current as a physiotherapeutic strategy for managing knee joint hemarthrosis.

Clinical implications:

This case offers hope for future interventions in people with comparable conditions by highlighting the value of prompt diagnosis, all-encompassing care, and frequent follow-ups in enhancing the quality of life for patients suffering from knee joint problems and hemophilia type A.

Key-words:

Hemophilia A, Electrotherapy, Hemarthrosis, knee joint, physiotherapy.

FACULTY PAPERS

Presenter: Dr. Pooja Sawairam Chungade
Associate Professor
St. Andrews college of Physiotherapy, Pune.

Enhancing Upper Extremity Function In Hemiplegic Cp: Art-Based Therapy And Fes Integration

ABSTRACT

Background and Need for Research:

Hemiplegic cerebral palsy (CP) is characterized by abnormal movement patterns, often dominated by flexion synergy, impairing upper extremity functions like feeding, dressing, and toileting, which reduce independence and quality of life. Despite various physiotherapy interventions, maintaining active participation in therapy remains challenging. Child-friendly approaches integrating sensory, motor, and cognitive stimulation are crucial for enhancing engagement, motivation, and functional recovery in upper extremity rehabilitation.

Methods:

A 12-year-old child with hemiplegic CP, exhibiting neglect of the left upper extremity and difficulty performing daily tasks, participated in a six-week intervention. Therapy sessions were conducted three times per week, each lasting 45 minutes. The intervention included art- based play therapy combined with Functional Electrical Stimulation (FES). Sessions began with myofascial release and stretching, followed by Art based play therapy with conventional physiotherapy exercises.

Results:

The Quality of Upper Extremity Skills Test (QUEST), with a reliability of 0.84, was used to assess pre- and post-treatment outcomes. Post-treatment scores showed a significant increase from 23.42 to 68.30, reflecting notable improvements in dissociated movements, grasp strength, and weight-bearing capacity, indicative of enhanced motor function and reduced neglect of the affected upper limb.

Conclusion:

Art-based play therapy combined with FES effectively improves upper extremity function and movement quality in children with hemiplegic CP, promoting engagement and addressing motor, sensory, and cognitive deficits.

Implications:

Child-friendly therapies that combine play and rehabilitation enhance motivation, participation, and functional outcomes, providing an effective approach to improving quality of life in children with CP.

Keywords:

Art based play therapy, FES, Cerebral Palsy.

Ethical Approval:

Written consent has obtained from the patient's parent

FACULTY PAPERS

Presenter: Dr. Amruta Khilwani
Associate Professor
St. Andrews College of Physiotherapy, Pune

Influence of Spinal Exercises as an Adjunct to Conventional Physiotherapy on Pain and Functional Mobility in Chronic Knee Osteoarthritis

ABSTRACT

Background and Need for Study:

Knee osteoarthritis (OA) is one of the chronic problems affecting older people that causes pain and physical disability that impairs functional impairment of the knee OA patients significantly. As there is interconnection between the spine and knee, most of the patients with knee OA experiences spinal muscle weakness. So the aim of the study is reduce the pain and improve functional mobility of participants using spinal exercises.

Method:

In the study, Sample size was 70 which were further divided into 2 groups each containing 35 participants by simple consecutive sampling method. Group A was given spinal exercises along with SWD and conventional knee exercises. Group B given only SWD and conventional knee exercises.

Result:

Paired and unpaired t-test were used for statistical analysis. In pre intervention, there was no statistically significant difference seen in p values for VAS which was 0.7685,WOMAC was 0.3924 and SPBFU was 0.7792. On comparing the post intervention score, the results showed extremely significant difference was seen with p-value for VAS, WOMAC and SPBFU which was <0.0001 respectively.

Conclusion:

The study concluded that spinal exercises along with SWD and conventional knee exercises was more effective in decreasing the pain and improving functional mobility in subjects with chronic knee osteoarthritis.

FACULTY PAPERS

Presenter: Dr. Kruti Thakkar
Assistant Professor
SPB Physiotherapy College, Surat, Gujarat

The Impact of Electric Lumbar Traction on Postural Balance and Gait speed in Elderly with Lumbar pathology: An Experimental study

ABSTRACT

Background:

As the global population ages, maintaining postural balance in the elderly becomes crucial to prevent falls and related injuries. This study investigates the impact of electric lumbar traction on postural balance and gait speed in elderly patients with lumbar pathologies.

Objective:

To assess the effectiveness of electric lumbar traction in improving postural stability, as measured by the Berg Balance Scale (BBS) and Timed Up and Go (TUG) test, in elderly individuals at risk of falls.

Methods:

A quasi-experimental study was conducted with 55 elderly participants with lumbar pathologies and self-reported balance issues. Participants underwent electric lumbar traction therapy three times weekly for four weeks. Outcome measures (BBS and TUG) were collected at baseline and post-intervention to assess changes in postural balance and functional mobility. Paired t-tests were used to analyze pre- and post-intervention differences, and effect sizes were calculated to gauge the intervention's impact.

Results:

The intervention led to statistically significant improvements in BBS scores (Pre: 36.93±2.77; Post: 44.47±2.62, $p < 0.001$) and TUG times (Pre: 16.03±1.52 seconds; Post: 13.69±0.99 seconds, $p < 0.001$), with large effect sizes for both BBS (Cohen's $d = 2.79$) and TUG (Cohen's $d = 1.82$). These findings suggest notable improvements in both balance and mobility.

Conclusion:

Electric lumbar traction therapy significantly improved postural stability and mobility in elderly patients with lumbar pathologies. This non-invasive intervention could potentially reduce fall risk and enhance functional independence among elderly patients. Further research with larger samples and control groups is recommended to confirm these findings and optimize intervention protocols.

Keywords:

Electric lumbar traction, postural balance, elderly, Berg Balance Scale,
Timed Up and Go test, fall prevention.

P.hd PAPERS

Presenter: Dr. Isha Akulwar [Phd]
Associate Professor
K. J. Somaiya College of Physiotherapy, Mumbai

Clinical utility of strength-duration curve in facial nerve palsy: A scoping review

ABSTRACT

Background and need for research:

Electrodiagnostics is a well-established and important tool for decision making in peripheral nerve lesions. Nevertheless, many clinicians do not routinely use facial nerve electrodiagnostics. This may be due to a current lack of agreement on methodology, interpretation, validity, and clinical application. Present study was conducted to reappraise the diagnostic and prognostic utility of the strength-duration curve (S-D curve) in facial nerve palsy. Further, the role of the S-D curve as a decision making tool for surgical exploration is discussed.

Methods:

A scoping review was conducted using electronic databases, and the findings are presented as a narrative summary with key themes.

Result:

Electrophysiological analyses using S-D curve of the facial nerve and the mimic muscles yield quantitative and qualitative information that can be used to estimate the type and degree of facial nerve damage; and potential for recovery, guiding early intervention decisions in therapeutic and surgical contexts. Some methodological issues such as variability in techniques and interpretative challenges are identified.

Conclusion and Clinical implications:

Available literature suggests that S-D curve is a versatile tool with potential utility for diagnosis, prognosis, monitoring recovery and treatment efficacy in facial nerve palsy. However, it is a less employed technique and lacks high-quality evidence supporting its routine application. This scoping review highlighted the significance of S-D curve in supporting clinical judgement when predicting the outcome of facial nerve paralysis. While summarising its applications, strengths, and limitations; this review outlined future directions to enhance the utility of S-D curve in clinical practice.

Key words:

Strength-duration curve, facial nerve palsy, electrodiagnosis

P.hd PAPERS

Presenter: Dr. Manish Shukla [Phd]
Professor and HOD
Datta Meghe College of Physiotherapy, Nagpur, Maharashtra

Reference Value for Modified Shuttle Walk Test in Healthy Indian young Adults: A cross sectional study

ABSTRACT

Background:

Exercise capacity is a critical health indicator, with the Modified Shuttle WalkTest (MSWT) emerging as a reliable field test. However, region-specific reference values are essential for accurate assessment, particularly in populations with limited data.

Need of Research: The absence of MSWT reference values for healthy Indian young adults creates significant challenges in clinical assessment, athletic performance evaluation, and exercise prescription. Establishing normative data specific to this demographic is crucial for:

Providing essential baseline information Identifying physiological variations
Developing culturally relevant fitness benchmarks

Methodology: A cross-sectional observational study involving 230 healthy Indian young adults (18-25 years), stratified into three age groups. Participants underwent MSWT, measuring walking distance, cardiovascular and respiratory responses.

Results: Significant age-related improvements were observed: Anthropometric Progression: MSWT Distance: 651.2 m (Group 1) → 684.9 m (Group 2) → 712.5 m (Group 3)

Key findings revealed:

Statistically significant performance improvements with age Positive correlation between height and walking distance Progressively enhanced cardiovascular and respiratory responses.

PG STUDENT

Presenter: Dr. Dhruvi Satra [PG]

APJ Abdul Kalam College of Physiotherapy, Loni

Effects of Chest and Limb Physiotherapy along with Mindfulness Meditation, in promoting early discharge from the ICU, in a patient with Intermediate Syndrome: A Case Study

ABSTRACT

Background:

Organophosphorus poisoning (OP) is a serious issue that can be fatal, particularly in underdeveloped nations like India. Intermediate syndrome, which results in respiratory and proximal limb muscle weakening and ultimately respiratory failure, is the primary cause of morbidity from OP poisoning. Delays in instituting ventilatory care often result in death. Thus, IMS patients need extensive mechanical ventilators and ICU stays. These patients develop secondary complications like DVT, edema in limbs, atelectasis due to accumulation of secretions in lungs, and ICU-acquired weakness due to prolonged ICU stay.

Weaning the patient from mechanical ventilator is often very difficult due to respiratory muscle weakness. Patients are often very anxious and agitated when they have to stay in ICU for a longer duration of time.

Aim:

This case study aimed to study the Effects of Chest and Limb Physiotherapy along with Mindfulness Meditation in promoting early ICU discharge in a patient with Intermediate Syndrome.

Case description:

A 36-year-old Farmer was admitted to medicine ICU as he had consumed Tafgor compound under the influence of alcohol. He was diagnosed with OPC poisoning followed by IMS. He was intubated and was on ventilator.

Procedure:

A structured treatment protocol was set for this patient, including chest physiotherapy, limb physiotherapy, and mindfulness meditation. It was administered for 1 week. Pre- and post-assessment was done by Chelsea Critical Care Physical Assessment tool, RASS, and by observing the Weaning of Ventilator. There was a remarkable difference in the pre-and post-values of the patient.

Conclusion:

Our study concluded that a combination of PT interventions, including Chest PT and Limb PT, along with mindfulness meditation, proved beneficial in promoting early discharge from the ICU in a patient with Intermediate syndrome secondary to OPC poisoning.

Keywords:

Intermediate Syndrome, OPC poisoning, Chest PT, Limb PT, mindfulness meditation, RASS.

Presenter: Fatimah Atharuddin Kazi [PG]
Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Effects of the Tyler Twist Technique Versus Active Release Technique on Pain and Grip Strength in Patients With Lateral Epicondylitis

ABSTRACT

Lateral epicondylitis also known as tennis elbow can be caused by repeated wrist and forearm movements. Treatment strategies have evolved significantly to treat tennis elbow, ranging from simple exercises to the use of various electrotherapy modalities. Soft-tissue release treatments such as myofascial release and active release techniques (ARTs) have also been tested. Better therapeutic approaches for chronic lateral epicondylitis remained a point of contention until recently when additional therapy alternatives became available. The purpose of this study was to investigate and assess the physiotherapy alternatives for lateral epicondylitis.

We did a comparative study between the Tyler twist technique and the ART in patients suffering from lateral epicondylitis. This study included 30 individuals based on inclusion and exclusion criteria. Group A patients were taught the Tyler twist technique exercise along with conventional therapy. Patients in group B were treated with ART and conventional therapy. Descriptive and inferential statistics were used in the statistical analysis. A total of 30 subjects with lateral epicondylitis were included. Participants were randomly distributed into two groups, that is, 15 in each group. Group A was the Tyler twist technique group and group B was the ART group. The treatment was given in four sessions each week for three weeks. The pain reduced from 5.8 to 2 after the Tyler twist technique in group A and 5.53 to 3.46 after the ART in group B. On comparative analysis, the post-treatment mean grip strength of the Tyler twist technique group was 24.13 kg and that of the ART group was 21.33 kg. The p-value was statistically significant with a value of 0.0001. The Tyler twist technique was more effective in improving the grip strength than ART.

Presenter: Dr. Rahul Haridas [PG]
Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Effectiveness of Action Observation Therapy Versus Mirror Therapy for Improving Hand Dexterity in Stroke Survivors

ABSTRACT

Background:

Stroke is a leading cause of motor impairment, with hand dexterity often significantly affected in subacute hemiplegic stroke survivors. Rehabilitation during the subacute phase is crucial for recovery. Action Observation Therapy (AOT) and Mirror Therapy (MT) are two neuro-rehabilitation methods aimed at improving motor functions through activation of the mirror neuron system.

Methods:

This quasi-experimental study compared the effects of AOT and MT on hand function and dexterity in 20 subacute stroke patients, randomized into two groups. Both groups underwent conventional therapy, with additional AOT or MT interventions for 25 minutes per session, 5 days a week, for 4 weeks. Pre- and post-intervention assessments were conducted using the Action Research Arm Test (ARAT) and the Fugl-Meyer Upper Extremity (FMA-UE) motor score.

Results

Both therapies significantly improved outcomes within groups. Group A (AOT) showed higher mean improvements in ARAT (pre: 3.75, post: 28.8) and FMA-UE (pre: 11.9, post: 34.9) compared to Group B (MT) with ARAT (pre: 4.1, post: 22.4) and FMA-UE (pre: 8.92, post: 29.6). Intergroup analysis revealed that AOT had superior effects on hand function and dexterity ($p < 0.05$).

Conclusion

AOT demonstrated a greater impact than MT in enhancing hand dexterity and function in subacute stroke patients. The findings highlight the potential of AOT as a primary therapy in neuro-rehabilitation, emphasizing its active engagement of motor imagery and execution circuits for neuroplasticity. Further studies are recommended to validate these results on a larger scale.

Presenter: Dr. Pradnya Tele [PG]

Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Additive Effect of Modified Constraint Induced Movement Therapy Along with Electrical Stimulation on Upper Limb Function in Chronic Stroke Patients.

ABSTRACT

Aim:

To study the additive effect of modified constraint induced movement therapy along with electrical stimulation by using Fugl Mayer scale on upper limb function in chronic stroke patients at the end of 3 weeks.

Objective:

To Assess the additive effect of modified constraint induced movement therapy along with electrical stimulation by using Fugl Mayer scale on upper limb function in chronic stroke patients at the end of 3 weeks.

Methods:

This experimental study involved 36 chronic stroke patients, aged 40–70 years, randomly divided into two groups: Group A received conventional physiotherapy (stretching and functional strength training), while Group B received conventional physiotherapy combined with mCIMT and ES. Both interventions were administered for 5 days per week over 3 weeks. Pre- and post-intervention assessments were conducted using the FMUE scale. Statistical analysis was performed using paired and unpaired t-tests.

Results:

Both groups demonstrated significant improvements in upper limb function ($p < 0.05$). Group B showed greater improvements compared to Group A, with post-treatment mean FMUE scores of 37.05 ± 5.52 (Group B) and 28.95 ± 4.74 (Group A). The combined approach of mCIMT and ES demonstrated superior efficacy in enhancing motor recovery and overcoming learned non-use of the affected limb.

Conclusion:

This study concluded that both group shows significant difference but, additive effect of modified constraint induced movement therapy along with electrical stimulation with conventional physiotherapy is highly significant after 3 weeks for improving upper limb function in chronic stroke patients. The results showed significant improvements in motor recovery and functional independence, as measured by the Fugl-Meyer Upper Extremity (FMUE) scale.

Keywords:

Chronic Stroke, Electrical Stimulation, Fugl-Meyer Scale, Modified Constraint-Induced Movement Therapy (mCIMT), Upper Limb Function.

Presenter: Dr. Aditi Devangare [PG]

Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Immediate Effect of Active Cycle of Breathing Technique Verses Autogenic Drainage Combined With Inverse Ratio Breathing On Pulmonary Function, Breathlessness And Chest Expansion In Chronic Obstructive Pulmonary Disease

ABSTRACT

Background:

Global initiative of chronic obstructive lung disease (GOLD) 5 defined COPD. as "a disease state characterized by air flow limitation that is not fully reversible".

Method:

A experimental comparative study was conducted on 40 COPD patients. One group (20) received Active cycle of breathing(ACBT) with inverse ratio breathing and other group (20) received autogenic drainage(AD) with inverse ratio breathing. PFT , intensity of breathlessness and chest expansion were assessed by spirometer, VAS scale and by inch tape before and after the intervention.

Result:

ACBT with inverse ratio breathing is statically significant in improving the chest expansion ,autogenic drainage with inverse ratio breathing technique is statically significant in improving FEV1,and FVC. But both the techniques are statically significant in reducing the intensity of breathlessness.

Conclusion :

ACBT with inverse ratio breathing technique is effective in improving the chest expansion. The study concluded that AD with inverse ratio breathing technique is effective in improving FEV1, FVC. And both the techniques i.e. ACBT with inverse ratio breathing and AD with inverse ratio breathing both are effective in reducing the breathlessness .

Key words:

Active cycle of breathing technique, Autogenic drainage, COPD , Inverse ratio breathing.

Presenter: Dr. Akshaya Hembade [PG]

Dr. APJ Abdul Kalam College of Physiotherapy, Loni

Post Gradate PAPERS

Effect of Transcutaneous Electrical Nerve Stimulation (TENS) on Pulmonary Function Following Thoracic Surgery: A Systematic Review

Background:

Thoracic surgery often causes postoperative pain and respiratory complications. TENS, a non- pharmacological pain management method, may improve pulmonary function by reducing pain- related breathing restrictions. While studies show mixed results, a systematic review is needed to clarify TENS's effectiveness in enhancing respiratory outcomes in post-thoracic surgery

AIM /OBJECTIVE:

This study aims to systematically evaluate and synthesize the existing evidence on the impact of TENS therapy on pulmonary function following thoracic surgery.

Method:

A Systematic Review was conducted on 16 articles using different databases such PubMed, Google Scholar, Science Direct, and Web of Science. The articles were identified, sorted, and screened according to specific inclusion and exclusion criteria. Afterward, the studies were assessed for quality.

Result:

This review of 16 studies Among these, 7 studies were RCTs, while the remaining 9 consisted of various study designs, including cohort and observational studies shows that TENS significantly improves postoperative pulmonary function after thoracic surgery. TENS reduces pain, enhances lung expansion, and improves respiratory outcomes, with RCTs reporting significant gains in forced vital capacity (FVC) and forced expiratory volume (FEV1).

Conclusion:

Transcutaneous Electrical Nerve Stimulation (TENS) has been shown in studies to enhance pulmonary function following thoracic surgery by lowering discomfort, increasing deeper breathing, and minimizing problems. However, further research is needed to see the impacts.

Clinical Implication TENS offers effective pain management, improves pulmonary function, reduces opioid use, and supports safer recovery after thoracic surgery, warranting further research.

Keywords:

Transcutaneous Electrical Nerve Stimulation, Thoracic surgery, improves pulmonary function.

Presenter: Dr. Simran Pathan [PG]

Maharashtra Institute of Physiothearpy College,Latur

Post Gradate PAPERS

Prevalence of Carpal Tunnel Syndrome among Dentist in Latur city

ABSTRACT

Background:

Musculoskeletal disorders affect the musculoskeletal system, including nerves, tendons, and muscles. Repetitive wrist movements, static positions for long hours, and the use of vibrating dental instruments can lead to irritation and inflammation, resulting in carpal tunnel syndrome (CTS). This condition causes numbness, prickly sensations, and pain in the thumb, index, and middle fingers. Many dentists may retire early or reduce their working hours due to CTS, which is a significant cause of work-related disability. Thus, there is a need to raise awareness among dentists about the risk factors of their profession. This study aims to investigate the prevalence of CTS among dentists who practice for at least 5 to 6 hours daily.

METHOD:

In this Consecutive study, 109 subjects [dentists] were taken with working for 5 to 6 hours per day between age group 25 to 45 years, which consisted 60% female and 49% male. Phalen's test was performed.

RESULT:

The results showed that Phelan's test was positive for CTS in 17.43 % of individuals.

CONCLUSION: This study found a 17.43% prevalence of carpel tunnel syndrome in dentists who worked 5 to 6 hours per day.

Keywords: Dentist, Carpel tunnel syndrome, Phalen's test.

Presenter: Dr. Pratik B. Dhumal [PG]

Maharashtra Institute of Physiothearpy College,Latur

Post Gradate PAPERS

Physical, psychological, and social health of information technology-based work-from-home employees- a cross-sectional survey

ABSTRACT

The study aimed to assess the physical, psychological, and social health of a work-from-home population. A total of 208 participants were included in the study, with a mean age of 24.89 years. The McGill and WHOQOL questionnaires measured physical, psychological, and social health, respectively. The results showed that working from home has a moderate impact on overall health, with the psychological health domain being most affected. Physical health problems due to working from home include sitting or being sedentary, less physical activity, overeating or less healthy eating, and less medical care than usual. Psychological health problems include more time on screens, an increase in mental health problems, and sleep problems. Social health problems include difficulty engaging in enjoyable activities and being separated from family and friends. The study highlights the need for appropriate resources and support for workers who are working from home to maintain their physical, psychological, and social health.

Keywords:

WHOQOL, McGill QOL, physical health, psychological health, social health, work.

Presenter: Dr. Harshal Rajput [PG]
MGM School of Physiotherapy, Chh. Sambhajinagar

Post Gradate PAPERS

Rehabilitation For Posterior Interosseous Nerve Syndrome And Post-Operative Elbow Stiffness: A Case Study

ABSTRACT

Background:

Posterior interosseous nerve (PIN) syndrome is a condition that affects the forearm's extensor muscles, often presenting with weakness and reduced coordination in finger and thumb movements. This condition is commonly associated with injury or trauma, as seen in this case study involving a 34-year-old female with PIN syndrome following a fracture.

Need for Research:

There is limited research on the efficacy of physiotherapy in treating PIN syndrome and associated postoperative elbow stiffness. This case study explores the potential benefits of targeted physical therapy interventions to improve strength, mobility and functionality in patients with this condition.

Methods:

The patient underwent a supervised physiotherapy regimen, including transcutaneous electrical nerve stimulation (TENS), surge faradic stimulation, active and passive range of motion exercises, manual therapy, and cognitive-behavioral therapy for psychological support. Progress was monitored using outcome measures like the DASH score and hand dynamometry.

Results:

After three weeks, the patient demonstrated notable improvement in strength, joint mobility, and functionality, with increased range of motion across multiple joints. DASH and dynamometry scores also showed positive changes.

Conclusion:

Targeted physiotherapy, including neuromuscular and cognitive interventions, proved beneficial for the patient's recovery, emphasizing the role of a multidisciplinary approach in managing PIN syndrome.

Clinical Implications:

This case highlights the importance of early and structured physiotherapy in enhancing post-surgical outcomes in PIN syndrome patients. The treatment protocol employed may serve as a guideline for similar cases, underscoring physiotherapy's critical role in postoperative recovery.

Presenter: Dr. Shruti Sitap [PG]
MGM School of Physiotherapy, Chh. Sambhajinagar

Post Gradate PAPERS

Drawing The Effectiveness Of Scapular Proprioceptive Neuromuscular Facilitation Techniques In Rectification Of Scapular Dyskinesis In Chronic Neck Pain: A Randomized Controlled Trial

ABSTRACT

Background:

Chronic neck pain often leads to scapular dyskinesis, causing further pain and decreased functionality. Traditional treatments have limited impact on scapular alignment in these patients, making the evaluation of alternative approaches essential. This study examines the effectiveness of scapular proprioceptive neuromuscular facilitation (PNF) techniques in improving scapular positioning and alleviating symptoms in chronic neck pain patients.

Need for Research:

Scapular dyskinesis is prevalent among individuals with chronic neck pain, contributing to muscular imbalances and reduced proprioception. Existing literature lacks comprehensive evaluations of scapular PNF techniques specifically for chronic neck pain, which could fill a critical gap in treatment strategies and improve patient outcomes.

Methods:

A randomized controlled trial involving 42 participants divided into two groups was conducted. Group A received scapular PNF interventions (e.g., rhythmic stabilization and slow reversal) combined with stretching, while Group B received standard treatments only. Both groups underwent four weeks of treatment, with pre- and post-intervention assessments recorded using pain and disability scales.

Results:

Group A showed significantly greater improvement in pain reduction and functional outcomes compared to Group B. The PNF intervention led to notable improvements in scapular alignment, as evidenced by enhanced scores on the Numeric Pain Rating Scale and Neck Disability Index.

Conclusion:

Scapular PNF techniques are effective in reducing pain and improving function in chronic neck pain patients with scapular dyskinesis.

Clinical Implications:

Integrating scapular PNF techniques could be valuable for rehabilitation programs targeting neck pain and scapular alignment This approach offers a promising therapeutic option to address the musculoskeletal imbalances associated with chronic neck pain.

Presenter: Dr. Sunidhi Shinde [PG]
Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Immediate effect of Maitland Mobilization versus Muscle Energy Technique on Non-specific neck pain associated with forward head posture in auto drivers

ABSTRACT

Objective:

Immediate effect of Maitland Mobilization versus Muscle Energy Technique on non-specific neck pain associated with forward head posture in auto drivers.

Design: Simple Random Sampling.

Methodology:

A total 45 patients were included as per pre-define inclusion and exclusion criteria and randomly assigned into two groups each having 20 patients. Group A was given Maitland Mobilization (Anteroposterior and Posteroanterior Glide) while Group B was given Muscle Energy Technique (Sub occipital Muscle Release) for once. The patient' outcome measures were assessed by visual analog scale and measurement of craniovertebral angle with ON Protractor smartphone application. Pre and Post treatment values were recorded for comparison of results.

Results:

Results revealed that means and S. D. of both group were clinically significant but statically the group of the patients treated with Group A MM managed pain CVA (pre= 45.66 ± 3.72, post= 45.66 ± 3.72), VAS (pre= 6.75 ± 1.29, post= 2.45 ± 1.92) is better than group B of patient treated with Muscle Energy Technique in terms of pain. On CVA (pre= 47.09 ± 1.66, post= 49.48 ± 1.44) on VAS (pre= 6.4 ± 1.31, post= 4.7 ± 1.21).

Conclusion:

The result of study suggest that both the Maitland Mobilization and Muscle Energy Technique improves the symptoms of neck pain. Better improvement was shown by Maitland Mobilization group than Muscle Energy Technique group. Based on these results Maitland mobilization should be the treatment choice for non-specific neck pain associated with forward head posture.

Presenter: Dr. Vishal Lature [PG]
Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Prevalence of Work-Related Musculoskeletal Disorders in Construction Workers

ABSTRACT

Background:

Musculoskeletal Disorders (MSDs) affect nerves, tendons, muscles, and supporting structures in the body, often arising from increased physical workload at work.

These disorders are a significant cause of employee disability and lost wages, influenced by factors such as equipment, physical activity, and workplace environment.

Methodology:

Sixty subjects aged 35 to 55 participated in the study, all having over two years of work experience and working at least five hours a day. They completed a Nordic scale questionnaire, marking areas of pain, which was recorded in Excel for data analysis.

Results:

The prevalence of 78% was obtained in construction workers. The most common part involved is the lower back with 28.3% which is followed by knees and neck which are 23.3%. The least affected are elbows and thighs.

Conclusion:

The lower back is primarily affected by muscle spasms and wear and tear, leading to conditions like spondylosis. Knees and ankles are also impacted by prolonged poor posture. In contrast, elbows and thighs are least affected due to less weight-bearing stress. Shoulders, upper back, wrists, and ankles experience moderate levels of musculoskeletal disorders.

Keywords:

Nordic Scale questionnaire, NPRS scale, Pain, Work-related musculoskeletal Disorders.

Presenter: Dr. Gauri Sorty [PG]
Maharashtra Institute of Physiotherapy, Latur

Post Gradate PAPERS

Prevalence of Musculoskeletal Disorders and Ergonomical Risk Among Sweepers

ABSTRACT

Background:

Sweeper job involves a lot of hard work using musculoskeletal function in various sustained positions, carrying weight and repetitive movement. These leads to chances of musculoskeletal disorders (MSDs). Work related safety and health hazards are a major public health concern worldwide.

Method:

79 subjects were recruited using a convenient sampling method. The study was approved by institutional ethical committee and all the subjects signed an informed consent from. Data on musculoskeletal disorders were collected using the Nordic musculoskeletal questionnaire, and ergonomic risk was assessed by the Rapid Entire Body Assessment (REBA) worksheet

Result:

Prevalence of musculoskeletal disorder among sweepers was 77.22% and ergonomic risk among sweepers was 64.56% (medium risk) and 34.18% (high risk).

Conclusion:

The prevalence of the MSDs was high among the sweepers especially in lower back and knees. They can be educated about ergonomics to see if that prevents repetition or aggravation of pain.

Key words:

Nordic musculoskeletal questionnaire, Musculoskeletal disorders, REBA employee assessment worksheet.

Presenter: Dr. Shriya Sahastrabuddhe [PG]
CMF's College of Physiotherapy, Pune

Post Gradate PAPERS

Effect Of Wim Hof Breathing On Blood Pressure, Sleep Quality In Chronic Kidney Disease Patients - A Randomised Controlled Trial

ABSTRACT

Background:

Physiotherapy plays a role in chronic kidney disease patient; stress starts from the movement patients are diagnosed. Hypertension and chronic kidney disease are closely interlinked pathological states. Decrease in quality of sleep is common in individuals having chronic kidney disease. Any form of relaxation technique reduces the stress and anxiety of the patients. Therefore, this study focuses to compare the effect of WIM Hof breathing with the conventional method on the blood pressure and quality of sleep.

Method:

The study was randomized controlled trial, 42 samples were collected by convenient sampling. Age group between 35- 65 years diagnosed with chronic kidney disease, were scored on Pittsburgh sleep quality index for sleep quality and sphygmomanometer was used for blood pressure. Patients were screened to meet the inclusion and exclusion criteria. Conventional protocol along with WIM Hof breathing was given for 3 cycles, once daily for 1 week.

Result:

On comparing the experimental and control group, significant result was seen in within the groups of experimental group (p value<0.05) than the control group. But on comparing between the group both the group shows significant result.

Conclusion:

The study concludes that WIM Hof breathing along with conventional physiotherapy is effective in improving the blood pressure and sleep quality in chronic kidney disease patients.

Keywords:

Wim Hof Breathing, Blood Pressure, Sleep Quality, Chronic Kidney Disease Patients.

POSTER PRESENTATION

FACULTY PAPERS [Junior category]

POSTER PRESENTATION

Presenter: Dr. Samruddhi Murkey

Assistant Professor

Rashtrasant Janardhan Swami College of Physiotherapy, Kopargao

The Prevalence of Depression, Anxiety And Stress Among Perimenopausal Women

ABSTRACT

Background:

Estrogen, a crucial hormone for women, begins to decrease throughout the perimenopause. Menopause-related symptoms, such hot flashes or irregular periods, can start to appear.

Objective:

This study was conducted for the purpose of determining the prevalence of Depression, Anxiety and Stress in perimenopausal women.

Methods:

A community-based sample of 285 women for the age group 42 to 48 years, who were living in Ahmednagar, Maharashtra was recruited in this cross-sectional study. An information form that included questions on descriptive characteristics and lifestyle variables of cases, the Depression Anxiety Stress Scale (DASS21) Questionnaire were administered to each woman in the sample.

The data were collected through personal interviews with women at hospital between August and October 2024.

Results:

The results show 25.26% women was having stress in there perimenopausal period, whereas 41.4% experienced depression and 33.33% women was having anxiety in perimenopausal period. Difficult to relax was the most frequent answer in perimenopausal women. Also, this study has purported the results with women complaining of feeling lack of energy and weight gain.

Conclusions:

There is a high level of prevalence of Depression, Anxiety and Stress in perimenopausal women. It will help physiotherapists to intervene early and reverse the condition before excessive harm is done. Hence, physical activity or, even better, exercise may be one strategy to offset some of these negative consequences.

Keywords:

Perimenopausal Women, Depression, Anxiety, Stress.

UG CATEGORY

POSTER PRESENTATION

Presenter: Mrunal Kortikar (UG)

SSCOP, Solapur

Trans cranial Direct Current Stimulation and its effects on motor function recovery in post Stroke patients

Introduction:

Transcranial Direct Current Stimulation (tDCS) is a non-invasive, painless brain stimulation technique that applies low-intensity direct current to specific areas of the brain. tDCS involves passing a weak direct current (typically 1-2 milliamps) through the brain using electrodes placed on the scalp. The current flows from the anode (positive electrode) to the cathode (negative electrode), modulating neural activity in the targeted region.

Post stoke consequences included sensory motor and cognitive impairments impose a stress full situations and great burden to the victims and their families and society.(andrea Gomez et al (2013).

Among extensive efforts devoted to the search for more effective rehabilitation therapies of stroke the instead using electricity can be traced back almost a century ago. Recent finding suggest that tcDCS may be beneficial in wide range of disorders such as epilepsy, Parkinson's disease, chronic pain, depression etc. the modulation of cortical excitability by tcDCS has gain Particular interest because of its beneficial neuro rehabilitative effects after stroke.

It has been suggested that increase general cortical excitability as well as modification in synaptic plasticity increments in calcium currents and activation of neurotrophic factors in the affected hemisphere are relevant mechanisms for stroke recovery.

Mechanism of action:

tcDCS works by modulating the excitability of neuros in the brain through an electric current. Anodal Stimulation: Increases cortical excitability by depolarizing the neuronal membrane making neurones more likely to fire. This is often used to stimulated the affected brain hemisphere in stroke patients. Cathodal stimulation: decrease cortical excitability by hyper polarizing neurons making them less likely to fire. This may be applied to the unaffected hemisphere to reduce its over activity which can inhibit recovery in the affected hemisphere.

Methods:

Key Components:

Electrodes: Typically, saline-soaked sponge or rubber electrodes.

Stimulator: Device delivering the direct current.

Current intensity: Usually 1-2 milliamps (mA).

Duration: Typically, 20-30 minutes per session.

Frequency: Usually single sessions or repeated sessions (e.g., daily or weekly).

Electrode Placements:Anode Placement: on the premotor cortex

Cathode placement: on the forehead (to Complete the circuit)

Benefits: of tcDCS:

The benefits are Non-invasive, painless, portable, and cost effective

Side Effects:

The side effects are Mild headaches, Skin irritation, Fatigue and Emotional changes (rare)

Contraindications:

Pacemakers or implantable cardioverter-defibrillators, Metal implants in the head or neck, Severe psychiatric conditions, History of seizures.

Motor function recovery on stroke patients:

The three major mechanisms of neurophysiological effects induced by tcDCS include (a)improvements in regional cerebral blood flow , (b) facilitation of synaptic efficacy, and (c) expression of neurotrophic factors. number of studies have investigated the consequences of anodal tDCS in stroke recovery.

Focusing on motor performance in subacute poststroke patients, Kim et al. applied anodal tDCS to the ipsilesional cortical region of ten subacute stroke patients approximately 12 weeks after the infarct. In these patients anodal tDCS significantly improved motor performance with an interesting poststimulation effect.

We conclude that the transcranial direct current stimulation has significant effect on motor recovery in post stroke patients. We can include the tcDCS in our therapeutic regime along with exercise will benefit the motor recovery in post stroke patients.

PG CATEGORY

POSTER PRESENTATION

Presenter: Dr. Aditi D. Pansare [PG]

Dr. A.P.J.A.K. College of Physiotherapy,Ahmadnagar

Case Study: Exploring the Efficacy of Iontophoresis in Reducing Spasticity in a Paraplegic Patient with Spinal Cord Injury

Background:

Spasticity is a common and debilitating condition in paraplegic patients with spinal cord injury (SCI), impairing mobility and independence. Traditional treatments offer limited relief. Iontophoresis, a non-invasive technique using electrical currents to deliver medication, has shown potential in reducing spasticity but is under-explored in SCI patients.

Need of the Study:

This study aims to evaluate the effectiveness of iontophoresis administered by electrical muscle stimulation in reducing spasticity and improving functional independence in a paraplegic SCI patient.

Methodology:

A 32-year-old male with ASIA T6 complete SCI underwent dantrolene sodium iontophoresis via EMS for 1 month. Spasticity, functional mobility, and quality of life were assessed using the Modified Ashworth Scale, Functional Mobility measure, and SCI-QOL scale.

Results:

6 After 1 month of treatment, MAS scores showed a mild reduction from 3 to 2. Functional mobility and FIM scores showed limited improvement, with FIM rising from 45 to 48. A modest increase in SCI-QOL scores indicated a slight improvement in quality of life.

Conclusion:

Iontophoresis with EMS resulted in limited improvements in spasticity reduction and functional outcomes in this paraplegic SCI patient within 1 month.

Clinical Implications:

While iontophoresis with EMS may provide some benefit, the limited improvements suggest it may be most effective as an adjunct therapy rather than a standalone treatment for spasticity management.

Keywords:

Spinal Cord Injury, Spasticity, Modified Ashworth Scale, Functional Mobility, Functional Independence Measure, SCI-QOL.

Presenter: Dr. Radhika Sarda [PG]
Dr. A.P.J.A.K. College of Physiotherapy,Ahmadnagar

POSTER PRESENTATION

Evaluating the Impact of Neuromuscular Electrical Stimulation on Swallow Rehabilitation in Post-Stroke Patient: A Case Study

Background:

Dysphagia, a common post-stroke condition, affects swallowing efficiency and safety, and decreased quality of life. Neuromuscular electrical stimulation is an emerging therapy designed to restore swallowing function by stimulating weakened muscles, improving neuromuscular coordination, and enhancing rehabilitation outcomes.

Need of the Study

Despite promising preliminary evidence, the clinical utility of NMES remains underexplored, particularly with objective tools like the Mann Assessment of Swallowing Ability (MASA). This study investigates the efficacy of NMES to provide further evidence for its application in post-stroke dysphagia management.

Methodology

A 65-year-old male, three months post-stroke, presented with moderate dysphagia. NMES was applied to the suprahyoid and pharyngeal muscles in 30-minute sessions, three times weekly, over four weeks. Assessments included MASA, Functional Oral Intake Scale (FOIS), and Swallowing Quality of Life (SWAL-QOL).

Results

MASA Improved slightly from 130(moderate dysphagia) to 140 (mild dysphagia). FOIS Advanced from Level 3 (significant modifications) to Level 4 (diet requiring some modification). SWAL-QOL Scores increased modestly by 15%, reflecting a slight enhancement in quality of life.

Clinical Implication

This case underscores the value of NMES in enhancing swallowing function and promoting safer oral intake in post-stroke patients.

Conclusion

NMES is a safe, effective intervention for post-stroke dysphagia, improving swallowing function and quality of life.

Keywords

Neuromuscular electrical stimulation, dysphagia, post-stroke rehabilitation MASA, swallowing rehabilitation, case study.