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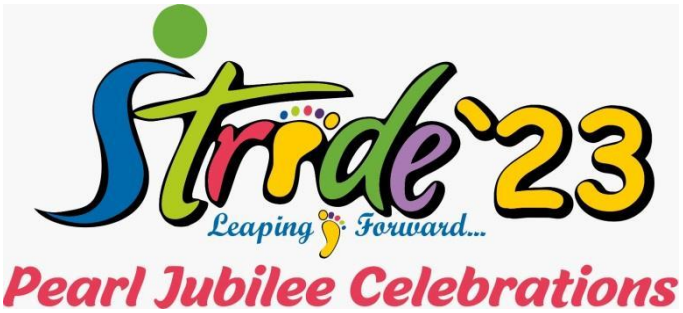

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Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 1

The Effectiveness of Muscle Energy Technique and Deep Friction Massage in Management of Piriformis Syndrome

***Arun Kumar.T*[1], *P.Senthil Selvam*[2]**
[1]Postgraduate, & [2]Professor and HOD, SOPT, VISTAS, Chennai, Tamil Nadu

Background: Reported incidence rate for Piriformis syndrome among patients with low back ache vary widely, from 5- 36%. It is more common in women than men (6:1), possibly because of biomechanics associated with the wider 'Q' angle in the women. In 50% of cases, piriformis syndrome is caused by a macro trauma to the gluteal muscles.

Aim: To evaluate the effectiveness of muscle energy technique and deep friction massage in management of piriformis syndrome which reduces pain, restores range of motion, relieves nerve compression and radiating pain.

Methodology: Patients who had met the inclusion criteria was included in the study and an informed consent was obtained from them. The 30 subjects were divided into two groups as Group A was undergone with Muscle energy technique and Group B was undergone with Deep friction massage. The outcome measures of the study are range of motion (measured using universal goniometer), pain (measured using numerical pain rating scale) and functional activities (measured using lower extremity function scale).

Result: In GROUP-A (Muscle Energy Technique), means are compared and the range of motion has increased [Flexion from 85.33 to 114; Extension from 29 to 37; Abduction from 43.66 to 52.33; Internal Rotation from 24.33 to 36.66; External Rotation from 32.66 to 41.33], the numerical pain rating scale has decreased from 7.86 to 1.26 and the lower extremity functional scale has increased from 40.33 to 64.73. In GROUP-B (Deep Friction Massage), means are compared and the range of motion has increased [Flexion from 94 to 108.66; Extension from 29 to 36.66; Abduction from 44 to 48.66; Internal Rotation from 22 to 30.66; External Rotation from 32.33 to 40], the numerical pain rating scale has decreased from 7.66 to 4.2 and the lower extremity function scale has increased from 20.66 to 35.86.

Conclusion: The mean values of GROUP-A (Muscle energy technique) is more effective in improving the range of motion and functional activities and by decreasing the pain when compared to GROUP-B (Deep friction massage).

Key Words: Muscle energy technique, deep friction massage, numerical pain rating scale, lower extremity functional scale

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 2

Association of Physical Activity and Stress among Housewives and Working Wives

***Krishna M Vaghela*[1], *Dhruv Dave*[2]**

[1]PT,[2]PT (PhD), Ashok and Rita Patel institute of physiotherapy, CHARUSAT University.

Background: The level of physical inactivity is found to be significantly more among females compared to male. A woman's mental health and psychological well-being are deeply affected and influenced by multiple factors. Because of that women provide limited contribution to national physical activity recommendations. In India, housewives are rarely taken into consideration as a research subject.

Aims and Objectives: To find out the association of physical activity and stress among housewives and working wives. To identify the perceived barriers for physical activity among housewives and working wives

Method: The housewives and working women are selected on the basis of their voluntary participation. Participants were recruited after receiving the consent from each of them. The interviews were conducted by a therapist who delivered the questionnaire in a simple and standardized way. The Gujarati version of an international physical activity questionnaire will be used to assess the physical activity. The study participants' stress was measured by using perceived stress scale (10 item scale). At the last, participants completed the barrier to being active scale.

Results: By interview with 200 participants including 95 housewives and 105 working wives. We found a significant weak negative association between walking activity and perceived stress among housewives as well as working wives. There was no association between moderate Physical activity and vigorous physical activity with perceived stress among both the population. We have also found working wives had a higher mean stress compared to housewives

Conclusion: This study concludes that PA and Stress have a “temporal relationship”. To be more precise, stress has an impact on PA, and most studies have shown that there is a reciprocal relationship between these two structures. Lack of time was found as a most common perceived barrier among them and fear of injury found as a least common barrier among both the population.

Keywords: Physical Activity, Stress, Housewives, Working wives, Barriers.

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 3

Effect of Sensorimotor Training on Tactile Sensitivity in Subjects with Diabetic Polyneuropathy

Sudheera Kunduru[1;3], *J Muthukumaran*[2], *Pravin Aaron*[3], *Akbar J*[3]

[1]Research scholar, Saveetha College of Physiotherapy, SIMATS, Chennai
[2]Professor, Saveetha College of physiotherapy, SIMATS, Thandalam, Chennai
[3]Padmashree Institute of Physiotherapy, Sulikere Post, Kommaghatta, Kengeri, Bangalore

Background: Diabetic Polyneuropathy, a common complication of Diabetes Mellitus can put an individual at risk for injuries of the feet and toes leading to ulcers, wounds and chronic infections. Early intervention can prevent the injuries and also can help in preventing sensory loss and functional disabilities.

Aims and Objective: The objective of this study was to determine the effect of sensorimotor training on tactile sensitivity in subjects with Diabetic Polyneuropathy.

Methods: 21 subjects with Diabetic Polyneuropathy were recruited and assigned to one of the two groups. Group A (n=12) received Sensorimotor Training while Group B (n=9) received Conventional therapy. Treatment sessions were scheduled for 45 minutes per session, 3 times a week for 12 weeks. Participants in both groups received Diabetes and foot care education for 30 minutes prior to the first session. Tactile sensitivity was assessed pre- and post-intervention at 12 weeks using Semmes Weinstein Monofilaments (SWM).

Results: Mean and SD of pre and post-test scores of SWM (right) was 5.00±1.41 and 2.67±1.61, SWM (left) was 5.00±1.59 and 2.42±1.83 in Group-A respectively. In Group-B, mean and SD of pre and post-test scores of SWM (right) was 4.78±1.30 and 3.89±1.26, SWM (left) was 4.78±1.56 and 4.11±1.45. When pre- and post-intervention scores were compared within groups, statistical significance was found in both the groups ($p<0.05$). The group comparison also showed significant difference in SWM scores on both sides ($p<0.05$).

Conclusion: Results of the present study suggests that though both groups improved post-intervention, sensorimotor training was found to be more beneficial in improving the tactile sensitivity in individuals with Diabetic Polyneuropathy.

Keywords: Diabetic Mellitus, Diabetic Polyneuropathy, Sensorimotor Training, Tactile sensitivity, Semmes Weinstein Monofilaments.

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 4

To compare the Effectiveness of Functional Strength Training Exercises Versus Neurodynamic Exercises on Balance and Gait of patients with Diabetic Peripheral Neuropathy.

D. Mythili[1], *V. Balchandar*[2], *K. Kotteeswaran*[3]
[1]Associate Professor and [2]Principal & Professor, Jaya college of Physiotherapy, Chennai
[3]Professor, Saveetha college of Physiotherapy, SIMATS, Thandalam, Chennai

Background: Diabetic neuropathy is one of the major complications of Diabetes Mellitus, which mainly affects balance and gait in patients with diabetes.

Aims and Objectives: The aim of the study is to compare the effects of Functional strength training Vs Neurodynamic exercises on Balance and Gait of patients with Diabetic Peripheral Neuropathy

Methodology: 30 patients aged 40-80 years presenting with more than 7 years who were clinically diagnosed with Diabetic Peripheral Neuropathy were selected and assigned into two groups. Experimental group A received Functional Strength Training Exercises and Group B received Neurodynamic Exercises for 40 minutes, 5 days per week for a period of 4 weeks. Balance and Gait were assessed in terms of Berg Balance Scale and Functional Gait assessment. Paired and unpaired t-tests' were used to determine significant differences in data among groups and between the groups ($p<0.05$)

Results: A significant improvement in the values of BBS and FGA was observed in Functional Strength Training Exercises as well as in Neurodynamic Exercises ($P < 0.05$). Functional Strength Training Exercises showed statistically significant improvement in terms of BBS ($t = 13.64$, p value = 3.4, >0.05) and FGA ($t= 4.29$, $p = 9.7$, > 0.05) than the Neurodynamic Exercises

Conclusion: Both Functional Strength Training Exercises and Neurodynamic Exercises were found to improve the Balance and Gait in patients with Diabetic Peripheral Neuropathy. However, the Functional Strength Training showed more significant improvement in Balance and Gait subsequently reducing fall and fall risk injury. Therefore, Functional Strength Training can be used as effective supportive therapy in Diabetic Peripheral Neuropathy patients.

Keywords: Balance, Gait, Functional strength training, Neurodynamic exercises

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 5

Efficacy of Task Specific Mobile Game Based Hand Training on Hand Function among Children with Hemiplegic Cerebral Palsy – A Design Thinking Approach

Dhivakar Murugan [1], *Sankar Sahayaraj* [2], *K. Raja Senthil* [3]
[1]Assistant Professor, Program Manager, SNS College of Physiotherapy, Coimbatore
[2]TN-RIGHTS Project
[3]Principal, SNS College of Physiotherapy, Coimbatore

Background: Treating children with cerebral palsy is a challenging task for physiotherapists because patients often withdraw from treatment, mainly due to lack of motivation or delayed perception of their progress. Treatment in the form of mobile games may change this paradigm.

Aims and Objective: The purpose of the study is to find out the efficacy of mobile touch screen game based rehabilitation on UE gross manual dexterity in hemiplegic cerebral palsy.

Methods: 36 Children with hemiplegic Cerebral Palsy who come under the eligibility criteria were selected for this study and they were randomly allocated into three groups by using closed envelope method. Group A participants received conventional physiotherapy, Group B participants received conventional physiotherapy plus task-oriented training and Group C participants received conventional physiotherapy plus task specific mobile game-based hand training. All the three groups received intervention for 45 minutes per session, 5 days in a week for 6 weeks. The pre and post score values of hand function were evaluated by using Fugl-meyer assessment upper extremity and Jebsen and Taylor hand function test and the data were recorded.

Results: The statistical report revealed that conventional physiotherapy plus task specific mobile game hand training showed highly significant improvement ($p<0.05$) in hand function when compared to other two groups at the end of 6 weeks of intervention.

Conclusion: Finally, the study concluded that the 6 weeks of upper extremity training program with task specific mobile games showed statistically highly significant improvement in hand function among children with hemiplegic cerebral palsy.

Keywords: Hemiplegic Cerebral Palsy, Task specific Mobile games, Hand function, Design Thinking

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 6

Impact of Low Load Resistance Training with Blood Flow Restriction Training and Without Blood Flow Restriction Training on Pain , Functional Disability and Grip Strength Among Subjects with Chronic Lateral Epicondylitis" – A Dt Approach

Vysakh M Kumar [1], *Dhivakar Murugan* [2]

[1]Postgraduate, [2]Assistant Professor, SNS College of Physiotherapy, Coimbatore

Background: Blood flow restriction (BFR) is a training method by partially restricting arterial inflow and fully restricting venous outflow in working musculature during exercise. According to APTA, BFR training is the scope of physiotherapy practice. BFRT would be a better practical tool that can be used safely to achieve maximum benefits in musculoskeletal and systemic disorders. There is no study which examined the effectiveness of blood flow restriction among chronic lateral epicondylitis subjects.

Aims and Objectives: Aim of the study is to find out the impact of low load resistance training with BFR training on pain, functional disability and grip strength among subjects with chronic lateral epicondylitis.

Methods: This is a comparative study design. 30 subjects with chronic lateral epicondylitis were included based on the eligibility criteria and randomly allocated into 3 groups using a closed envelope method. Within group analysis of both groups were analyzed by using paired T test and between group analyses were analyzed by using one way ANOVA and bonferroni post HOC test after 8 weeks.

Results: After completion of the intervention, the Pain and functional disability was decreased in BFR group ($p < 0.05$). Also the grip strength was increased in BFR group ($p < 0.05$).

Conclusion: Finally the study concluded that low load resistance training with BFR reduces the pain, functional disability and improves the grip strength among subjects with chronic lateral epicondylitis. BFR training is a new boon to musculoskeletal rehabilitation, a game changer in the field of geriatric rehabilitation and there is still research going on to find out its effects in various systemic disorders.

Keywords: Blood flow restriction training, Chronic lateral epicondylitis, Low load resistance training, PRTEE, Hand held dynamometer, Design thinking.

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 7

Acute Effect of Fascial Manipulation On Myofascial Pain and Central Sensitization Among The Normal Individuals – A Case Series

***Aishwarya Nitin Sonwane*[1], *Madhupripu*[2],**
[1]Assistant Professor, [2]Assistant Professor PhD Research Scholar, Institute of Physiotherapy, City Campus, Srinivas University

Background: Deep fascia has long been considered a source of pain; densification is one of the pathological changes during this myofascial pain. Central sensitization (CSI) is responsible for many of the temporal, spatial and threshold changes in pain sensibility in acute and chronic clinical pain settings and exemplifies the fundamental contribution of the central nervous system to the generation of pain hypersensitivity. There are ample number of therapeutic methods targeting fascia, however the only technique of therapeutic methods whose basic assumption is to eliminate the densification of fascia can be the fascial manipulation.

Aim of the Study: To find out an acute effect of fascial manipulation on the myofascial pain and central sensitization among the normal individuals.

Objectives: To analyze the patients suffering from central sensitization and those suffering from myofascial pain.

Methods: Total 10 patients (between the age of 18 to 45) were screened out of which 6 were included into the study as per the selection criteria. Pre values of Visual Analog Scale and central sensitization inventory was taken. Patients then understood the procedure and the informed consent was taken. Densification points were identified and treated in one setting based on the Stecco Fascial Manipulation guidelines. And soon after the treatment, post treatment values were analyzed.

Data Analysis and Results: Descriptive statistics of the pre and post VAS and CSI values after fascial manipulation was analyzed and it showed the statistically significant results in both the VAS and CSI parameters.

Conclusion: Fascial manipulation was found to be effective on the normal individuals suffering from the myofascial pain and the central sensitization.

Keywords: Fascial Manipulation, Myofascial Pain, Central Sensitization, Densification

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 8

Real Time Analysis of Heart Rate Variability Parameters On Enhanced External Counterpulsation In Normal Healthy Sedentary Males – An Observational Study

***M. Premkumar*[1], *Rajasekar S*[2], *Tamilalagan M*[3]**
[1]Associate Professor cum Research Scholar, [2]Professor cum Dean, [3]Assistant Professor Institute of Physiotherapy, Srinivas University, City Campus, Pandeshwar, Mangaluru

Background: Enhanced External Counterpulsation consists of applying intermittent positive pressure to the lower body, with this pressure being synchronized with the subject's cardiac cycle, that is, being sequentially applied distally to proximally at early diastole, and released at the end of diastole. EECP is a non-invasive method of application of external counter pressure in a range between 130 mmHg to 250 mmHg generated in FDA approved EECP machine (Reyati.inc) to improve haemodynamics of the cardiovascular system. Heart Rate Variability is a variation in the time interval between heartbeats. In other words, HRV is the time difference between a given heartbeat to the mean duration of heartbeat. It is different from Heart beat rate.

Aim of this study: To analyze real time variation in Heart Rate Variability (HRV) parameters on EECP in normal healthy sedentary adults.

Objective of the study: To analyze and understand the effect of EECP on real time response in HRV in normal healthy sedentary males.

Materials and Methods: 19 normal healthy sedentary males based LASA sedentary life questionnaires, aged between 20 to 55 years without any notable cardiovascular compromises and co-morbidities like hypertension, diabetes and dyslipidemia were recruited in this by signing informed consent through convenient sampling. Their demographic data was recorded. 5 lead Holter ECG (BPL TRAK 48 Digital Holter) was placed on subjects and EECP with 130 mmHg to 250 mmHg pressure was given for 30 minutes. Heart Rate Variability parameters of SDNN, SDNN Index, rMSSD, pNN50, HF, LF and LVF measures were documented and recorded for real time analysis.

Results: Real time analysis of Heart Rate Variability parameters did not show any marked variation in HRV

Conclusion: Real time analysis of Heart Rate Variability parameters did not show any marked variation in HRV while normal healthy sedentary males undergo External Counterpulsation(EECP) with 130 mmHg to 250 mmHg set pressures for 30 minutes.

Keywords: EECP, HRV, Real Time Analysis, Normal Healthy Sedentary Males

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 9

Demystifying the effects of video games on spatial skills among the spastic diplegic cerebral palsy children – Experimental study

Madhumathi. K[1] *, P. Senthil Selvam*[2]

[1]Postgraduate, PhD, Assistant Professor, School of Physiotherapy, VISTAS

[2]PhD, Prof and HOD, School of Physiotherapy, VISTAS

Background: The cerebral palsy is a global health issue affecting the brain development of the infant occurring due to preterm and low birth weight. These children have motor impairments along with learning disabilities as secondary complications. The Spatial ability is the skill acquired by all human beings to lead normal day-to-day activities. These skills are delayed in cerebral palsy children and it has direct correlation with the learning abilities of the children. The use of Information and Communication Technology (ICT) and video games are upcoming trends in the area of education and rehabilitation. Playing video games will enhance the spatial abilities of the children.

Aim: The aim of this study is to find out the effectiveness of the video games on the spatial ability of the spastic diplegic cerebral palsy children.

Method and Materials: 46 spastic diplegic cerebral palsy children are divided into two groups, Group A underwent structured spatial skills training edugame and Group B fine motor training (Paper and pencil format) for 2 months, 24 sessions, 40 minutes per session. The spatial skills are evaluated using mental rotation, visual perception and visuospatial short term memory before and after the training session

Result: The group A who underwent structured spatial skills training edugame is statistically significant than the group B

Conclusion: The study results shows that the spatial skills are delayed in the spastic diplegic cerebral palsy children and they can be improved using video game which is a new trend in ICT based teaching and learning.

Keywords: Spatial skills, ICT, Education, Learning disabilities, fine motor, Cerebral Palsy

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 10

A Comparative Study on Effectiveness of Pain Neuroscience Education Combined With Neck Stabilization Exercise On Pain, Strength And Kinesiophobia Among Chronic Nonspecific Neck Pain: A Randomized Controlled Trial

R Mukesh Kumar[1]

[1]Assistant professor, School of physiotherapy, VISTAS.

Background: Non-specific neck pain has a postural or mechanical basis and affects about two thirds of people at some stage, especially in middle age. Acute neck pain resolves within days or weeks, but may become chronic in about 10% of people Chronic neck pain often presents as widespread hyperalgesia on palpation and in both passive and active movements in neck and shoulder area. Cervical stabilization exercises are frequently used to reduce pain, maximize function, and improve physical impairments for people with chronic nonspecific neck pain

Aims and Objective: To find out the effectiveness of Pain Neuroscience Education combined with neck stabilization exercise on pain, strength and kinesiophobia among chronic nonspecific neck pain.

Methodology: This Randomized controlled includes forty subjects with chronic nonspecific neck pain who were randomly assigned by using random number table in two groups A and B. Group A was allocated to Pain Neuroscience Education combined with Neck stabilization exercise and Group B was assigned to control group which consists of general neck exercises. Treatment sessions were performed for a duration of four weeks and four sessions per week on alternate days. The outcome measures were pain intensity, measured by Numerical pain rating scale (NPRS), fear avoidance measured by Tampa scale of kinesiophobia and strength was measured by cervical muscle endurance test. After a duration of 4 weeks the data was collected and interpreted.

Results: After the intervention for a duration of 4 weeks, the pre-test and post-test values were analyzed and interpreted, numerical pain rating scale, Tampa scale of kinesiophobia, cervical endurance test showed significant improvement in Group A ($P < .05$) when compared with Group B.

Conclusion: Therefore, this study concludes that pain neuroscience education combined with cervical stabilization exercise is relatively safe and effective intervention compared to general neck exercise alone in improving pain, muscle strength and fear avoidance in patients with chronic nonspecific neck pain.

Keywords: Kinesiophobia, Neck pain, Education, Exercise, Numerical pain rating scale.

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 11

A Comparative Study on the Effectiveness Of Cervical Myofascial Trigger Point Release Versus Ultrasound Therapy On Breast Feeding Related Neck Pain Among Postnatal Breastfeeding Mothers

***Soundarya.M*[1], *P. Senthil Selvam*[2]**

[1]Assistant professor, [2]HOD, School of Physiotherapy, VISTAS, Thalambur

Background: Breast feeding mothers often encounter various complaints such as pain and discomfort over neck region about 39% of females in the first 6 weeks after delivery. Almost all women seem to suffer from musculoskeletal discomforts during pregnancy, which can last for months after delivery due to hormonal effects and the stress of caring and feeding the newborns. Myofascial trigger points (MTrPs) in the skeletal muscle are described as palpable tender nodules inside a taut muscular band that result in a local twitch response and referred pain when activated.

Aims and Objective: The aim of the study was to compare the effectiveness of Myofascial trigger release (Ischemic Compression (IC)) Technique versus Ultrasound therapy (US) on breast feeding related neck pain among postnatal mothers.

Methodology: Twenty females (ages 25-35 years) with MTrPs in the muscles of the neck took part in the study. They were selected under a convenient sampling technique and assigned into the experimental group (n=10) (IC technique on MTrPs of the muscles in addition to breastfeeding positions) and control group (n=10) (US therapy for the MTrPs of the neck muscles in addition to breastfeeding positions). They received 16 sessions for 4 weeks (4 sessions/week). The outcome was measured using VAS and NDI to measure the pain intensity of head and neck.

Result: There was a significant reduction in pain Intensity after treatment in the experimental group compared to the control group ($p<0.05$)

Conclusion: The IC technique or US therapy addition with proper breastfeeding positions is effective for releasing cervical Myofascial trigger points and has positive effects on radiating headache and neck pain. Comparatively mothers underwent ICT and breast feeding positions were shown more significant reduction in pain than the mothers underwent UST and breastfeeding positions.

Keywords: Trigger points; Ischemic compression; Breastfeeding positions; Ultrasound; visual analog scale; Neck Disability Index

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 12

Role of Artificial Intelligence in Postural Assessment

DIVYA.N [1]

[1]Assistant professor, Meenakshi Academy of Higher Education and Research (MAHER)

Background: Postural assessment is an important aspect of clinical practice. It involves the evaluation of a person's body posture and alignment to identify any deviations from the normal range. However, the advent of artificial intelligence (AI) has opened up new possibilities for postural assessments. Patients with abnormal spinal deformities have an increased risk of developing postural abnormalities nevertheless it is unclear whether which tool will be effective for measuring the postural abnormalities.

Aims and Objective: This systematic review is performed to investigate the effects of various AI tools to measure postural abnormalities among spinal deformities

Materials and Methods: All literature published from each source from 2010 to 2023 (PubMed, Cochrane, science direct, Pedro) were selected according to the inclusion and exclusion criteria and data extraction was performed independently

Result: A total of 34 articles were selected and finally 10 articles were recruited after being assessed for eligibility by the selection criteria. Majority of the articles included in this review concluded that posture analysis by AI like photographic tool, software application system is more reliable, valid and non-invasive technique for assessing posture

Conclusion: This review found the various methods of assessing the posture among the spinal deformities and some of the studies found beneficial effects on photographic methods of assessing the spinal posture especially on the Sagittal plane analysis provide the effective way to analyze the posture among spinal deformities.

Keywords: Spinal deformities, Photographic, Posture assessment, Postural abnormalities, Sagittal plane.

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 13

Effects of Exercise Therapy on Cancer-Related Fatigue: A Meta-Analysis

***J.Arul Joseph Arun*[1], *Monoj Abraham*[2]**

[1]Research Scholar K.G College of Physiotherapy Coimbatore

[2]Principal K.G College of Physiotherapy Coimbatore

Background: Cancer fatigue being one of the side effects of Carcinoma and its treatment. It goes beyond the usual tiredness where the carcinoma patients describe as almost paralyzed. It leads the patient to feel physically, emotionally and mentally exhausted and ultimately harms the quality of life. Many researchers have concluded that physical activity including gentle exercises like yoga and taichi may help sleep better. Even though studies of cancer related fatigue have grown in recent years consistent assessment has not been a priority in routine practice. Based on the available studies this review focuses to explore the role of exercise therapy in alleviating the cancer related fatigue.

Aims and Objective: To analyze the efficacy of exercise therapy in attenuating cancer related fatigue for patients with cancer diagnosis.

Method: Ten databases (Cochrane Library, Embase, Medline, Web of Science, CBM, Wanfang, Pubmed, google scholar, Scopus and CNKI) were systematically reviewed for randomized controlled trials (RCTs). Two reviewers critically and independently assessed the risk of bias using Cochrane Collaboration criteria and extracted correlated data using the designed form.

Results: We include ten studies in this meta-analysis. The pooled sample size in the intervention group was 728 and it was 594 in the control group. We have found heterogeneity among studies (I2 =93%). Hence, we concluded the Meta findings with a random effect model. The pooled standardized mean difference was -0.02 (95% CI -0.48 to 0.45) which indicates there is no difference between the study group and control group in order to reduce fatigue.

Conclusion: Even Though the study indicates there is no difference between the study group and control group in order to reduce fatigue exercise therapy is effective for CRF management and should be recommended as a beneficial for alternative therapies for CRF patients, particularly to those currently undergoing anti-cancer treatment as far as individual study results are concerned.

Keywords: Exercise therapy, cancer related fatigue, meta-analysis

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 14

Evaluation of Anxiety and Aggression in Subjects with Alcohol Dependence- A Cross Sectional Study

A Parveen[1]

[1]Assistant Professor, Nopany Institute of Healthcare Studies

Background: Behavioural changes, emotional expressivity, health related quality of life, memory, fear, distress tolerance and stress are signs of chronic alcoholism. Nearly 2.3 billion people are currently consuming alcohol. According to a study, aggression due to alcoholism causes disturbance in family, marital and financial status, domestic violence, legal issues, physical and other psychological issues.

Aim: Aim of the study is to evaluate the association between anxiety and aggression in subjects with alcohol dependence.

Method: A total of 104 participants were recruited in this cross-sectional correlational study. Aged above 18 years, alcohol dependence syndrome according to ICD-10 without any neurological condition which is involving any psychiatric illness other than alcohol dependency. Anxiety and aggression were assessed using Hamilton Anxiety Rating Scale and Modified Overt Aggression Scale.

Results: Significant correlation seen in anxiety and aggression where p-value = 0.0384. Aggression is positively correlated with age as p-value =0.0236 whereas age with anxiety doesn't show any significance p-value =0.3137.

Conclusion: There was significant correlation between anxiety and aggression in subjects with alcohol dependency. The significant correlation can be used for further use of therapeutic intervention for future research.

Key Words: Anxiety, Aggression, Alcohol Dependence, Hamilton Anxiety Rating Scale, Modified Overt Aggression Scale

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 15

Integrated Neuromuscular Inhibition Technique for Myofascial Trigger Point Pain Relief: A Systematic Review of Evidence-based Research

Murali.S[1], *Muthukumaran Jothilingam*[2], *Tirumala Rao D.B*[3]
[1] Research Scholar, Saveetha College Of Physiotherapy, SIMATS, Thandalam, Chennai
[2]Professor, Saveetha College Of Physiotherapy, SIMATS, Thandalam, Chennai
[3]Lecturer, The Oxford College of Physiotherapy, Bengaluru

Background*:* Myofascial pain syndrome is a condition that can cause pain and discomfort due to the presence of trigger points. Trigger points are specific areas within taut bands of skeletal muscle that can become hypersensitive and painful when compressed, stretched, overloaded, or contracted. These points can cause referred pain that is felt at a distance from the trigger point and can also restrict movement and limit functional activities. Therefore, it is important to include the treatment of trigger points as part of a comprehensive physical therapy program to address the symptoms of myofascial pain syndrome. There are various manual and non-manual interventions available that can help to deactivate trigger points and alleviate the associated pain and discomfort.

Aims and Objective: The objective of this investigation is to examine the latest research and evaluate how effective the integrated neuromuscular inhibition technique is in addressing myofascial trigger points.

Method: To assess the efficacy of Integrated Neuromuscular inhibition technique (INIT) on myofascial trigger points in the general population, a systematic literature search was conducted. Two authors independently evaluated the methodological quality of each randomized controlled trial using the PEDro scale and electronic databases were utilized. The primary researcher initially reviewed the titles and abstracts of articles to identify those that met the inclusion criteria.

Results: In comparison with alternative interventions, an INIT for treating TrPs in patients with neck pain has demonstrated greater efficacy in reducing pain, improving functional ability, reducing disability and enhancing quality of life

Conclusion: This review's findings add to the increasing body of evidence that endorses the utilization of INIT for individuals who have active TrPs.

Keywords: Myofascial Trigger point, Integrated Neuromuscular Inhibition Technique, Myofascial pain

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 16

Effect of Proprioceptive Exercise Versus Focused Regimen Exercise on Balance and Quality of Life in Subjects with Diabetic Neuropathy

V.Pradhapsankar [1], *M.Manoj Abraham*[2]

[1]Assistant Professor, KG College Of Physiotherapy, Coimbatore

[2]Principal, KG College Of Physiotherapy, Coimbatore

Background: Diabetic peripheral neuropathy is a polyneuropathy that causes damage to the peripheral nerve fibers, sensorimotor and autonomic nervous system. Neuropathy causes somatosensory dysfunction of the lower extremities, such as decreased ankle position and vibration sensations. The sensation of the skin on the feet and the proprioceptive sense are two important factors in standing balance, postural control and coordination. As this condition progresses, it leads to increased postural sway, gait disturbance, abnormal neuromuscular control and increased reaction time leading to falls in balance impaired patients.

Aims and Objective: To determine the effect of proprioceptive exercise versus focused regimen exercise on balance and quality of life in subjects with diabetic neuropathy.

Methods: 20 Subjects with diabetic neuropathy of both genders, in the age group of 40 – 60 years were conveniently assigned into 2 groups. Group A (n = 10) received Proprioceptive exercise and Group B (n = 10) received Focused regimen exercise, 3 sessions a week for 8 weeks. Balance and quality of life were evaluated with Berg Balance Scale and SF – 36 Survey questionnaires.

Results: The data collected were analyzed using a student t test that showed a significant difference in the post test mean scores of both groups in Berg Balance Scale was 32 and 28.3 and SF – 36 Survey questionnaire was 61.4 and 56.6 respectively. The result showed a significant improvement in Group A than in Group B at $p < 0.0001$.

Conclusion: Therefore, the study concludes that Proprioceptive exercise training is better management to improve balance and quality of life in subjects with diabetic neuropathy.

Keywords: Diabetic Neuropathy, Proprioceptive Exercise, Focused Regimen Exercise, Balance, Quality Of Life

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 17

Skill Oriented Preventive Strategies and Eccentric Muscle Training for Volleyball Players With Shoulder Injury - An Experimental Study

***N Suryaprakash*[1]**, *M Manoj Abraham*[2]

[1]Assistant Professor, KG College Of Physiotherapy, Coimbatore

[2]Principal, KG College Of Physiotherapy, Coimbatore

Background: Volleyball is a game which is played by all age groups all over the world. In a competitive atmosphere the collegiate players tend to get injuries, and the main considerable factor is these injuries are cumulative. Trained athletes also get cumulative injuries but prevalence of these kinds of injuries are more in collegiate players because of improper skills and lack of adequate training ,this study used to concentrate on correcting the skill as well as giving appropriate training.

Aims and Objective: The aim of the study is to find the effectiveness of skill oriented preventive strategies and eccentric muscle training for volleyball players with shoulder injury.

Method: This is an Experimental study, participants are 22 collegiate volleyball players from KG campus. They have been divided into two groups by simple random sampling. Group A consists of 11 subjects. Group B consists of 11 subjects. Group A have received Eccentric muscle training along with skill oriented preventive strategies and Group B received Eccentric muscle training alone. After the acute management and rest, Eccentric muscle training and improving the skill by proper analysis and correction get started, the duration of the study was 8 weeks.

Results: This study has two outcome measures, one is Spiking velocity another one is SPADI (shoulder pain and disability index). Both Pain and activities show positive improvement, t values of SPADI and Spiking Velocity is 2.567 and 2.873 at $p<0.05$.

Conclusion: Eccentric muscle training along with skill oriented preventive strategies are helpful in preventing injuries as well improving the performance of an athlete.

Key Words: Eccentric muscle training, Skill oriented preventive strategies, Spiking velocity, Shoulder pain and disability index

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An International Journal

Abstract no: 18

Effect of Cognitive Load Theory in Functional Ankle Instability Among Athletes

Sharmila.S[1], *Senthil Selvam.P*[2]

[1]Assistant Professor, School of Physiotherapy, VISTAS

[2]Head of the department, School of Physiotherapy, VISTAS

Background: Inversion injuries in the ankle can lead to a condition called Functional Ankle Instability (FAI). Functional ankle instability (FAI) is a subjective sensation of giving way or feeling joint instability after repeated ankle sprains episodes. The prevalence rate of FAI is 57.74%, along with 43.66% of 2 years prevalence of recurrent ankle sprain.

Aims and Objective: The aim is to analyze the impact of cognitive load theory in functional ankle instability in athletes.

Materials and method: Forty five subjects who fulfilled the inclusion criteria were conveniently divided into 3 groups, Group A-Eye's closed Group B- Ear's closed & Group C-Both eyes and ears open. 15 subjects in each group all patients were evaluated with Cumberland ankle instability test, Functional ankle disability index and Star excursion balance test

Results: When comparison of pre and post intervention values of Cumberland ankle instability, Functional ankle instability test and Star excursion balance test was done, significant difference was found ($p<0.0001$) in all groups but group A is effectively in reducing pain, functional disability and ROM comparing the group B and group C.

Conclusion: This study suggests that performing exercises blindfolded is effective in reduction of pain & functional disability, Balance and improving the range of motion of ankle and foot with functional ankle instability.

Keywords: Functional ankle instability, star excursion balance test, thera-band exercises, functional ankle disability index, ROM

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Abstract no: 19

Efficacy of structured exercise care for sarcopenic individuals undergoing hip arthroplasty for proximal femoral fractures

M. Chrysolyte[1], *P. Antony Leo Aseer*[2]

[1]Tutor, [2] Professor and Principal, SRIHER, Chennai

Aim: The aim is to investigate the efficacy of structured exercise programs on the clinical variables in hip arthroplasty for sarcopenic femoral neck fractures.

Methods: Experimental study design**.** 10 subjects (ages 50-80) diagnosed with femoral neck fractures, screened for sarcopenia based on criteria of Asian Working Group for Sarcopenia were included and patients with neurological and cognitive impairments were excluded. After obtaining informed consent, the subjects were randomly allotted to two groups by lottery method. Pre – rehabilitation was given to both the groups. After surgery, exercises were rendered according to the derived protocol for group A (6 subjects) and standard care was given to Group B (4 subjects) for a period of 12 weeks. Clinical variables (pain score, ROM, knee extensor strength, TUG and SMWT) were assessed at baseline, 4 weeks and 12 weeks.

Results: Following the training, knee extensor muscle strength and hip abductor strength showed both clinical and statistically significant improvement ($p < 0.05$) at the end of 12 weeks. All other clinical variables showed clinical improvements.

Conclusion: The study data affirms that the structured exercise program started in the acute phase of hip arthroplasty targeting sarcopenic population is effective. The clinical efficacy needs confirmation with larger samples. Structured exercise programs implemented in rehabilitating sarcopenic hip arthroplasty patients following femur neck fractures is beneficial.

Keywords: hip fracture, arthroplasty, structured exercises, sarcopenia

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Abstract no: 20

A Study to Analyze the Effectiveness of Neuromuscular Training and Manual Therapy with Augmented Low-Dye Taping Technique for Correction of Pronated Foot in the Management of Anterior Knee Pain – Clinical Introspective Study

Albert Anand[1], *Vinodhkumar Ramalingam*[2]

[1]Physiotherapy Team Lead, Mediclinic Al Noor Hospital

[2]Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Introduction: Patellofemoral pain syndrome (PFPS) is one of the most prevalent musculoskeletal injuries seen by physiotherapists and sport medicine practitioners. The aetiology of PFPS is not fully understood and may consist of multiple factors including lower leg and foot malalignment. One of the inherent risk factors for PFPS is an excessively pronated foot posture.

Biomechanical link & Correlation: The foot posture influences abnormal patellar tracking leads to anterior knee pain. Excessive foot pronation during gait is frequently linked to patellofemoral pain syndrome (PFPS) development, due a proposed coupling of increased foot pronation with increased tibial and femoral internal rotation. Patellofemoral pain syndrome (PFPS) may arise from abnormal muscular and biomechanical factors that alter tracking of the patella within the femoral trochlear notch contributing to increased patellofemoral contact pressures that result in pain and dysfunction. This leads to an increased soft tissue stress and changes in overall lower limb alignment, often predisposing the individual in question to injury of the lower extremity.

Expert Opinion & Needs: The scientific literature brings us new elements on the management of anterior knee pain with Physical therapy interventions. This clinical introspective study indeed explores the intrinsic biomechanical Risk factors & evidence based physical therapy interventions. The previously available studies are mainly limited to foot orthoses & focused on the knee joint interventions. There is a lack of research related to therapeutic interventions for the foot, an intrinsic risk factor, that can address the fundamental component of anterior knee pain. The Novelty of Study is to find out potential impact of therapeutic foot interventions for correction of Pronated foot in the management of anterior knee pain.

Keywords: Anterior knee Pain, Pronated foot, Foot posture, Physiotherapy intervention, Clinical introspection.

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Abstract no: 21

Efficacy of structured exercise program on patient reported outcomes and structural changes in patients with knee osteoarthritis: Exploring impact of physical activity in knee OA within Indian context- A pilot study

***Balamurugan. N*[1]**

[1]Associate Professor, Meenakshi college of Physiotherapy

Aims and Objectives: To find out the efficacy of structured exercise program on patient reported outcomes and structural changes in OA knee. This study will contribute with knowledge on the efficacy of structured exercise program on structural changes (cartilage morphology, serum proteins (biomarker of cartilage turn over), VO2max & self-efficacy for pain and also to identify Cost effective exercise intervention in OA

Methods: This is an RCT adhering to the SPIRIT statement including 3 groups**.** Group 1: Structured exercise program (Strength exercises & cycling)**.** Group 2: Conventional Physiotherapy practice includes Quads & VMO strengthening, (not sufficient to manage a complex & chronic OA)**.** Group 3: control group (doing as usual but told not to start Physiotherapy treatment)**.** Outcomes assessment will be performed at baseline, after the intervention (8 weeks)**.** Other background variables such as height, weight, physical activity type of work, ROM, knee joint alignment measured using inclinometer are measured during baseline assessment. The study will be performed with the sample size of 10 patients in each group. Primary outcome is KOOS (Knee injury & OA outcome score) knee related Quality of life. Secondary outcomes are KOOS pain, ADL, other symptoms & function in sport/ recreation, radiographic progression of Knee OA (joint space & KL score) & Muscle strength. Exploratory outcomes are Cartilage morphology measures (MRI) & Serum Proteins.

Results and Conclusion: Although exercise therapy has been found to be effective in knee osteoarthritis, the knowledge of the underlying mechanisms for why exercise works is lacking. This study will focus on the mechanism of how the exercise works & contribute with knowledge on the efficacy of structured exercise programs on patient-reported outcomes, cartilage quality and cost-effectiveness.

Key Words: OA knee exercises, Knee osteoarthritis, Exercise therapy, cost effectiveness

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Abstract no: 22

Immunosenescence and Role of Exercise: A short Review

K.V. Binoy Mathew [1], *A. Jagatheesan*[2], *K. N. Roshan Bijlee*[3]

[1]Head, Department of Physiotherapy, and [3]Director, Composite Regional Centre for Skill Development, Rehabilitation and Empowerment of Persons with Disabilities-Kozhikode

[2]Professor & Principal, Saveetha College of Physiotherapy, SIMATS, Thandalam, chennai.

Background: There occurs progressive deterioration of the immune system related to ageing known as Immunosenescence. Immunosenescence makes elderly susceptible to infections, leading to increase in morbidity and mortality. Immunosenescence is caused by multiple factors like genetic, environmental factors, unhealthy lifestyles and long-standing psychological stress. Physical Exercise is considered as a potential strategy for addressing Immunosenescence.

Aims and Objective: The aim of the study was to summarize the current understanding regarding role of exercise in Immunosenescence

Methods: Literature search was conducted in PubMed, Science Direct, Ovid and Cochrane Database for articles published in the last 10 years in English Language with keywords; Immune, Immunity, Immunology, Immunosenescence, Immunity biomarker, elderly, aged, senior, old, physical, activity, and exercise in various combinations.

Results: After going through the initial research results,42 articles met the inclusion criteria and were included in the review.

Conclusion: Moderate level of exercise has a beneficial effect in addressing Immunosenescence. Exercise Interventions improve T-cells activity among elderly. Aerobic exercise has shown more effect in improving the immune system. The extent of exercise induced immune function changes were different in research studies owing to the difference in the protocols, methodologies, testing procedures, age and gender compositions.

Keywords: Immunosenescence, Immunity, Physical, Activity, Exercise, Elderly, Aged

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An International Journal

Abstract no: 23

Efficacy of Pelvic Floor Exercise Program for Urinary Incontinence and Pelvic Floor Dysfunction for Transgender Population Undergoing Gender Affirming Vaginoplasty

Anand Babu Kaliyaperumal*[1], *Shamshiya Shakir.G[2], Dharshini Chittybabu[3], Simulia Dhinju[4]

[1]Research scholar and Professor,[2]Intern, [3]Tutor, [4]Associate professor, Sri Venkateshwara college of Physiotherapy

Background: Transgender "gender dysphoria" is a term used for cross gender identification. Vaginoplasty is the final procedure of their gender confirmation process where they construct a neovagina by penile inversion. There is a high incidence of about 62.5% of patients developing urinary incontinence and pelvic floor dysfunction after vaginoplasty.

Aim: The aim of the study is to find the A Efficacy of Pelvic floor exercise program for urinary incontinence and pelvic floor dysfunction For Transgender Population Undergoing Gender Affirming Vaginoplasty.

Method: This is a pilot study that includes 30 transgender women who were selected based on the inclusion and exclusion criteria. They were assessed using a revised urinary incontinence scale and pad weighing test which confirmed presence of urinary incontinence and pelvic floor dysfunction among transgender women who undergo vaginoplasty. They were given a pelvic floor exercise program which includes a set of six exercises for 10 -12 repetitions twice a week for six week duration.

Result: Pre-test and Post-test values of Revised Urinary Incontinence Scale (RUIS), Pad Weighing Test were analyzed using paired tests. For 29 degrees of freedom and 5% level of significance the calculated 't' value is 15.157 ($P<0.05$) with SD ±2.581 and 7.780($P < 0.05$) with SD ±1.419 respectively. Since the table t value is lesser than the calculated t value null hypothesis is rejected.

Conclusion: Pelvic floor strengthening exercise provides a greater efficiency in treating urinary incontinence and pelvic floor dysfunction among transgender women undergoing gender affirming vaginoplasty.

Keywords: Transgender, Vaginoplasty, Revised Urinary Incontinence Scale, Urinary Incontinence (UI), Pelvic Floor Exercise

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Abstract no: 24

Combined Effects of Yoga and Physical Therapy On Respiratory Functions In Postmenopausal Diabetic Women

D.Varalakshmi[1],*Rekha*[2]

[1]Vice Principal and Associate Professor, Apollo college of Physiotherapy, Hyderabad
[2]Associate Professor, Saveetha College of Physiotherapy, Thandalam, Chennai

Background: There is indeed evidence to suggest that menopause may be associated with changes in lung function. The decrease in estrogen levels during menopause may have an impact on the respiratory system, and some studies have shown that postmenopausal women have lower lung function compared to pre-menopausal women. However, the exact mechanisms behind this association are not fully understood, and further research is needed to better understand the relationship between menopause and lung function.

Objectives: To assess lung function by Forced vital capacity(FVC) and Forced Expiratory Volume in one second($FEV_{1)}$, MVV (Maximum Voluntary Ventilation) and Peak Expiratory flow rate (PEFR) in postmenopausal diabetic women.

Methodology:. The project was conducted over a period of one year and was approved by the Institutional Ethics Committee, indicating that ethical standards were followed in the study. The subjects enrolled in the study were outpatients from the Department of Gynaecology and Obstetrics at Apollo Medical College, and they were those who volunteered to join the study. Methodology of the study involved randomly dividing 90 women into two groups, each consisting of 45 women. The researchers used a portable, computerized spirometer to measure lung function parameters, and the best of three readings was considered for each parameter.

Results: The parameters recorded included forced vital capacity (FVC), FEV in first second (FEV1), peak expiratory flow rate (PEFR), FEV1/FVC ratio, and maximum voluntary ventilation (MVV). The data was analyzed using SPSS software, and differences in mean values were tested using Student's t-test. A P-value < 0.05 was considered statistically significant.

Conclusion: The conclusion suggests that specific health education strategies should be developed to address the health problems faced by women after menopause. This may include education on lifestyle modifications, such as regular exercise and healthy eating habits, as well as medical interventions to manage any respiratory symptoms that may arise. Overall, the study provides important information on the potential relationship between menopause and lung function decline in postmenopausal diabetic women, and highlights the need for further research in this area.

Key Words: Postmenopausal Women, Lung Functions, Spirometry

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Abstract no: 25

Analysis of the Domains of Cognition in Type II Diabetes Mellitus

Arulpriya M [1], *Manoj Abraham M* [2]

[1]PhD Research Scholar, [2]Principal, KG College of physiotherapy (Affiliated to The Dr. TN.MGR Medical University, Guindy, Chennai)

Background: On a global perspective the prevalence of Diabetes Mellitus is quite alarming and it can have devastating effects on various organs of the body. Implications of Diabetes mellitus on the peripheral Nervous system are well established; but its effects on the Central Nervous System are rarely addressed and often underdiagnosed. Long term studies have established that it is a risk factor for cognitive impairment and Dementia as well in the elderly. They might experience some difficulties in performing instrumental activities of daily living hence the required self-management behaviors. As a consequence various tasks like glycaemic monitoring, nutrition mobility, physical activity, medical management and coordination of health care services are all affected.

Aims and Objective: The aim is to analyze the domain cognition in type II diabetes mellitus.

Methodology: It is an observational study with case control design. The period of study is from 1st January 2023 to 31st march 2023.The sample size is 30 with 15 known type II diabetic subjects in group I (cases) and 15 non diabetic subjects in group II (controls).The objective of this pilot study is to analyze the various domains of cognition in type II diabetes with Montreal Cognitive Assessment tool and to compare with the age related non diabetic subjects. A Score of >=26 is considered to be normal and the score less than 26 indicates cognitive impairment. Diabetic subjects will be further analyzed for the individual domains of cognition.

Results and Conclusion: Analysis of the domains of cognition in type II Diabetes Mellitus will help in early screening of cognitive impairment which is an often missed important co-morbidity and further helps in the implementation of necessary intervention to prevent it from progressing to Dementia.

Keywords: Type II Diabetes Mellitus, Domains of Cognition, Montreal Cognitive Assessment Scale

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Abstract no: 26

A Comparative Study between Multimodal Training and Nordic Walking on Fatigue and Gait among People with Parkinson's disease

Deepa. S[1] *,Kumaresan.A*[2]*, Prathap Suganthirababu*[2]

[1] Assistant Professor, Sathyabama College of Physiotherapy, Sathyabama Institute of Science and Technology, Semmancheri, Chennai
[2] Professor, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai

Background: Parkinson's disease has become a global burden with increased aging. With over 6 million people being affected from 1990- 2015, it is estimated that this number will double by 2040 leading this PD as pandemic. Despite medical and surgical interventions for Parkinson's Disease (PD) have proven beneficial, they always have come with complications. While neuroprotective strategies are still under research.

Aim and Objective: The purpose of this study is to compare the effect of multimodal training and Nordic walking on fatigue levels, cardiovascular endurance, and gait parameters.

Methods: A Sample Size of 50 patients participated and were divided in two groups, where one group received multimodal training and the other group received Nordic walking training. The outcome measures used were Fatigue severity scale, SBP, DBP Heart rate, 6 min walk test, cadence and timed up and go test.

Results: Multimodal training reduced fatigue levels but Nordic walking improved the cardiovascular endurance ($P < 0.001$) among the people with Parkinson's disease.

Conclusion: Multimodal exercise proved to be significantly beneficial in fatigue and improved the functional walking in people with Parkinson's disease.

Key words:Parkinson's disease, fatigue, multimodal training, Nordic walking

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Abstract no: 27

Reliability and Validity of Gujarati Epworth Sleepiness Scale: A Cross-Sectional Study

***Darshana Nariya*[1], *Subhash Khatri*[2]**

[1]Assistant Professor, Research Scholar, SPB Physiotherapy College, Surat
[2]Principal, Nootan College of Physiotherapy, Sankalchand Patel University

Background: Daytime sleepiness is a common symptom of many sleep disorders. Epworth Sleepiness Scale (ESS) measures average sleep propensity of an individual for a wide range of daily living activities. As it is a self-administered questionnaire, the Gujarati translation of ESS can be helpful for the evaluation of daytime sleepiness in the clinical population.

Aims and Objectives: To find reliability and validity of Gujarati version of ESS.

Method: This cross-sectional study was conducted during August, 2020 to February, 2021. ESS is available in Gujarati language. Permission was taken to use and to find reliability and validity of Gujarati ESS from the Mapi Research Trust. This study was carried out in two phases: 1) Face and content validation by expert clinical review; 2) Test-retest reliability. The consensus method was used to find the fact and content validity of Gujarati ESS. The group of experts having mean experience of 10.5 years in different fields examined each item of Gujarati ESS. Each item of Gujarati ESS was scored either as rejected, accepted or accepted with modification. Procedure was continued till 80% of consensus for all items was achieved. Total 80 participants aged between 18-60 years were included in this study. To find reliability of Gujarati ESS, internal consistency and test-retest reliability was determined. The Statistical Package for Social Sciences (SPSS) version 24.0 was used to analyze the data. Test-retest reliability was determined by Intraclass Correlation Coefficient (ICC) and internal consistency was calculated by cronbach's alpha.

Results: The Gujarati version of ESS showed excellent test-retest reliability as evidenced by high Intraclass correlation coefficient (ICC=0.94) and high Internal consistency (α= 0.97). Modified kappa (K) was 1 for each item of Gujarati ESS.

Conclusion: Gujarati version of the ESS has excellent reliability and good face and content validity. It is adequate and useful for evaluation of daytime sleepiness in the Gujarati speaking population.

Key Words: Consensus, Disorders of excessive somnolence, Gujarati Language

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Abstract no: 28

Correlation of Vitamin D and Core Stabilization Exercises in Lumbar Spondylosis: A Narrative Review

Lilima Patel[1], *Jagatheesan Alagesan*[2]
[1]Assistant professor, Apollo College of physiotherapy, Hyderabad
[2]Professor & Principal, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Vitamin D deficiency has been linked to an increased risk of musculoskeletal conditions, including spondylosis, muscle pain and weakness. When it comes to lumbar spondylosis, a combination of Vitamin D supplementation can help to improve bone health, which is especially important in individuals with lumbar spondylosis, who may be at a risk of developing Osteoporosis. Core Stabilization exercises can help to improve the strength and stability of core muscles, reduce pain and improve spinal health. Vitamin D and core stabilization exercises can have a positive effect on lumbar spondylosis combining, which is a degenerative condition that affects the spine.

Aim: The purpose of this narrative review was to find out the correlation of vitamin d and core stabilization exercise in lumbar spondylosis.

Methods: We searched the articles using Pubmed and Google scholar regarding the correlation of vitamin d and core stabilization exercise in male and female lumbar spondylosis from human studies.

Results: Evidence from human studies suggest that Vitamin D and core stabilization exercises both are important for overall functioning of intervertebral disc integrity and its stability. It is a vital nutrient that plays a critical role in maintaining bone health, regulating the immune system, and reducing inflammation.

Conclusions: Clinicians caring for patients must be aware of this vitamin d and core stabilization exercises to find the right treatment course for each patient. In many cases quick vitamin D supplementation along with core stabilization may be used to manage lower back pain due to lumbar Spondylosis. While there is a rightful role for vitamin D in the management of lumbar Spondylosis, non-pharmacological options like core stabilization exercises should be also considered as they can play an important role in physiotherapy management of lumbar spondylosis.

Keywords: Lumbar Spondylosis, Lower back pain , Core Stabilization, Vitamin D, Degenerative disease

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Abstract no: 29

Perspectives of domestic life among post stroke individuals- A cross sectional survey

Vandana Rathod[1]

[1]Assistant professor, SPB physiotherapy college, Surat

Background: Stroke is the leading cause of long-term disability in the patients. These patients often need assistance with performing activities needed to function within their homes and communities. In situations where resources and services are limited and post stroke patients live at home and receive out-patient services, it is important to determine exact needs of the patient and also to determine the impact of stroke on their domestic life in terms of activities and participation in community so as to inform the plan of care, monitor progress, ascertain efficacy of stroke rehabilitation efforts and make recommendations for long term care or placement.

Aims and Objectives: The aim of the study is to find the perspectives of domestic life amongst post stroke individuals.

Methodology: A cross sectional survey was conducted on 57 post stroke subjects for their domestic life. The subjects were included on the basis of inclusion and exclusion criteria. If the patient was not able to communicate, a proxy respondent was interviewed for the patient. Domestic life in terms of Activity Limitations and Participation Restrictions were measured using Barthel Index and Frenchay Activity Index respectively. The variables associated with the activity limitation and participation restriction has been done through a spearman correlation coefficient with 95% of confidence interval. *P* value of 0.05 or less was considered statistically significant.

Results: Mean and SD of BI was 71.31 and 21.62 respectively. For FAI Mean and SD is 6.64 and 4.86 respectively . P- value of BI and FAI are 0.000. r value is 0.520. All results show that both scales are statistically significant and associated with each other.

Conclusion: These Study findings revealed that after the discharge from the hospital to their homes, stroke patients experience various Activity Limitation and Participation Restriction. This study is important to facilitate planning of appropriate Rehabilitation in order to improve the functional status and improve quality of domestic life of people with Stroke.

Key Words: Stroke, Activity Limitations, Participation Restrictions, Contextual factors

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Abstract no: 30

Prevalence of foot ulcers in people with diabetes

Daris Francis[1], *K. Kotteswaran*[2],*Pramod P. V* [3]

[1]Ph.D scholar, [2]Professor, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai
[3]Principal, Lourde Institute of Allied Health Sciences, Kerala

Background: Diabetes is the main cause of non-traumatic lower limb amputations, of which up to 85% are the result of a diabetic foot ulcer. Diabetic foot ulcers are also associated with a reduced quality of life. A major part of diabetic patients, especially elderly patients who do not attend hospitals, suffered from peripheral neuropathy and peripheral vascular disease. They are at higher risk of foot ulceration and may benefit from preventive foot care.

Aim of the Study: The aim of the study is to find out the frequency of foot ulcer among all the diabetic patients

Objectives: To find the prevalence of foot ulcer among people with diabetes.

Method of study: Total of 108 diabetic patients coming to Lourde Hospital, Thaliparamba, Kerala was included in the study. It was a cross sectional study completed in 10 days from 15th March 2023 to 25th march 2023. Diabetes was confirmed from medical records and previous laboratory tests. Demographic data were recorded and observed for foot ulcers. Descriptive statistics was used to interpret the demographic data.

Result: A total of 108 people with diabetes both males (37%) and females (63%) were included in the study. The prevalence of foot ulcer was 10.2 %(males 2.8% and females 7.4%), of which 6.4% of the ulcers were on the plantar aspect, 4.6% of ulcers on the dorsal surface of the foot and 1.8% of subjects presented with ulcers on both plantar and dorsal surface of foot.

Conclusion: Prevalence of foot ulcer in people with diabetes is 10.2% in the present study. Foot ulcers can be prevented by proper education of diabetic patients. Health care professionals can give awareness about the preventive measures of foot ulcers in diabetic patients.

Key words: Diabetes, foot ulcer, Prevalence

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Abstract no: 31

Effects of internet addiction on mental health of physiotherapy students in Surat: A cross-sectional survey

***A Shah*[1], *E Patel*[2], *A Agarwal*[3], *A Bachkaniwala*[4]**

[1,2,3] Student, SPB Physiotherapy College, Surat, Gujarat
[4] Assistant Professor, SPB Physiotherapy College, Surat, Gujarat

Background: Internet addiction is reported to cause anger, depression, mood swings, anxiety, fear, irritability, etc. Also, it causes physical discomfort or medical problems. While internet addiction is considered a barrier for students by majority, its effects as facilitator for students' academic performance and psychological health remains understudied.

Aims and Objectives: The aim of the study was to determine the extent and effects of internet addiction among physiotherapy students as a barrier or facilitator for their mental health.

Methods: A cross-sectional survey of 150 undergraduate physiotherapy students between 19-23 years of age was conducted. Participants were selected through convenient sampling. Questionnaires containing Young's Internet Addiction Test (IAT) and Beck Depression Inventory (BDI) were then handed out amongst the students in the classrooms and collected after being filled. Their responses were recorded after receiving signed informed consent. Descriptive statistics was used to express internet addiction and depression. Pearson correlation coefficient was used to find out the correlation between internet addiction and depression.

Results: There is an inverse relationship between internet addiction and mental health. Through this study it can also be said that students who are addicted to the internet are at risk of minimal, mild, moderate, and severe depression.

Conclusion: The study confirms high prevalence of internet addiction among undergraduate students of physiotherapy. The results also suggest an inverse relationship between internet addiction and mental health of students and students are prone to risk of minimal, mild, moderate, and severe depression.

Keywords: Addiction, depression, internet, mental health, students

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Abstract no: 32

Development and Validation of Caregiver Stress Scale for Children With Disability for Indian Population

Vivek Ramanandi[1], *A Bachkaniwala*[2], *M Prabhakar*[3]
[1]Associate Professor. [2]Assistant Professor, SPB Physiotherapy College, Surat, Gujarat
[3]Ex-superintendent, Civil Hospital, Ahmedabad, Gujarat

Background: Caregiver stress is an important factor affecting family centered rehabilitation for disabled children. An outcome measure developed and validated for Indian socio-cultural context can provide insights regarding beliefs and attitudes of caregivers regarding stress of caregiving.

Aim and Objectives: This study focused on developing and validating a scale for assessment of caregiver stress among caregivers of children with disability in India.

Methods: A mixed-method study including total 125 caregivers in three phases along with a team of 10 experts was conducted between June 2018 to May 2019. A draft scale was developed following qualitative analyses of data received by face-to-face interviews of 21 caregivers. Content and face validity was assessed with the help of an expert panel and pilot study conducted on 47 caregivers. Content validity index (CVI) with kappa statistics were used for content validity, and construct validity was assessed using Pearson's correlation coefficient for comparison with Parental stress scale Gujarati version (PSS-G) by data collected from 57 caregivers in the last phase.

Results: The newly developed scale showed acceptable levels of content validity at both item level and scale level. Moreover, Pearson's correlation coefficient ($r=0.9182$, $p<0.001$) also supports construct validity of caregiver stress scale when correlated with PSS-G for caregivers of disabled children.

Conclusion: The caregiver stress scale for disabled children is culturally appropriate and a valid outcome measure. Further research can be done to extend its utility and routine use in clinical and public health settings.

Key words: Caregivers, children, disability, stress, validity

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 33

Efficacy of Transcutaneous Auricular Vagal Nerve Stimulation on GERD among Elderly Population

Vanitha Jayaraj[1], *Vignesh Srinivasan*[2], *Kumaresan.A*[3], *Prathap Suganthira Babu*[4], *Jagatheesan Alagesan*[5]

[1]Assistant Professor, Mohamed Sathak AJ College of Physiotherapy, Chennai

[2]Assistant Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

[3,4,5] Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Gastroesophageal reflux disease (GERD) is a common cause of discomfort and morbidity worldwide. The aim of this study is to show the effects of transcutaneous vagal nerve stimulation on GERD among elderly individuals. We investigated the factors associated with different measures of GERD symptoms, including frequency, subject perceived severity, by using the GERD severity scale.

Materials and Methods: This pilot study was done in a private physiotherapy OPD, Saveetha medical college, and hospital Thandalam, Chennai. A total of ten subjects had been chosen based on the inclusion and exclusion criteria using a convenient sampling technique. All 10 subjects were assessed using the FSSG scale pre-test. Later, the intervention of non-invasive transcutaneous vagal nerve stimulation was given and again FSSG scale used for the post-test. The result and the collected data were tabulated and analyzed.

Result: Significant differences between pre-and post-test measures were analyzed using a paired t-test that showed a p-value less than 0.0001 and considered to be statistically significant. A statistically significant difference between the groups was defined as a P value of less than 0.005.

Conclusion: The present study showed the prevalence of GERD symptoms among geriatric individuals and the result showed effectiveness of trans auricular vagus nerve stimulation supportive for the management of GERD symptoms and severity among geriatric population.

Keywords: Transauricular vagus nerve stimulation, GERD, GI dysfunction, Geriatric population

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Abstract no: 34

Efficacy of Transcutaneous Electrical Nerve Stimulation and Respiratory Exercises to Improve Functional Capacity in Post CABG Patients

S.Venkatasubramaniam[1], *Muthukumaran.J*[2]
[1]Principal, Kavery College of physiotherapy, affiliated to Dr.MGR medical university, Mecheri
[2]Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Post CABG hospital stays and Quality of life depends upon cardiac rehabilitation. Pain and lung complications may extend the duration of the recovery period.

Aims and Objective: The purpose of the study is to analyze the effect of TENS in CABG patients. To analyze the effect of respiratory exercises & functional capacity in Post CABG patients

Methods: 30 subjects were selected by convenient sampling and were randomly assigned into two groups, Group A and Group B. Group A received Respiratory Exercises along with TENS & Group B Received Respiratory Exercises alone. This study was carried out for a period of 10 weeks and the values of the parameters selected were assessed on the 2nd postoperative day and 12thpost-operative day. The results in various parameters were compared.

Results: In VAS, 6 patients of them in group A had maximal improvements and the remaining 9 patients had a moderate improvement for group B, 4 patients had maximal improvement and 4 patients had minimal improvements and the remaining 7 patients had moderate improvements. In 6MWT, 5 patients of them in group A had maximal improvements and 1 patient had a minimal improvement and others had a moderate improvement. For group B, 6 patients had a moderate improvement and the remaining had a minimal improvement. In PEFR, 8 patients in group A had maximal improvements and others had a moderate improvement. For group B, 11 patients had a moderate improvement and the others had minimal improvement. Hence group A showed a better outcome than group B.

Conclusion: The outcome of the data collection reveals that the application of TENS plays a vital role in the reduction of pain in patients with CABG. The recordable change shows in visual analogue scale, six minute walk test and peak expiratory flow rate. Hence, rejecting the null hypothesis and accepting the alternative hypothesis which could be stated as “There is significant difference between the effects of Transcutaneous Electrical Nerve Stimulation and Respiratory Exercises on functional improvement in post CABG patients.”

Keywords: TENS, Respiratory exercises, CABG

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An International Journal

Abstract no: 35

Influence of Tendon Neuroplastic Training in Grip Strength of Patient With Lateral Elbow Tendinopathy – A Case Report

Srinivasulu M[1], *Sangeetha K*[2], *Periyasamy A*[3]
[1]Assistant Professor, Vydehi Institute of Physiotherapy, Bangalore
[2]Clinical Physiotherapist, KITES Senior Care, Bangalore
[3]Clinical Physiotherapist, Spectrum Physio Centre, Bangalore

Background: This case study aimed to evaluate the influence of TNT exercises on Grip strength evaluation in functional position of the elbow in the patient with Lateral Elbow Tendinopathy.

Case Description: 38-year-old female IT worker, experiencing elbow pain for 6 months in the lateral aspect of her right elbow, which is 3-4 cm distal to the lateral epicondyle of the humerus**.** Patient underwent a 4 weeks supervised TNT program and static stretching exercises for extensor muscle group of wrist joint and isometric training for wrist extensors in both 90 degree elbow flexion and 0 degree elbow extension positions to improve functional integrity. In addition, rotator cuff muscles and scapular muscles were strengthened, and supinator muscle strengthening exercises were performed. Outcome measures were recorded / evaluated at week 0 (baseline), at week 4 (last day of the treatment) and at week 12 (2 months after the end of treatment). Function and pain were measured in this study, where pain-free grip strength was measured with handheld dynamometer to evaluate function, and pain was measured by using a visual analogue scale (VAS) and finally, both pain and function were measured by using Patient-Rated Tennis Elbow Evaluation (PRTEE).

After therapeutic interventions, at week 4, the grip strength was 24.3kgs and pain score on VAS was 1 and PRTEE Questionnaire score was 8. At week 12, pain score on VAS was 0 and PRTEE Questionnaire score was 5 and grip strength was 31kgs. There was a marked increase in grip strength with increment of 20.18kg from baseline and marked reduction in pain score (VAS) with 8 points and marked reduction in PRTEE Questionnaire with 66 points.

Conclusion: TNT exercises can improve grip strength and result in pain reduction in the patients with Lateral Elbow Tendinopathy with a multi model exercise approach. This functional position evaluation gives insight about the functional recovery of a patient where a patient is able to do the daily activities which are involved in this position. And also, the same gives much scope for future studies as an insight, to frame the high quality treatment regime and evaluation methodology.

Keywords: Lateral Elbow Tendinopathy, Grip Strength, Tendon Neuroplastic Technique, Functional Position, PRTEE

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Abstract no: 36

Effect of Brain Gym Exercises on the cognitive issues in obese women with Polycystic Ovary Syndrome

Priya kumari,[1] *P. Senthil Selvam*[2]
[1]Assistant Professor, Sathyabama college of Physiotherapy, Sathyabama Institute of Science and Technology
[2]HOD , Vels School of Physiotherapy, VISTAS, Thalambur

Background- Polycystic ovary syndrome (PCOS) is associated with increased psychological distress. Cognitive issues in women with PCOS are found to be more than women without PCOS. Exposure of excess androgen, insulin resistance in obese PCOS women may affect the cognition in obese women with Polycystic ovarian syndrome.

Aim: To find out the effect of Brain Gym Exercises on the cognitive issues in obese women with Polycystic Ovary Syndrome

Objective: To find out the cognitive issues in obese PCOS women. To find out the effect of Brain gym on cognitive issues in obese PCOS women

Methodology: Total 52 obese PCOS women were taken for the study out of which 8 samples dropped out due personal reasons. Remaining 44 samples were randomly allocated (using a lottery method) in the experimental group A and control group B respectively. Group A was given Brain gym exercises. Group B was given lifestyle modification. Results were tabulated using statistical analysis.

Result: The intervention group showed significant improvement than the control group with ($p \leq 0.001$).

Conclusion: This study concluded that the cognitive functions are affected in obese women having PCOS which leads to adverse effects on quality of life. Thus the Brain gym exercises lead to improved mental health in turn resulting in improved cognitive functions.

Key Words: Cognition, Brain gym exercises, Quality of life, Polycystic ovarian syndrome, Obesity

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An International Journal

Abstract no: 37

Intratester and Inter -Tester Reliability of Fitmust Hand Held Dynamometer

S. J. Kanimozhiselvi[1], *M. Sindhuja*[2], *J.Radhika.M.D*[3]

[1]Research Scholar , [2]Research Scholar, [3]Professor, SRM College Of Physiotherapy ,SRM Medical College Hospitals & Research Centre , SRMIST, Kattankulathur, Chennai

Background: Strength testing is one of the major assessment tool for physical strength examination and an increase in strength is the aim of many rehabilitation programs. Manual muscle testing (MMT) is the most commonly used method of strength testing in the clinical settings and is a subjective measurement technique whereby the tester applies resistance to a maximum voluntary muscle contraction. The reliability of Fitmust handheld dynamometer has not been previously reported in literature.

Aims and Objectives: The aim of the study is to test the reliability of Fitmust hand held dynamometer for lower limb muscles in comparison with Jamar Hand Held dynamometer.

Methodology- Maximum voluntary isometric contraction of hip extension, knee extension and plantar flexion are measured by two different therapists8 on different days using a fit must handheld dynamometer for 40 healthy participants of age category 18- 30 years.

Results: Data's were tabulated and results were correlated through correlation analysis by using SIGMA PLOT SPSS software**.**

Conclusion: Intra-tester reliability data obtained for assessor 1 and assessor 2 were consistent for knee measurements. However, data for the hip and ankle varied considerably. Assessor's 1 and 2 demonstrated 'moderate to excellent' association for knee measurements.

Keywords: Fitmust handheld dynamometer, Jamar hand held dynamometer, Reliability

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Abstract no: 38

Prevalence of Forward Head Posture among Healthy Participants and Subjects with Neck & Shoulder Pain Using Photogrammetric Quantification Analysis, A Strobe – Cross Sectional Study

M. Sindhuja, S. [1] *J. Kanimozhiselvi*[2], *J.Radhika*[3]

[1]Research Scholar, [2]Research Scholar, [3]Professor, SRM College Of Physiotherapy

SRM Medical College Hospitals & Research Centre, SRMIST, Kattankulathur

Background: Muscular and skeletal structures can change into an incorrect shape due to a reduction in physical activity and inappropriate posture habits in daily living.

Aim of the study: To study and investigate the forward head posture which is related to shoulder and neck pain.

Materials and Method: The design of this study was observational cross sectional study and conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology Statement (STROBE).The study was conducted between January 2023 and March 2023. A total of 65 participants (42 males, 23 females) aged 18 - 35 years. Neck pain was measured using Neck Disability Index (NDI), shoulder pain was measured using DASH questionnaire, Forward Head Posture (FHP) was measured using CVA angle by photogrammetry.

Results: Data's were tabulated and results were correlated through correlation analysis by using SIGMA PLOT SPSS software**.**

Conclusion: Shoulder pain and cervical spine dysfunction can potentially be related and an increase in neck pain causes increased Forward head posture.

Keywords: Forward head posture, Photogrammetric Quantification analysis, Neck and Shoulder pain

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Abstract no: 39

Effect of Modified Breathing Exercise to Improve Abdominal Strength in Cesarean Section Women

***Dasarapu Indrani*[1], *Jagatheesan Alagesan*[2], *Prathap Suganthirababu*[3], *Dubba NagaRaju*[4]**
[1;4]Research Scholar, Saveetha College of physiotherapy, SIMATS, Chennai
[2]Professor & Principal, Saveetha College of physiotherapy, SIMATS, Chennai
[3]Professor & Vice-Principal, Saveetha College of physiotherapy, SIMATS, Chennai

Background: The present National Policy for Health Promotion places a strong emphasis on raising public awareness of the importance of various forms of health and exercise. The woman's musculoskeletal system is impacted by several physiological events that take place during pregnancy. The inter-recti distance (IRD) typically increases and the abdominal muscles are stretched greatly which weakens the abdominal muscles. One of the lifesaving procedures used on women most frequently today is a cesarean section (CS) for delivery.

Aims and Objective: The purpose of the study is to find the effect of modified breathing exercise to improve abdominal strength in post CS women.

Methods: A single blinded pilot randomized controlled trial was conducted on CS women. Post CS women were divided into 2 groups, that is group ADM (Abdominal Draw-in Maneuver) and group CBE (Corset Breathing Exercise) based on inclusion and exclusion criteria. Women who underwent LSCS, Postpartum women between age of 20 to 35 years, and women with 6 weeks of postpartum are included in the study. Postpartum women with severe co-morbidities, women with postpartum complications are excluded from the study. The outcomes used in the study were pressure biofeedback unit and Abdominal curl test .Group ADM are treated with Abdominal Draw-in Maneuver and group CBE treated with Corset Breathing Exercise.

Result: The result of the study showed that there was a significant difference between the groups. Statistical analysis of post test values of pressure biofeedback unit and Abdominal curl test revealed that post CS women who received Corset Breathing Exercise in group CBE showed marked improvement compared to group ADM.

Conclusion: This study concluded that both groups ADM and CBE resulted in positive outcomes but group CBE with Corset Breathing Exercise showed more positive outcome in improving abdominal muscle strength.

Keywords: Abdominal strength, Lower Segment Cesarean Section, Postpartum women, pressure biofeedback unit, abdominal curl test, abdominal Draw-in Maneuver, Corset Breathing Exercise

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Abstract no: 40

Effect of body weight exercises for COVID-19 Survivors

***Dubba NagaRaju*[1], *Muthukumaran Jothilingam*[2], *Dasarapu Indrani*[3].**

[1;3]PhD Scholar, [2]Professor, Saveetha College of Physiotherapy, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai

Background: People recovered from the global pandemic of coronavirus disease 2019 (COVID-19) are known as COVID-19 Survivors. After recovery from COVID-19, Survivors faced multifarious health problems, still future research is required on disease and its long term effects. Most of the COVID-19 survivors are suffering with Musculoskeletal system problems and they are affected by acute peripheral and respiratory skeletal muscle dysfunction accompanied by polyneuropathy and myopathy which resulted in decreased muscle strength, limited physical activity, impaired functional performance. Hence our study is undertaken with an intention to provide to provide body Weight exercises for COVID-19 Survivors to improve muscle strength.

Aim: The aim of the study is to provide body Weight exercises for COVID-19 Survivors.

Method: A randomized controlled trial was conducted on Covid - 19 Survivors by following PAR-Q and ACSM risk stratification. Covid-19 survivors were divided into 2 groups .Group-A and Group-B based on inclusion and exclusion criteria. The subjects were fully explained about the study and after getting their consent. The outcomes used in the study were a 6 minute walk test, sit and reach test. Group-A is treated with conventional exercises and group-B is treated with Body Weight exercises.

Result: The result of the study showed that there was a significant difference between the groups. Statistical analysis of post test values of 6 minute walk test and sit and reach test revealed that Covid-19 survivors who received Body Weight exercises in group-B showed marked improvement compared to Group-B, the p value for both the outcomes are less than 0.001($P< 0.001$).

Conclusion: This study concluded that both groups resulted in positive outcomes but group-B with Body Weight exercises showed a higher level of positive outcome in improving muscle strength.

Keywords: Coronavirus disease, COVID-19 Survivors, 6 minute walk test, sit and reach test Muscle strength

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Abstract no: 41

The Efficacy of Bobath Based Techniques and Motor Relearning Programme in Lower Extremity Motor Performance in Patients with Moderate Stroke of Middle Cerebral Artery Involvement

Michael Selvaraj A[1], *Manoj Abraham*[2], *Sindhu B*[3]
[1]Research Scholor, [2]Principal, KG College Of Physiotherapy, Coimbatore
[3]Assistant Professor, Spurthy College of Physiotherapy, Rajiv Gandhi University Of Medical Sciences, Bangalore

Background: Patients with cerebrovascular accidents have deficit in motor control intervention in the form of Bobath based technique or Motor relearning programme is required. The quantitative analysis in term improvement brought about in motor function of Middle Cerebral Artery stroke patients between Bobath based therapy and Motor relearning programme has not been clearly delineated.

Aim: The efficacy of Bobath based technique and motor relearning programme in lower extremity motor performance in patients with moderate stroke of Middle Cerebral Artery involvement.

Methodology: Thirty subjects were selected and divided into two groups based on selection criteria with age groups between 45-55, both male and female, people affected by Middle Cerebral Artery stroke were included and those with cognitive deficits, visual and hearing disturbances, were excluded from the study. Pre-test was done by using Fugl-Meyer Motor Assessment (FMMA) - lower extremity as an outcome measure, proceeding with the treatment protocol; Group A: were the control group who received Bobath approach. Group B: were the experimental group who received a motor relearning programme, treatment was given for 45 minutes, 3 times per week for 4 weeks, total sessions 12. After the cessation of the treatment protocol, post-test was done using the same outcome measure.

Results: Result of the study shows Motor relearning programme was effective in the Motor recovery of Lower extremity in patients with middle cerebral artery stroke.

Conclusion: Functional training which concentrates on strengthening the muscles is an effective technique which can be easily applied in stroke clients. This technique trains the lower limb muscles both eccentrically and concentrically. Biomechanical studies prove that eccentric strengthening exercise is highly beneficial than other forms of strengthening programmes. Motor relearning programmes applied in stroke patients prove that they are highly beneficial than the Bobath approach.

Keywords: Stroke, Bobath approach, Motor Relearning programme Fugl-Meyer Motor Assessment (FMMA)

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Abstract no: 42

Development and Validation of Caregiver Stress Scale for Children with Disability for Indian Population

Vivek Ramanandi[1], *A Bachkaniwala*[2], *M Prabhakar*[3]
[1]Associate Professor, [2]Assistant Professor, SPB Physiotherapy College, Surat, Gujarat,
[3]Ex-superintendent, Civil Hospital, Ahmedabad, Gujarat

Background: Caregiver stress is an important factor affecting family centered rehabilitation for disabled children. An outcome measure developed and validated for Indian socio-cultural context can provide insights regarding beliefs and attitudes of caregivers regarding stress of caregiving.

Aims and objective: This study focused on developing and validating a scale for assessment of caregiver stress among caregivers of children with disability in India.

Methods: A mixed-method study including total 125 caregivers in three phases along with a team of 10 experts was conducted between June 2018 to May 2019. A draft scale was developed following qualitative analyses of data received by face-to-face interviews of 21 caregivers. Content and face validity was assessed with the help of an expert panel and pilot study conducted on 47 caregivers. Content validity index (CVI) with kappa statistics were used for content validity, and construct validity was assessed using Pearson's correlation coefficient for comparison with Parental stress scale Gujarati version (PSS-G) by data collected from 57 caregivers in the last phase.

Results: The newly developed scale showed acceptable levels of content validity at both item level and scale level. Moreover, Pearson's correlation coefficient ($r=0.9182$, $p<0.001$) also supports construct validity of caregiver stress scale when correlated with PSS-G for caregivers of disabled children.

Conclusion: The caregiver stress scale for disabled children is culturally appropriate and a valid outcome measure. Further research can be done to extend its utility and routine use in clinical and public health settings.

Key words: Caregivers, children, disability, stress, validity

Indian Journal of Physiotherapy and Occupational Therapy
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Abstract no: 43

Effectiveness of Volume-Oriented Incentive Spirometry on Diaphragmatic Mobility in Patients With Tracheostomy

***Sankarganesh A*[1], *A. Kumaresan*[2], *Natesh Prabu R*[3]**
[1]Ph.D Research Scholar, [2]Ph.D, Professor, Department of Physiotherapy, SIMATS Thandalam, Chennai
[3]M.D. D.M. EDIC Associate Professor, Department of Critical Care Medicine, St John's Medical College Hospital, Bengaluru

Background: Any patient with tracheostomy tube in situ who requires chest physiotherapy should be offered incentive spirometry. This allows the patients to be actively involved in recovery and prevention of pulmonary complications. Offering balloon blowing and incentive spirometry to patients with tracheostomy requires some modification in the incentive spirometer. Lung expansion can be largely influenced positively by improving the respiratory mechanics with proper usage of incentive spirometry for tracheostomy patients focused on diaphragm mobility.

Aims and Objectives: The present study was designed to determine the Effectiveness of volumetric incentive spirometry on diaphragmatic mobility in patients with tracheostomy.

Methodology: Quasi-experimental, experimental, convenient sampling and sample size of 7 subjects. Patients were eligible for participation if they were older than 18 years and had a tracheostomy. Spirometry exercises were performed using a protocol adapted from the American Academy of Respiratory Care guidelines. Patient data were recorded, including age, sex, diagnosis, and comorbidities. The details of the spirometry exercises, types of spirometry device, number of sessions per day, breath per session and volume of breath first and last day were also recorded along with any complications that occurred.

Results: An incentive spirometer was adapted for use with tracheostomy patients. A total of 7 patients were enrolled (mean age 45 years). Patients used the incentive spirometer for a mean of 5.4 days during the postoperative period, averaging 4.8 sessions per day and 10 breaths per session. The device was well tolerated by patients, and there were no complications associated with its use. The average volume of breath per ml on the first day of incentive spirometry is 485.7 ml and the last session is (Post) 900 ml.

Conclusion: The study showed significant increase in lung volume in 1st and last session (485.7 to 900 ml). Hence it shows significant improvement in lung expansion without complications.

Key Words: Tracheostomy, incentive spirometry, lung expansion

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Abstract no: 44

Effect of Structured Low and Moderate Intensity Physical Activity Initiated During Second Trimester of Pregnancy on Infant's Neurobehavior and Maternal Metabolic Health Compared To Routine Physical Activity During Pregnancy: A Single Blinded Randomized Controlled Trial

Smita Elizabeth Joseph[1], *Jagatheesan Alagesan*[2],*Annamma Thomas*[3] , *Suman Rao P*[4], *Anitha Devnath*[5]

[1]Assistant Professor, Department of Physiotherapy, [3]Professor & Head, Department of OBG, [4]Professor, Department of Neonatology, [5]Professor, Department of Biochemistry, St John's Medical College Hospital, Bangalore

[2]Professor & Principal, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Physical activity performed mid-pregnancy is beneficially associated with maternal cardio metabolic health and neonatal adiposity, without influencing gestational age or birth weight. The General Movement Assessment is found to be the best tool to predict mild-to-moderate motor and cognitive delays.

Aims and Objective: The objective is to find the effect of structured physical activity after the first trimester of pregnancy on the neonatal adiposity that will be assessed with the cord blood leptin levels and the skinfold thickness and the effect of structured physical activity after the first trimester of pregnancy on the maternal metabolic health, which will be assessed with the OGTT and late pregnancy gestational weight gain.

Method: Pregnant women visiting St. John's Medical College & Hospital who fulfill the inclusion criteria will be allotted into the conventional or study group through block randomization. The participants in the control group will be advised conventional physical activity and participants in the study group will be advised structured physical activity based on ACOG guidelines. Regular monitoring for compliance to the study protocol will be done. The leptin levels in cord-blood will be assessed and the anthropometry of the infant will be measured within 24-72 hours of birth. General Movement Assessment (GMA) of the neonate's movement will be done with the pre-recorded video by an assessor blinded to the procedure.

Result: Data will be analyzed using StataCorp. 2019. Stata Statistical Software: Release 16. College Station, TX: StataCorp LLC

Conclusion: At the end of the study it will be determined whether there is any beneficial effect of structured physical activity initiated during the second trimester of pregnancy on infants' Neurobehavior and maternal metabolic health compared to routine physical activity during pregnancy.

Key words: Physical activity, cord-blood leptin, general movement assessment (GMA)

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Abstract no: 45

Effectiveness of Percutaneous Electrical Nerve Stimulation and Dry Needling of Quadratus Lumborum among Chronic Low Back Pain Patients

S. Gerald Edwin raj [1], *Vinodhkumar Ramalingam*[2]
[1]Research scholar, Saveetha college of Physiotherapy, SIMATS, Chennai
[2]Professor, Saveetha college of Physiotherapy, SIMATS, Chennai

Background: Low back pain is chronic if it has been present for longer than three months. Chronic low back pain may have originated from an injury, disease, or stress on different structures of the body. Low back pain has been described as a twentieth century healthcare disaster. Eighty percent of the population is affected by this symptom at some time in life. Impairments of back and spine are ranked as the most frequent cause of limitation of activity in people younger than 45 years. In 2 percent of the population, backache is the presenting complaint in the general practitioner's clinic. 78 percent men and 89 percent women. It was believed that bad posture was responsible for most of these cases. Activities like sustained repetitive movements, twisting, bending, sedentary posture for prolonged duration, muscle imbalance, etc. leads to trigger point formation making quadratus lumborum as a common source of low back pain.

Aims and Objective: The study aims to compare and find out the effectiveness of Dry Needling technique and percutaneous electrical nerve stimulation technique in the management of pain and functional disability among the patient with low back pain.

Methodology: A randomized control trial study will be undertaken. Twenty subjects of chronic low back pain aged 18 to 40 years will be selected who fulfilled the inclusion and exclusion criteria for the study and consecutively divided into two groups. Group A will be receiving Dry Needling technique and Group B subjects will be treated with percutaneous electrical nerve stimulation technique and the outcome measures will be measured using Visual Analogue Scale and Oswestry Disability Index score for pain and functional disability.

Discussion: The Visual Analogue Scale will be used to evaluate pain and Oswestry Disability Index was used to evaluate functional disability of the patient. By using these outcome measures for dry needling management the low back pain patients will be addressed and will be treated and the expected results will be updated.

Keywords: Chronic low back pain, VAS, PENS, Trps, ODI

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Abstract no: 46

Feasibility of an Exercise Protocol on Stable and Unstable Surfaces on Lower Extremity Function and Balance in Postmenopausal Women with OA Knee - A Pilot Study

Saji VT [1],*K.Kotteeswaran*[2]
[1]Professor,Co operative institute of health sciences, Thalassery, Kannur district
[2]Professor,Saveetha College of Physiotherapy, SIMATS, Thandalam

Background: Menopause from the Greek word, men (month) and pausis (cessation) is defined as the end of a woman's fertile life following loss of ovarian follicular functions, usually occurring in the late 40s to early 50s. Declining levels of estrogen during menopause increases a woman's risk of acquiring osteo-arthistis. The prevalence of knee joint OA shows an upward trend during perimenopausal period and continues to increase throughout menopausal period.

Aims and Objective: The primary objective was to find the feasibility of the exercise protocol and secondary objective was to gain some insight into the relative efficacy of exercise protocol in improving lower extremity function and balance.

Methods: 12 patients satisfying the inclusion and exclusion criteria were recruited for the study. They were allocated randomly into 3 groups (control, exercise protocol on stable surface with conventional exercise, exercise protocol on unstable surface with conventional exercise) for a 6 weeks exercise program. Feasibility and safety were measured by adherence rate, dropout rate and number of adverse events. Participants were measured at baseline and post intervention 6 weeks later. The relative efficacy of exercise intervention was measured by KOOS, TUGT AND MMT.

Results: Feasibility of the exercise program was assessed through recording of adherence in the exercise log book. High adherence, 3 drop-outs, no serious adverse events, and reduced overall pain were reported. Almost 1 in 5 sessions resulted in substantial pain incidents, although these typically settled quickly. Significant improvements occurred in function, strength and mobility following the 6 weeks for intervention groups. The result of the feedback questionnaire suggested that the exercise program was mostly well accepted.

Conclusion: All exercise groups were feasible and safe and improved physical function, strength, and balance of the patients.

Keywords: Postmenopausal women, Balance, OA knee

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Abstract no: 47

Reviewing the Literature to Find the Effect of Robotic Gait Training in Stroke Subjects

Iyyappan Manickavasagam[1], *Jagatheesan A*[2]
[1]Head of Physiotherapists, Dubai physiotherapy and rehabilitation Center, Dubai
[2]Professor & Principal, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Regaining one's ability to walk is of great importance for stroke patients. Gait training of severely affected patients after the stroke is technically difficult because of their motor weakness and balance disturbances. An innovative locomotor training that incorporates high repetitions of task-oriented practice by the use of body weight-supported treadmill training (Robotic) was developed to overcome these obstacles. To overcome problems related to conventional physical therapy, in the last years there has been an intense technological development of robotic devices, and robotic rehabilitation has proved to play a major role in improving one's ability to walk. Although several randomized controlled trials have been published regarding the usage of RAGT in patients after stroke, controversy still exists between the conventional gait training versus robotic gait training in objective measures of gait rehabilitation.

Aims and Objectives: Therefore, my aim is to review the literature which is published since 2012 related to robotic gait training and conventional physiotherapy and to do research on gait rehabilitation with stroke subjects.

Methods: Data sources, a literature search covering the years 2012 till 2022 in Pub med, NCBI, Sage, Cochrane, Medline, PEDRO, were collected and reviewed.Study selection studies of adult stroke patients, in which experimental groups received robotic gait training with both exoskeleton or endoskeleton robotic gait trainer, and with or without conventional physical therapy with outcomes studies included gait parameter such as cadence, 10MWT, speed and berg balance scale variables.

Results: The literature review explains that some of the patients benefited from the robotic assisted gait training where some literature shows that conventional has more benefit when compared to the robotic assisted gait training.

Conclusion: The results indicate that RAGT may be an effective system for gait rehabilitation when compared to conventional physiotherapy, further research is needed to investigate the outcome.

Keywords: Stroke, body weight support, robot-assisted gait training, conventional physiotherapy, RAGT

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Abstract no: 48

Effect of Bodyweight Training on Lower Limb Gait Parameters in Diabetic Peripheral Neuropathic Patients

***Kalidasan Varathan*[1]**, *A Kumaresan[2] and Supriya Kumari[3]*
[1]Research Scholar, [2]Professor, Saveetha College of Physiotherapy, Chennai
[3]MPT II Year, Krupanidhi College of Physiotherapy, Bangalore

Background: Diabetes mellitus (DM) is a metabolic disease. Diabetic peripheral neuropathy (DPN) is a common chronic complication of diabetes mellitus which results in high public health costs and has a huge impact on patients' quality of life. In diabetes peripheral neuropathy there will be involvement of sensory and motor deficits, which often result in mobility related dysfunction, balance impairments, and alterations in gait characteristics mainly like gait speed, step length, stride length and other parameters as well gets altered.

Aims and Objective: The study was conducted to investigate the effectiveness of body weight training exercise therapy on gait function in patients with diabetic peripheral neuropathy.

Methods: A total of 30 subjects with diabetic neuropathy from both sexes, with age groups ranging from 45-60 years were assigned to the single group. Patients assigned based on having diabetes more than 5 years and matching with inclusion criteria of Toronto clinical neuropathy scoring scale. All the participants received body weight training exercises 3 times a week for 4 weeks. Spatiotemporal gait parameters gait speed, step length, stride length, were assessed for all participants in the group before and after the Body Weight Training Exercise program.

Result: The data was analyzed using SPSS software version of 30.0. There was a difference observed in the group between pre and post treatment in all the measured variables. Pre-test of step length(m) 0.553±0.159 and post-test 0.61±0.174, pre-test of stride length(m) was 1.333±0.479 and post-test 1.4±0.498, and gait speed(m/sec) pre-test of 0.6±.0.133 and post-test 0.833±0.109. Results showed improvement in the gait parameters when compared with pre-test and post test scores. ($p < 0.005$).

Conclusion: As gait alteration is one of the major concerns in diabetic neuropathy patients, Body Weight Training Exercise can be supplement to traditional physical therapy exercises used for improving gait parameters in patients with diabetic neuropathy.

Key Words: Diabetic Peripheral Neuropathy, Body Weight Training, Gait, Exercise Therapy, Toronto Clinical Neuropathy Score

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Abstract no: 49

Efficacy of Gait Training with Body-Weight-Supported Gait Training amongst individuals with Stroke: A Review Study

Manoj. J[1], *Emela Mujic Skikic*[2], *K. Rekha*[3]
[1]Research Scholar, [2]Senior Physiotherapist, Senior Specialist registrar, [3]Associate Professor, Rashid Hospital, UAE, Saveetha College of Physiotherapy, SIMATS

Background: For patients with stroke, gait disability is the most frequently evident impairment. Body-weight-supported Gait training (BWSGT) is a new approach to treat gait recovery among stroke patients and has lately shown to be effective in gait training succeeding stroke, but limited researchers have measured the practicality of this intervention in enhancing function

Aims and Objectives: To explore the effect of randomized controlled trials of gait training using body weight supported systems amongst stroke patients.

Methodology: This study aimed to explore the effectiveness of gait training using body weight-supported systems amongst stroke patients by reviewing the articles. Five randomized controlled trial papers were reviewed in order to fulfill the purpose of this study. Each article is scrutinized judiciously to find out the efficacy of the intervention.

Results: This study found that mutually BWSGT and conventional overground gait training has beneficial effects on recovery as well as had influence on parameters associated to balance, mobility, and fear of fall in stroke patients.

Conclusion: Gait training progresses ambulatory skills and, to some extent, self-care in different phases of stroke, but the training regularity should be equally high. A more and improved study is required, to determine the intensity and accurate number of rehabilitation training sessions that should be carried out to restore functional gait.

Keywords: Gait Training, Body Weight Support, Balance, Stroke

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Abstract no: 50

Feasibility of Clinical and Functional Outcome Measures After Post-Operative Femur Fracture Rehabilitation in Acute Wards before Discharge: A Review

K. Rajesh Kannan[1], *Emela Mujic Skikic*[2], *K. Kotteeswaran*[3]
[1]PhD, Physiotherapist, [2]Senior Specialist Registrar, Rashid Hospital, UAE
[3]PhD, Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Even though the main aim of femur fracture rehabilitation is the return to the preinjury functional level, most of the patients fail to achieve in regaining their former levels of independence or accord. In order to determine the achieved level of functional independence, numerous measures are followed.

Aims and Objective: The purpose of the study was to analyze which outcome measures were more effective in reporting the effects of inpatient rehabilitation post femur fracture

Methodology: This study aimed to inquire about the effective outcome measures which could be utilized purely in acute care ward, and outcome measures which could be utilized over an extended period of rehabilitation phases post discharge. More than 10 trials were reviewed to attain the purpose of the study. Each trial was uniquely scrutinized to find the effective outcome measure in each phase of rehabilitation

Results: This review found that in addition to the Fracture related Pain, Range of motion, most of the studies utilized the maximal isometric knee extension strength, Timed Up and Go test (TUG), the Chair stand test, and the 10 m fast speed walking test (10 MWT), the 3-step (0–30s) Tandem test of static balance and the Short Falls Efficacy Scale International. But most of the studies commonly used Cumulated ambulation scores.

Conclusion: Based on the above review, it could be summarized that, Cumulated ambulation score is the most during the rehabilitation of femur fracture cases in acute wards. The focus of the future research study should go beyond just analyzing the effective outcome measures, but also should examine the techniques of rehabilitation which could produce the better changes in the outcomes.

Keywords: Functional Independence, Cumulated Ambulation Score, Isometric strength

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Abstract no: 51

Comparing the Effectiveness of Photomodulation Laser with Interferential Therapy and Cryotherapy in Pain Management, Quality Of Life and Balance in Post-Surgical Of Partial Meniscectomy Patients- A Randomized Controlled Trial

Hudson[1], *Kamalakannan*[2]
[1]Research scholar, Saveetha College of Physiotherapy, SIMATS, Chennai
[2]Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Meniscus are important structures for knee biomechanics, have primary functions in weight loss, increased joint congruence and influence in nutrition and lubrication of articular cartilage, meniscal lesions comprise 12-14% of the lesions that affect the knee joint. It is surgically treated with partial meniscectomy. Physiotherapy measures are needed in the postoperative period of partial meniscectomy. Treatment protocol associated with laser photobiomodulation 830nm and IFT with cryotherapy protocol demonstrates improvement in range of motion, change the parameter of the electromyography, reduction of edema, increase in pain threshold, and improvement in functionality.

Aims and Objective: The purpose of the study is to evaluate the effectiveness of Photomodulation laser with interferential therapy and cryotherapy in pain management, quality of life and balance in post-surgical or partial meniscectomy patients.

Methods: The purpose of the study is to record the effect of Photomodulation laser with interferential therapy and cryotherapy in pain management on post-surgical or partial meniscectomy. 66 subjects were selected by calculating G power version 3.1. Selected subjects were randomly assigned into three groups. Group A-22: Photomodulation LASER with Exercise Therapy), Group B-22: IFT, Cryotherapy with Exercise Therapy) and Group C-22: Exercise Therapy. The study duration is to be carried out for a period of 10 months. The study design is a randomized control trial. The values of the parameters selected will be assessed on the 2nd postoperative day and 6th week of postoperative day.

Discussion: By using the outcome measures (VAS, WOMAC and Y- Balance scale) effectiveness of Photomodulation laser with interferential therapy and cryotherapy in pain management, quality of life and balance in post-surgical partial meniscectomy patients will be addressed and treated. The expected results will be updated.

Key words: Laser, IFT, Cryotherapy, Exercise Therapy, Post Meniscectomy

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Abstract no: 52

Impact of Muscle Energy Technique on DOMS Prevention in Recreational Marathon Athletes

Dinesh Dharmalingam[1]
[1]Spectrum Physio, Bangalore

Background: Muscle tenderness due to palpation or muscle soreness, as an effect of Eccentric exercise, is very common among athletes. It is most commonly associated with exercise-induced damage of type I muscle fibers, called delayed onset muscle soreness (DOMS). DOMS-related muscle damage leads to an increase in muscle stiffness and a reduction of ROM. Muscle Energy Technique is used for conditions in which the goal is to cause relaxation and lengthening of muscles. Athletes use this as a preventive measure to prevent future injuries of muscles and joints.

Aim: To find the effects of Muscle energy technique (Reciprocal inhibition) in DOMS prevention on recreational marathon athletes.

Materials and methods: This is an experimental study, 55 healthy Male and female participants who completed their marathon before 4 hours 10 min and within the age group of 20 to 45 were included in this study. The participants who had recent injuries on their lower limbs in the past 6 months, were obese, had metabolic disease relative to bone or muscles, and had severe sprain or strain during running were excluded. Randomly participants were segregated into two groups, Group A (n= 29) received Muscle energy technique followed by percussion massage (HypericeHypervolt 2.0 Pro Percussion gun) and Group B(n= 26) received only percussion massage (HypericeHypervolt 2.0 Pro Percussion gun). Before and after the Percussion massage dorsiflexion ROM was measured to find the lactic acid draining. VAS score was taken to know about the pain as an indication of DOMS after 24 hours.

Results: The values of pre and post percussion massage shows p-values of both groups are significantly different, which is Group A's p-value is 0.000 and Group B's p-value is also 0.000. Then we conducted an independent sample t-test to find the effects of the intervention. According to that result, the p-value of the post-intervention scale is 0.001, significantly different from each other group.

Conclusion: Muscle energy technique (Reciprocal Inhibition) can prevent the muscle from DOMS after marathon running(Recreational athletes).

Keywords: Muscle energy technique; Delayed onset muscle soreness; percussion massage

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Abstract no: 53

Integrated Physiotherapy Treatments for Paraplegic Patients With Incomplete Spinal Cord Injury: A Single Case Study

***Gauthaman Ramachandran*[1], *Sabari Selvam*[2]**
[1]Physiotherapy Coordinator, Sri Venkateshwaraa Medcity Hospital, Nallur, Chennai
[2]Assistant Professor, Sri Venkateshwaraa Medcity Hospital, Nallur, Chennai

Case study: A 27 year old man became paraplegic after a fall from height. After the incident, his bilateral lower limbs showed no muscle contraction with sensory loss. The final diagnosis of MRI shows that L1 - Transverse process fracture, L2 – Spinous process fracture along with body of vertebra fracture. Patient underwent surgical correction of Harrington rod fixation with inter screw locking from L1 to L3 done. His Sensory and motor performance was assessed using International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI). Numerous endeavors have been taken to develop effective treatments for SCI; but still, proven treatments improving neurologic regeneration and functional recovery have been limited. We hypothesized that the neural regeneration and functional recovery in incomplete paraplegia could be improved by early training. We developed integrated therapies; such as functional mobility, Electrical stimulation and Exoskeletal Gait Orthosis, Patients underwent the above treatment for 90 days. We have found that the integrated approaches and early therapies have been significantly improves the functional ability and gait pattern by using ISNCSCI scale from A to E (ASIA Scale)

Results: Early functional mobility training, Electrical stimulation and weight bearing training with HKAFO has proven significant improvement in motor function and sensory function

Conclusion: Integrated Physiotherapy treatments has improved the motor function and prevent the further complications like: Respiratory complications, Pressure sores, Deep vein thrombosis, contractures & heterotopic ossification

Key words: Spinal Cord injury, Exoskeletal Gait Orthosis, Electrical Stimulation

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Abstract no: 54

Preferences in treatment of Menstrual pain among women- A Narrative Review

Smruti Swagatika Dash[1], *Annie Thomas*[2]
[1]PhD Scholar, Department of Physiotherapy, School of Health Sciences, Garden City University, Bangalore
[2]PhD, Professor, Department of Physiotherapy, School of Health Sciences, Garden City University, Bangalore

Background: Menstrual pain, also known as dysmenorrhea, is a common condition that affects a large number of women worldwide. Around 45-95% of women experience menstrual pain, which can significantly affect their quality of life. In India the incidence of menstrual pain, is around 84.2%. There are a variety of treatments available to manage menstrual pain, and women have different preferences for these treatments.

Methods: A literature search was conducted using electronic databases, including PubMed, CINAHL Plus with full text, Cochrane Library (Wiley), Healthcare Journals, Medline/ PubMed, Google, Google Scholar and Science Direct. The search terms used were "menstrual pain," "dysmenorrhea," "treatment," and "preferences." The studies included in this review were selected based on their relevance to the topic, and the data were synthesised narratively.

Results: The preferred treatment option is non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen or naproxen. Women also prefer heat therapy, such as using a hot water bottle or a heat patch, as it provides a non-invasive, affordable, and easily accessible option for managing menstrual pain. Other treatment options that women prefer include exercise, dietary changes, and complementary therapies such as acupuncture and aromatherapy but further research is needed to establish their effectiveness.. Exercise, especially yoga and stretching exercises, have been found to be effective in managing menstrual pain. Dietary changes, such as reducing salt and caffeine intake, have also been found to be helpful. In contrast, women are less likely to prefer hormonal treatments, such as oral contraceptive pills or hormone replacement therapy. These treatments are associated with side effects, and some women are reluctant to use them due to concerns about long-term health risks.

Conclusion: NSAIDs and heat therapy are the most commonly preferred options due to their effectiveness, accessibility, and affordability. Exercise, dietary changes, and complementary therapies are also preferred by some women. Hormonal treatments are less preferred due to their side effects and long-term health risks. Healthcare providers should consider women's preferences when recommending treatments for menstrual pain and work with them to identify the most suitable treatment option for each individual.

Keywords: Menstrual pain, NSAID, Exercise, Heat therapy, Diet, Hormonal treatment

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Abstract no: 55

Prevalence of Stress Urinary Incontinence in Dancers- Systematic Review

***P Sneha Balakrishnan*[1], *Annie Thomas*[2]**
[1] Research Scholar, [2] Director Physiocare /Professor /Research Coordinator,
Garden City University, Bangalore

Background: Stress urinary incontinence (UI), is most frequently observed in postmenopausal women but also experienced by dancers. Among youthful nulliparous physically active women, it causes persistent elevated intra-abdominal pressure on the pelvic floor. Exercises which require a lot of physical exertion and high impact sports, coughing and sneezing may cause an excessive increase in the intra-abdominal pressure. This increase might over-burden the pelvic organs pushing them down, causing consequently urine leakage. Different dance forms like classical and western dance both experience SUI. Thus there is a need for literature to support the prevalence of SUI in dancers with different dance styles and associated physical and mechanical risk factors to it.

Aim and Objective: To determine the prevalence of stress urinary incontinence and associated risk factors in dancers**.**

Methods Literature was retrieved through searching 5 electronic data-bases (PubMed, MEDLINE, CINAHL, Cochrane, and Google Scholar). Articles published from the year 2000 up to including 2023 with full text were included. 9 studies were included in this systematic review.

Results SUI is prevalent in female dancers irrespective of the dance styles and can be managed with few preventive techniques and pelvic floor muscle training.

Conclusion This study aims to call attention to this gap of enumerating the various risk factors for SUI in dancers. If these risk factors are listed out for SUI in dancers it is easier for a rehabilitation program to be implemented which will emphasize dancers to be trained at an early stage.

Key words: Stress Urinary Incontinence, Dancers

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Abstract no: 56

Impact of Sustainable and Inclusive play areas in the development of gross motor skills for children aged 3 to 8 years diagnosed with cerebral palsy (spastic Diplegia)

Freddy Krishnan[1], *Kotteeswaran*[2]
[1]PhD Research Scholar, Al Jalila children speciality Hospital, Dubai
[2]PhD, Professor, Saveetha college of Physiotherapy, SIMATS, Chennai

Background: Lack of gross motor skills is often mistaken as a child's inability to experience the play environment because of limitations caused by their delay in developmental milestones. Actually, this delay in development can be viewed as a motor skill which can be taught if the child is facilitated therapeutically in Inclusive play areas.When the play environment supports the needs and abilities of the whole child, the child experiences active, independent play.

Aim: When I was trying to do a literature review on this topic it was noted that this subject was under-researched and if we focus on some specific areas we will be able to get answers for a lot of questions.

Objective of the study: To check the need for promoting an ideal arena for children lacking motor skills, its impact on design and access to the play area with respect to a barrier free environment. To create an ideal play arena which will enhance the gross motor skills and promote motor learning naturally keeping in mind the sustainability aspect where we can have the least carbon footprint.

Materials and Methodology: Various mediums can be used to collect feedback and opinions from the parents and caregivers to gather the data through online surveys, telephonic surveys, face - to- face surveys and paper surveys.

Results: Based on the analysis of the data the likelihood of redesigning the play area or recommending designing a new play area with equipment which will enhance their gross motor skills is expected.

Conclusion: An Inclusive Play area will set an example for the growing need for similar settings to enhance gross motor skills and also it provides the following benefits like creating a safe social environment, where social play can be encouraged. It gives interactive family time, encourages community engagement, promotes sensory play for all, sets community standards and encourages community engagement

Keywords: Inclusive play, emerging skills, facilitate, gross motor skills, sustainability

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Abstract no: 57

Effect of Aerobic Exercises with or without Supervision to Reduce Risk of falls in Individuals Suffering with Diabetic Neuropathy

Kalyan.G[1]

[1]Research Scholar, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of different organ functions. Diabetic neuropathy (DN) is one of the most common complications of diabetes, associated with lower extremity pain and sensory loss caused due to degeneration of peripheral nerves. Long-standing diabetics may experience pain and significant deficits in tactile sensitivity, vibration sense, and joint position sense. People with DN may experience fatigue due to lack of physical activity and reduced cardiovascular fitness.

Aim: To find out the effect of supervised aerobic exercises in reducing the risk of falls in individuals suffering with diabetic neuropathy.

Objectives: To determine whether unsupervised aerobic exercises will reduce the risk of falls in patients with diabetic neuropathy. To determine whether supervised aerobic exercises will reduce the risk of falls in patients with diabetic neuropathy. To compare effectiveness of unsupervised versus supervised aerobic exercises to reduce the risk of falls in subjects with diabetic neuropathy.

Methods: It's a comparative study comprising two groups. Each group consists of 25 participants. The study duration was for eight weeks and the study was conducted at Tirumala college of Physiotherapy, Nizamabad. Group A received regular medications for diabetes and its complications. Additionally they will be taught aerobic exercises (AE) and they will be asked to practice for 40 mins daily at their home for five days a week for eight weeks. Group B received regular medications for diabetes and its complications. Additionally they will be taught aerobic exercises and they have to practice for 40 mins daily in the rehabilitation center for five days a week for eight weeks. After every two weeks the scores will be recorded and evaluated at the end of eight weeks for both the groups.

Results and Conclusion: Both the group results were extracted and calculated by using paired t- tests. Initially within the groups were compared and later on between the groups. Initially both the groups showed significant change when compared with week 0, when compared between the groups, Group B showed significant change when compared between the groups.

Key words: Diabetes mellitus, Diabetic Neuropathy, Aerobic Exercises

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Abstract no: 58

Systematic Review on Effectiveness of Concise Arm and Hand Rehabilitation Approach and Graded Repetitive Arm Supplementary Program on Functional Ability and Gross and Fine Motor Control Of Upper Limb in Hemiparesis Patients

Mythili. G[1], *Pratap suganthirababu*[2]
[1]PhD scholar,[2]PhD, Professor and vice principal, Saveetha college of physiotherapy, SIMATS, Chennai

Aims and Objective: To determine whether concise arm and hand rehabilitation approach is more effective than graded repetitive arm supplementary program on functional ability and gross and fine motor control of upper limb in hemiparesis patients.

Methods: An extensive systematic literature search in five databases was performed to identify clinical and randomized controlled trials, evaluate the effects of concise arm and hand rehabilitation approach and graded repetitive arm supplementary program on functional ability and gross and fine motor control of upper limb in hemiparesis patients. The methodological quality of the selected studies was systematically assessed.

Results: 72 studies were included. In which 64 studies had good to fair methodological quality, 12 studies reported positive effects of concise arm and hand rehabilitation on functional ability of hand and 4 studies reported positive effects of concise arm and hand rehabilitation approach on gross and fine motor control (muscle strength and dexterity) of upper limb in hemiparesis patients. 46 studies reported positive effects on graded repetitive arm supplementary program on functional ability of hand and 32 studies reported positive effects on graded repetitive arm supplementary program on gross and fine motor control (muscle strength and dexterity) of upper limb in hemiparesis patients. 24 studies focused on patients with stroke. A great variety of therapeutic approaches were applied along with these approaches there was a wide range of training characteristics.

Conclusion: Studies supports that concise arm and hand rehabilitation approach as well as graded repetitive arm supplementary program both the approach shows significant improvement in the functional ability and gross and fine motor control of upper limb in hemiparesis patients. Both approaches are effective but there is no evidence of which approach is better than the other. So further research has to be encouraged

Keywords: Concise arm and hand rehabilitation approach, graded repetitive arm supplementary program, functional ability, gross motor control, fine motor control

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Abstract no: 59

Impact of A Vibratory Positive Expiratory Device (Acapella) on Children With Refractory Microplasma Pneumoniae Pneumonia : A Systematic Review

A D Menezes[1], *K. Rekha*[2]
[1]Research Scholar, [2]PhD, Associate Professor, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Refractory Mycoplasma pneumoniae pneumonia (RMPP) is a difficult clinical issue in children. Most M. pneumoniae pneumonia infections are minor and self-limiting, but in some cases, especially in kids with underlying conditions like asthma or immune deficiencies, they can worsen and even become life-threatening. M. pneumoniae pneumonia may not usually respond well to standard antibiotic therapy, leading to extended hospital stays or even fatalities. Acapella treatment is a non-invasive technique used to mobilise secretions and improve lung function in individuals with respiratory illnesses. Acapella therapy may help children with refractory M. pneumoniae pneumonia, according to some research.

Aim and Objective: The purpose of this comprehensive assessment of the literature was to assess how Acapella therapy affected kids with RMPP.

Method: To find pertinent papers published up to 2022, a thorough search was done using electronic databases like PubMed, SCOPUS and Google Scholar.

Results: Acapella therapy improved pulmonary function and oxygenation, shortened hospital stays, and lessened the need for mechanical ventilation in children with RMPP, according to an analysis of about 13 trials.

Conclusion: Finally, acapella therapy seems to be a promising supplemental treatment for kids with RMPP. Healthcare professionals ought to think about including this therapy in their plans of care for these individuals

Inference: Due to the small sample sizes and scarcity of randomized controlled trials, the quality of the data was, nonetheless, constrained. To confirm the utility of Acapella therapy in this demographic, added research is needed.

Keywords: Pneumonia, Acapella, Refractory Mycoplasma pneumoniae pneumonia, children

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Abstract no: 60

Effects of Extracorporeal Shockwave Diathermy in Upper Limb Spasticity Reduction - Pilot Study

***Sharmila Banu Eashak Ali*[1], *Prathap Suganthirababu*[1]**
[1]Thumbay physical therapy Rehabilitation Hospital Ajman,UAE
[2] Professor, Vice Principal Saveetha College of physiotherapy, SIMATS, Thandalam, Chennai

Background: The purpose of this study is to find out the effectiveness of extra corporeal shock wave diathermy in spasticity reduction. There are limited numbers of studies doing experimental analysis to compare the effectiveness of SWDT in spasticity. The outcome measure used in the study is a standard assessment tool. This study will be a pilot study to understand the effectiveness of the SWD on spasticity.

Methods: Randomized controlled experimental study, People with Stroke with Ashworth scale 3 and below are considered in this study, both male and female involved at age between 25 to 65 years. Inclusion criteria includes diagnosed as 1st stroke incidence 6 months back, ability to follow verbal instructions ,Upper extremity status - based on Brunnstroms's grading of upper extremity and hand: Grade 2 - 5.(2) , Modified Ashworth Scale score <3, Exclusion criteria includes Recurrent stroke. Severe contractures or deformities of upper extremity, Chronic pain affecting upper extremity function, malignant tumors, coagulopathy, pacemakers, infection. Out of 20, only 12 patients completed the 6 weeks session. Following standard stretching the shockwave provided in Biceps muscle. The treatment duration is 45 min including stretching and Range of motion exercises.

Result: Using a Wilcoxon test on the data (T = 4.1 and N= 9) the results were found to be significant at P<0.025 level for a one-tailored test. It suggest that shockwave diathermy is effective in reducing spasticity

Conclusion: In this pilot study the findings showed that ESWT combined with conventional therapy was well-tolerated and could be effective in reducing the spasticity and improving the flexibility of the movements. Further randomized controlled clinical trials with larger samples with analysis of EMG are necessary to confirm the results.

Keyword: Spasticity, shockwave diathermy, modified Ashworth scale

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Abstract no: 61

Comparative Study of VMO And Seated Clams Along With Isometric Exercise Vs Isometric Exercise In Oa Knee Patients

A.k.Vijaykrishna kumar[1]
[1]Principal, Dr.B.R.Ambedkar college of Physiotherapy, K.G.Halli, Bangalore

Background: Osteoarthritis [OA] which is a chronic degenerative disease characterized by wear on the cartilage structure, causes pathological changes in bone, subchondral bone and soft tissues and is the most common joint disease that affects patients more than other arthritis. It cause pain, loss of function, we will do comparative study and will find the effectiveness of VMO and seated clams along with Isometric exercise VS Isometric exercise, how it will help patients to recover with OA knee pain.

Aims and Objectives: Comparative study of VMO and seated clams with isometric exercise vs isometric exercise in OA knee patients.

Methodology: The study design is experimental study. The study was conducted in Dr. B.R. Ambedkar College of Physiotherapy with 30 samples by getting their consent who met inclusion criteria and exclusion criteria. 30 patients were divided into two groups Group A and Group B. A has been treated with conventional method i,e; ultrasound therapy after that isometric exercise and for Group B modified protocol i,e ultrasound therapy with isometric exercise and seated clams along with VMO strengthening followed by WOMAC [Western Ontario McMaster University of Osteoarthritis Index] and active knee flexion range of motion using goniometer were used as outcome measure pre and post treatment to know AROM of knee flexion in the patients,

Results: The result obtained shows that group 'B' has more improvement statistically than group "A", clinically in terms of pain and active knee flexion range of motion. The result shows significant improvement in VAS and active knee flexion range of motion from pre to post with $p<0.001$.

Conclusion: The present study and data analysis shows that the modified method is more effective than the Conventional method in terms of complete pre and post assessment**.**

Keywords: VMO, Osteoarthritis, NPRS [Numerical Pain Rating Scale] WOMAC [Western Ontario Macmerry University of OA**]**

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Abstract no: 62

A Pilot Study to Analyze the Effect of Otolithic Exercise in Improving Optic Refraction

Mahesh kumar P G[1], *P.V.Hari Hara Subramayan*[2], *Mohana Vidhya.M* [2]
[1]Associate Professor, and [2]Assistant Professor, Faculty of Physiotherapy, Meenakshi Academy of Higher Education and Research (MAHER), Chennai

Background: In India more than 50 % people are spending around 3 to 4 hours in a day with their gadgets. As per the records of a large-scale survey conducted across India in 2021, about 26.6 percent of the respondents between 20 to 29 years of age wore spectacles. The change in the trends pertaining to the use of electronic devices like mobile phones, Televisions and other electronic gadgets, have increased due to upliftment of the profession of the individual which in turns to eye strain conditions, leads to usage of spectacles in the very early age.

Aim: The aim of the study is to provide spectacles free-community with some evidence-based exercises. The reduced vision in the student's community is drastically changing the growth of the community. The prompt objective of the study is to evaluate the effectiveness of otolith exercises on visual acuity and reduce the propensity of subject to wear eyeglasses

Methods: Normal young adults in the age range of 18-30 will be recruited after obtaining informed consent. Spectacles wearing groups will be selected as the inclusion criteria. Both the male and female subjects will be selected on the basis of their voluntary involvement. All the participants will be taken a baseline eye power testing with help of an optometrist. The recruited group of participants will be allocated in batches and otolith exercise will be taught for every alternative day for 4 weeks duration simultaneously control group will proceed with ocular eye exercise. A post eye power testing will be taken to analyze the improvement of visual acuity.

Results: The Analysis will be performed using SPSS 17.0.1 software (SPSS Inc., Chicago, IL, USA). The effect size (Cohen d) will be calculated to provide clinical meaningfulness of the changes in optic refraction. Effect sizes were interpreted according to Cohen's guidelines; small (d=0.20), medium(d =0.50), or large (d= 0.80). The data will be described using mean, frequency distributions, SD, and percentages with 95% CI adjusted for age.

Discussion: Based on the research findings we may conclude the otolith exercise group may have better optic refraction than the control group. Though it is not studied in the current era, this study might be useful for the community. This pilot study may be a feasibility of expanding the study for more extensive research.

Key Words: Otolithic exercise, Vestibular Rehabilitation, optic refraction, Cawthorone Cooksey exercise

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Abstract no: 63

The Efficacy of Schroth 3-Dimensional Exercise Therapy in the Treatment of Adolescent Idiopathic Scoliosis

Akhil[1]

[1]Postgraduate, Bethany Navajeevan College of Physiotherapy, Nlanchira, Thiruvananthapuram

Background: Scoliosis is the lateral curvature of the spine in the upright position. In the clinical setting, the Cobb's angle analysis method is generally used. Minor scoliosis with less than a 20° Cobb's angle requires periodic observation, and scoliosis with a Cobb's angle of 20-40° requires the wearing of an orthosis to prevent progress. Scoliosis causes deformations of the spinal column and associated structures, decreases in spinal flexibility by changing the characteristics of the erector spinae muscles, and leads to imbalances of the trunk and pelvis. Schroth method involves Pelvic corrections, lengthening the spine, performing corrective breathing, and tensing the trunk muscles to maintain correct posture.

Aims and Objective: To determine the efficacy of Schroth 3-Dimensional Exercise to improve Cobb's angle, vital capacity and reduce pain on patients with idiopathic thoracic scoliosis.

Methodology: Subject performed the Schroth exercise 3 times a week for 12 weeks. At the time of the exercise program both pre and post measurement of the Pain, Cobb's angle and Vital capacity were taken. Materials required for schroth exercise program are Doorway chin-up bar, Gaitbelt, ladder belt, Ricebag, Stallbar, Woodpoles, Theraband, Soft Gym ball, SPRI band, Foamroll, Foam rolls with holes and theraband, stool, Exerciseball, Handgrip.

Result: The patient in our study had Cobb's angle decreased,Vital capacity increased, Pain on Visual Analogue Scale Reduced.

Conclusion: The 12-week Schroth exercise caused significant effects in the Cobb's angle and Vital capacity.

Keywords: Scoliosis, Schroth method, Cobb's angle, Vital capacity

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Abstract no: 64

Journey towards Functional Independence with Marden Walker Syndrome – A Case Report

Pallavi S. Variyani[1], *Pravina Ahir*[2]

[1]Assistant professor,Ashok & Rita Patel Institute of Physiotherapy, CHARUSAT Off Nadiad-Petlad Highway, Gujarat

[2]Assistant Professor, Practicing as Freelancer

Case Description: Marden Walker Syndrome is a rare connective tissue disorder. It is characterized by pre and post natal growth deficiency, blepharophimosis, cleft palate, congenital joint contractures, hypotonia and brain abnormalities. We report a case of a child of 8 years old who was diagnosed with Marden Walker Syndrome. The child also suffered from Atrial Septal Defect and recurrent infections. This case report includes the journey of a child from birth till the time he achieved his functional independence. He had undergone different medical treatments and started taking Physiotherapy treatment at the age of 2.5 years until the age of 5.5 years. The multi disciplinary rehabilitation protocol included various exercises like sit to stand, peg board exercises, orthosis for lower limb, regular consultation with physician & dietary guidance. It focused on improving his functional independence and quality of life. The child was assessed at regular intervals and the rehabilitation protocol was modified accordingly. The child is now walking, jumping, cycling independently with orthosis on. His follow up is taken through telephone at intervals. A written consent was taken from parents for disclosing the child's information and picture.

Keywords: Marden Walker Syndrome, MWS, Functional Independence, Connective Tissue Disorder

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Abstract no: 65

The Effect of Virtual Reality in Improving Hand Dexterity of Spastic Diplegic Cerebral Palsy Child - A Case Study

Balaji C [1] **,** *Madhumathi K*[2]*, P. Senthil Selvam*[3]
[1]Postgraduate, [2]Assistant Professor, [3]Professor and HOD, SOPT,VISTAS

Background: Cerebral Palsy (CP) is a condition caused by a non-progressive lesion in the developing brain. Cerebral palsy children have limitations on using their hands for fine motor and functional activities such as writing and manipulation of toys. This hinders the opposition and holding activities

Aim: To investigate the effect of virtual reality in improving hand dexterity of Spastic diplegic cerebral palsy child

Method and Materials: A single case study was done at a home based set up at Chennai.
6- year old female child with Spastic Diplegia and stage 3 of GMFCS. She is a 7 month preterm baby, low birth weight of 1200 gms with a history of sudden onset seizure after 1 week of delivery. Magnetic resonance imaging brain revealed the possibility of hypoxic-ischemic insult. The child was managed conservatively using medications. She had limitations in using her hands for fine motor and functional activities. Integrative physiotherapy approaches like Neurodevelopmental therapy, Passive-stretching, Static weight bearing exercises and task oriented activities were given. In addition to this immersive virtual reality based training, different levels of difficulty are given to improve the hand function. The Nine hole peg board and Box and Block test were used as outcome measures. The overall intervention duration is 8 weeks, 5 times a week and 90 minutes per session. The protocol follow-up period for one year

Results and interpretation: The values were tabulated and analyzed. It revealed the significant improvement when compared with pre and post-test values

Conclusion: In this study The effect of virtual reality has improved the hand dexterity of Spastic diplegic cerebral palsy child

Keywords: Cerebral Palsy, Virtual reality, Hand Dexterity, Box and Block

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Abstract no: 66

Effectiveness of Virtual Reality in Improving the Hand Strength Among Hemiparetic Stroke Patients

Rajesh S[1], *Balaji C*[1], *Aravind S*[2]
[1]Post graduate,SOPT, VISTAS, Chennai
[2]Assistant Professor, SOPT, VISTAS, Chennai

Background: Hemiparetic stroke patients have limitations to use their hands for fine motor and functional activities. Recent advancement in virtual reality technologies, the stroke patients practice specific movements and movement patterns in a computer simulated environment that emulates the real world.

Aim: To find the effectiveness of virtual reality in improving the hand strength among hemiparetic stroke patients

Method: 30 hemiparetic stroke patients (6-24 months following stroke incidence) were selected for the study. They were divided into Group-A and Group-B. Group-A underwent virtual reality and Group-B with conventional physiotherapy. Before and after the intervention hand strength was assessed using a hand dynamometer. The intervention consists of four 45 minute training sessions per week over a 6 week period for patients in both the groups.

Result: The data analysis shows Group-A statistically significant when compared to Group-B.

Conclusion: In this study virtual reality is more effective on hand strength than conventional physiotherapy. Virtual reality enables hemiparetic patients in a challenging and rewarding virtual environment.

Keywords: hemiparetic stroke patients, Virtual reality, Hand Strength

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Abstract no: 67

Value of Ultrasonography on Evaluating the Effects of Plyometric Training in Patients with Lateral Epicondylitis

Nivedhitha. J[1], *Angeline. R*[2]
[1]Post Graduate Student, Faculty of Physiotherapy, SRIHER, Chennai
[2]Assistant Professor, Faculty of Physiotherapy, SRIHER, Chennai

Background: Lateral pain in the elbow affects up to 3% of the population, and is considered an overload injury of the extensor tendons of the forearm where they attach at the lateral epicondyle. It is a chronic overuse injury commonly affecting the common tendinous origin of the wrist extensors.

Aims and Objective: The objective of the study is to find the effectiveness of Plyometric Exercises on pain, functional performance and grip strength in Lateral Epicondylitis (LE) patients using musculoskeletal ultrasound as the outcome tool. .

Material & Methods: 10 patients with the LE will be included in the study and divided into two groups; Group A: Plyometric Exercises and Ultrasound Therapy (n=5) and Group B: Conventional physiotherapy which included Ultrasound Therapy with Stretching and Strengthening Exercises (n=5). The predefined treatment protocol will be given for Six weeks. The pain, functional performance, grip strength and musculoskeletal ultrasound will be assessed at baseline and post treatment (6th week) using outcome measures

Anticipated Results: There would be a significant decrease in pain, improvement in functional performance, grip strength and ultrasonographic examination {decrease in tendon structural characteristics} in both the groups.

Conclusion: Ongoing study

Keywords: Lateral Epicondylitis, Tennis Elbow, Plyometric Exercises, musculoskeletal ultrasound, VAS, DASH, Dynamometer, Flexbar, Medicine Ball, Resistance tube

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Abstract no: 68

Effects of Exercises on B-Endorphin Levels in Chronic Low Back Pain - Model of Care

***Jain Harneet Kamlesh*[1]**, *P.Antony Leo Aseer*[2], *K.Soundarajan*[3]
[1]Postgraduate, [2]Principal, and [3]Assistant Professor, Ramachandra College of Physiotherapy, Chennai

Background: Chronic back pain is defined as pain that continues for 12 weeks or longer. Almost 80% of LBP cases resolve within a few weeks with only about 20% developing chronic disabling symptoms. CPG 2021 Recommendations state that Physical therapists should use exercise training interventions. Endorphins (endogenous morphine) are endogenous opioid neuro-peptides and peptide hormones in humans and animals. A change in plasma β-Endorphin level may be a surrogate marker of the treatment response for patients with CLBP. As VAS pain scores can be easily exaggerated, thus causing confusion for clinicians, β Endorphin level measurement may help us better quantify pain intensity.

Aim and objective: To measure the effects of trunk muscle activation and strengthening exercises on serum β endorphin levels in chronic low back pain. To analyze the effect of trunk muscle activation and strengthening exercises on serum β endorphin levels in chronic low back pain and effects of trunk muscle activation and strengthening exercises on varied clinical outcomes in chronic low back pain.

Methods and methodology: 30 patients with Chronic non specific low back pain participated in Randomized control trial Patients who meet inclusion criteria will be recruited for the study. Written informed consent will be obtained stating the purpose, Baseline measurements are taken and patients are randomly allocated to the control group or the intervention group using concealed envelope technique. Subjects will receive Trunk muscles stabilization, activation and strengthening exercises in 3 phases for 0-4 weeks, 4-8 weeks and 8- 12 weeks respectively with frequency of weekly 3 sessions. Pamphlets will be issued to subjects with the following exercise intervention with frequency, intensity, time & type of exercises. In the control group participants will be Bio psychosocial model of care, General exercises & Exercise counseling.

Results and conclusion: Not applicable as it is an ongoing study and statistics is yet to be calculated

Keywords: beta endorphin, non-specific low back pain

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Abstract no: 69

Role of Physiotherapy in Global Health - The Impact of Social Isolation during Covid-19 on Geriatric Population and The Role Of Physiotherapy

***R. Sruthi*[1], *Mohana vidya*[2],**
[1]Postgraduate, [2]Postgraduate, Meenakshi college of physiotherapy

Background: Health is a fundamental component for all persons to lead a good quality of life. Being free from illness and injury directly influences the quality of life and capacity to enjoy life. Global health emphasizes on achieving equity in healthcare for all people worldwide regardless of their race, ethnicity and economic status. Physiotherapy enhances the quality of life of a person by restoring, maintaining and improving the movement and functions for those in need. It is suggested that there is a strong relationship between global health and physiotherapy as it plays a role in framing a rehabilitation programme or community based programme in global health issues such as diabetes, obesity, cardiovascular diseases, respiratory tract infections and musculoskeletal disorders. In recent times, the covid 19 pandemic was a major concern in global health for people of all ages especially the geriatric age group. Several medical and non medical measures were taken to prevent the rapid spread of the virus, out of which social isolation played a major role.

Aim: This review focuses on how social isolation during covid 19 had an impact on the psychological and physical health of the geriatric population and the role of physiotherapy in addressing these issues.

Method: This is a narrative review. Articles were searched and reviewed from google scholar, pubmed, research gate using terms such as geriatric population, social isolation, psychological and physical health etc. Articles published from the year 2019 onwards were included and those studies which included people of age less than 60 years were excluded.

Results and conclusion: After reviewing various articles it was found that social isolation during covid 19 on the geriatric population had negative impacts on mental health such as increased anxiety, depression, feeling of loneliness, reduced quality of life,as well as physical health such as decreased muscle mass, reduced immunity and increased risk of cardiovascular diseases and performing physical exercises and using physiotherapy interventions helped in reducing these negative impacts.

Keywords: geriatric population, social isolation, covid 19, global health, physical health, psychological health

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Abstract no: 70

Metabolic Equivalent (Mets) - A Reliable Exercise Performance Indicator

D. Chandra Mouli Krishna[1] *,Sunith Waghray*[2]*, Sravana Kumar Jampa*[3]
[1]Postgraduate, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad
[2]Assistant Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad
[3]Associate Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: Metabolic equivalents, or METs, are routinely employed as guide to physical training and activity prescription as a performance indicator. There are some inherent limitations to the concept, as well as common misapplication sometimes the METs with physical activity or performance are often overestimated and underestimated.

Aims and Objective: The performance or the physical activity, fitness threshold associated with highest or lowest mortality rates may be misleading, as several other factors are influenced such as age & gender. The conventional assumptions that 1MET= 3.5ml o2/kg/min has been challenged in numerous studies that indicate a significant overestimation of actual resting energy expenditure in some populations including obese, cardiovascular disease, respiratory diseases like chronic obstructive pulmonary disease (COPD), interstitial lung disease (ILD), exercise induced bronchospasm, and taking excessive beta-blockers.

Methodology: The search strategy includes the electronic data base such as google scholar, pub med, lancet, for articles related to the topic and importance in global health and to physiotherapists.

Results and Conclusion: Metabolic equivalent, or METs is the most comprehensive technique which allows us a holistic approach as an exercise performance indicator. It provides us with a comprehensive, conceptually balanced document as a performance indicator and to facilitate interpretation, clinical application on the current best scientific knowledge and technical advances.

Keywords: Metabolic equivalent (METs), physical activity, mortality, cardiovascular and respiratory diseases, Vo2 max, personal activity intelligence (PAI)

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Abstract no: 71

A Narrative Review on Scope of Transcranial Approaches in Physiotherapy

***P . L .S. Srivalli*[1], *Naveen Kumar Balne*[2], *Sravana Kumar Jampa*[3]**
[1]Postgraduate, College Of Physiotherapy, Nizam's Institute Of Medical Sciences, Hyderabad
[2]Assistant Professor,College of Physiotherapy,Nizam's Institute of Medical Sciences
[3]Associate Professor, College of Physiotherapy,Nizam's Institute of Medical Sciences

Background: Transcranial direct current stimulation is a form of neuromodulation that uses constant, low direct current delivered via electrodes on the head. Transcranial magnetic stimulation is a non-invasive form of brain stimulation in which a changing magnetic field is used to induce an electric current in a specific area of the brain through electromagnetic induction.

Aims and Objective: The purpose of this narrative review was to summarize the current state and to create awareness to physiotherapist about neurostimulation therapies for the treatment of post-stroke depression, cluster headache, migraine, pain, Parkinson's disease, and anxiety

Methodology: For this study, searching electronic databases like PubMed and Google Scholar using the search terms "Transcranial Direct Electric Stimulation" or "Transcranial Magnetic Stimulation" and "Neurostimulation".

Results: Transcranial direct electrical stimulation has a good safety profile and is well tolerated. It can modulate motor learning by working on functional training. It can affect cognitive and emotional processes by improving symptoms of anxiety, behavior during conflict, attention and vigilance during threat, extent of negative emotions etc. It can also change cortical excitability in injured as well as uninjured brains to cause brain plasticity by modulating the lesion with different stimulation modalities. It has also shown positive effects in attack duration, frequency, medication intake in migraineurs. Transcranial magnetic stimulation is an established neurophysiological tool to examine the integrity of the fast-conducting corticomotor pathways in a wide range of diseases associated with motor dysfunctions.

Conclusion: Transcranial direct stimulation has been found to increase habituation to repetitive visual stimuli in healthy volunteers and in episodic migraine, improve activities of daily living capacity in people with stroke. Transcranial magnetic stimulation seems to be a reliable intervention for depressed subjects and improves motor, postural, and motivational symptoms.

Keywords: Transcranial direct current stimulation, Transcranial magnetic stimulation, Neurostimulation, Physiotherapy

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Abstract no: 72

Heart Rate Variability and Its Applications For Stress Management

***Routhu Hari Guruvulu*[1]**, *Naveen Kumar Balne*[2]
[1]Postgraduate, College of physiotherapy, Nizam`s institute of medical sciences, Hyderabad
[2]Assistant Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: Heart rate variability is the variation in the time interval between heartbeats (R–R variability). The autonomic nervous system (ANS) controls automatic physiological functions (enteric, parasympathetic, and sympathetic), such as digestion, blood pressure, respiration, and sexual desire. The HPA (hypothalamo-pituitary-adrenal) axis influences heart rate variability through the Neuro-endocrine system. As a result, the concept of using heart rate variability as a non-invasive tool to assess the physiological stress response has been put forward.

Aims and Objective: The purpose of this study is to define the importance of the HRV parameter for stress management. And review the previous studies identifying the importance of making HRV a gold standard parameter.

Methodology: We searched the electronic database PubMed for articles related to heart rate variability and stress management and included those that fell into the study. A short review study was used to compare the outcomes between the articles. ECG is considered the standard method of HRV measurement as we get an overall view of cardiac activity.

Results: ANS is linked to the HPA axis via the endocrine system. Patients suffering chronic pain, anxiety, depression, and stress may cause changes in HRV, and HRV was used as a standard parameter for measuring stress.

Conclusion: The harmony of the ANS and HPA axis influences many facets of psychology. High HRV is seen in good emotion control, judgment, and focus, while low HRV is the opposite. High-frequency (HF) activity decreases under acute time pressure and emotional strain. The LF is increased in people with post-traumatic stress disorder. RMSSD is the square root of the mean of the squares of the successive differences between adjacent beat-to-beat intervals. Low RMSSD represents vagal tone and has been associated with major depression.

Key words: heart rate variability, stress management, outcome measure, global health

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Abstract no: 73

Use of Transdermal Applications in Physiotherapy, A Global Health Scenario

CH.Sisrutha[1], *J. Shravan kumar*[2], *Sunith Waghray*[3]
[1]Postgraduate, College of physiotherapy, Nizam institute of medical sciences
[2]Associate Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad
[3]Assistant Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: Transdermal Applications is the term used for the delivery of a therapeutically effective amount of drug across the patient's skin. In physiotherapy, the transdermal applications play a vital role in pain management and better absorption of drugs to the local area without pharmacologically burdening the whole body. Transdermal applications used in physiotherapy are Iontophoresis and Phonophoresis. Transdermal drug delivery has a number of well documented advantages including avoidance of gastrointestinal and renal complications

Aim: The aim of this presentation is to underline the efficiency of transdermal applications over oral or parenteral or topical drug administration.

Methodology: The search strategy included PubMed for the narrative literature search namely 1.Transdermal delivery system and its synonyms 2.Phonophoresis drug delivery 3.Transdermal drug delivery. The outcome of the literature review is efficiency of drug delivery through transdermal methods

Results: Patients Reported usage of fentanyl, lidocaine, corticosteroids in iontophoresis helps in reducing pain. Ketoprofen is better absorbed in subcutaneous tissue with usage of phonophoresis.

Conclusion: Iontophoresis and phonophoresis has many advantages including non-invasiveness and avoidance of first pass metabolism due to systemic administration and better control of drug delivery in comparison to usual passive transdermal formulation. Administration of drugs through transdermal routes from the past few years are showing promising results in local therapies. Transdermal approaches in physiotherapy might open a window for physiotherapists to use pharmaceutical drugs also.

Keywords: Phonophoresis, Iontophoresis, Topical drugs, Parenteral drugs

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Abstract no: 74

Sudden Deaths in Young Athletes

Vennela kuthadi[1]**,** *Sravana kumar Jampa*[2]*, Naveen kumar Balne*[3]
[1]Postgraduate, [2]Associate Professor, [3]Assistant Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: Sports-related sudden death occurs more frequently among athletes under 35 years of age (2/100,000) than in non-athletes (2.5:1), and over 90% of these deaths are cardiovascular in origin.

Aims and Objective: The aim of this study is to create awareness among individuals about sudden deaths in sports and provide an overview of various causes of cardiac deaths in young athletes' and to prevent the sudden cardiac deaths.

Methodology: Hypertrophic cardiomyopathy (HCM) is an inherited cardiovascular disease with prevalence 1 in 500 of the general population, caused by more than 1400 mutations in 11 or more genes encoding proteins of cardiac sarcomere, which leads to the cause of sudden death in young athletes. Arrhythmogenic right ventricular cardiomyopathy is characterized by progressive fibrofatty replacement of the myocardium. In a large case series of SCD in 1866 young athletes, HCM was the causative condition identified in nearly 40% of cases. Studies have also revealed a strong male preponderance for sudden cardiac death (SCD) particularly in African, American athletes who compete in sports with sudden movement and adrenergic surges such as football or basketball. Unfortunately, over 80% of affected individuals are asymptomatic.

Results: Initial reports suggest that the most common cause of sudden cardiac death is due to hypertrophic cardiomyopathy. Diagnostic tests to screen for cardiovascular abnormalities are ineffective and inefficient. The most common finding on autopsy in young individuals with SCD is structurally a normal heart.

Conclusion: Exercise related SCD in athletes is caused by underlying cardiac problems that are exacerbated by the physiological demands of intense activity. Cardiovascular training reduces the risk of sudden cardiac death in young athletes. Current two pillars of prevention of sudden cardiac death are, Proactive strategy: preparticipation screening tests like ECG, subsequent TTE monitoring 2. Reactive strategy promoting use of CPR associated with sports health professionals in physiotherapy to restore the heart back in normal rhythm, to avoid sudden deaths in young athletes.

Keywords: Athletes, sudden cardiac death, Hypertrophic cardiomyopathy, Cardiovascular training

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Abstract no: 75

Artificial Intelligence for Development of Algorithms in Physiotherapy

Pravalika Chinthala[1] , *Sravana Kumar*[2] , *Naveen Kumar*[3]
[1]Postgraduate, [2]Associate Professor, [3]Assistant Professor, College of Physiotherapy,
Nizam's Institute of Medical Sciences, Hyderabad

Background: Artificial intelligence [AI] in Physiotherapy is the term used to describe the use of machine learning and deep learning algorithms and software to enable the diagnosis, prognosis and clinical interpretation to improve the patient outcomes and optimize the rehabilitation process.

Aim and Objective: The primary aim of the presentation is to describe the advancement of AI in algorithms and its importance to encourage the physiotherapists to increase awareness with emerging technologies.

Methods: References were carried out through journal databases such as Mayo Clinic, Scopus, PubMed, EMBASE. Further references were obtained by cross referencing from the soft wares such as Motek medical, kinesis health technologies, sensor medica.

Results: The use of AI in algorithms has become a valuable tool for physiotherapists to reach the patients with ease assessment and to provide personalized treatment plans. Postural analysis, gait, running and sports assessment have become accurate by reducing the manual errors with the implementation of AI in algorithms.

Conclusion: Integrating Al technologies in algorithms modernize the application of physiotherapy.AI expenditure in India is expected to reach $11.78 billion by 2025. AI in algorithms will shape the future of physiotherapy.

Keywords: artificial intelligence (AI), deep learning, technology, analysis, modernize, treatment.

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Abstract no: 76

Post - Covid Syndrome Rehabilitation to Improve Global Health

Anusha Gopireddy[1], *Sunith waghray*[2]
[1]Postgraduate, College of Physiotherapy, NIMS, Punjagutta, Hyderabad
[2]Assistant Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: Worldwide, every continent has been impacted by the SARS-CoV-2 virus' global pandemic. A fundamental lack of understanding and information regarding the actual disease produced by COVID-19 and the seriousness of the consequences linked with it has resulted from the uniqueness of this virus, its mutations, and the rapidity and unparalleled rate at which it has attacked the world population. The post-acute sequelae of COVID-19 have been described by patient groups as "Long COVID" and as "post-COVID conditions" by the World Health Organization (WHO) and United States Centre's for Disease Control and Prevention (CDC). The effect of Long COVID is multi systemic in nature with a wide array of signs and symptoms like headaches, myalgia, chest pain, rashes, abdominal pain, and shortness of breath, palpitations, anosmia, persistent cough, depression, insomnia, fatigue and anxiety

Aims and Objective: The intent of this presentation is to provide information on post COVID syndrome rehabilitation to improve global health.

Results: To improve pulmonary function, physical and psychological efficiency, and to restore a good patient quality of life in long COVID patients is crucial for global and public health.

Conclusion: Although most of the COVID-19 patients recover completely without sequelae many patients may continue experiencing COVID-19 symptoms after infection recovery and others may even develop new symptoms. Altogether, this clinical spectrum occurring after acute infection is called post-COVID syndrome (PCS). Long COVID has many synonyms and is also known as Post COVID-19 syndrome, Post COVID-19 condition, Post COVID condition, Post COVID syndrome and can ultimately be described as a persistent, long-term state of poor health following an infection with COVID-19. The most frequently reported symptoms are generally ones that affect day-to-day functioning, such as exhaustion, shortness of breath, and cognitive impairment. Breathing exercises, strength training, endurance training, and balance training are all included in the rehabilitation regimen.

Keywords: Long COVID, Pulmonary function, physical function, quality of life

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Abstract no: 77

Recovery of Sensation Following Flap Reconstruction of the Hand: A Scoping Review

Karthik.E[1], *Angeline.R*[2]
[1]Postgraduate , [2]Assistant Professor, Faculty Of Physiotherapy, SRIHER, Chennai.

Background: Hands injuries encompass soft tissue defects, fractures, tendon cuts or even amputations. Various options for the soft tissue coverage of fingers following trauma which range from simpler options of skin split thickness and Local flaps (e.g., Z-plasty, V-Y advancement, cross finger flap etc.) to more complex options of flaps. The various options have different cosmetic and functional outcomes (motor and sensory function. Studies show local flaps are better options in terms of preservation of two-point discrimination as opposed to STSG for soft tissue defects of fingers and hand for determining digital nerve integrity. While most authors have focused on these functional and aesthetic complications, scant attention has been paid to the sensory morbidity, even though many patients complain of troublesome changes in sensation on the flap which affects hand function. This study aims to perform a scoping review of the sensory function timelines of recovery following flap covers.

Objectives: To investigate the recovery of sensation following a flap reconstruction of the hand by conducting a scoping review

Methodology: Literature search up to March 2021 in databases like MEDLINE via PubMed, the Cochrane Central Register of Controlled Trials (CENTRAL), and Web of Science. Data was extracted from the available literature. A narrative synthesis for the recovery timelines of sensation following flap cover hand surgery was performed.

Results: Ten out of fifteen studies were included, out of which eight cohort studies (two prospective studies and 2 retrospective studies) and two systematic review studies were included. These ten studies showed greater improvement in recovery of sensation (tested by two-point discrimination and Semmes-Weinstein Monofilament test) following Flap Reconstruction of hand.

Conclusion: Studies have shown that recovery of sensation was present in patients following flap reconstruction surgery of the hand.

Keywords: Hand surgery, flap reconstruction, sensation, two point discrimination, semmes-Weinstein monofilament test

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Abstract no: 78

Impact of Various Physical Activities among Professional Workers with Relation of Burnout Syndrome - A Narrative Review

R.Monika[1]
[1]Postgraduate, Meenakshi Academy of Higher Education and Research

Background: One of the major global health problems is mental illness. Herbert Freudenberger, an American psychiatrist, was the first to characterize burnout in psychological literature. Burnout has been identified as an occupational hazard in health practitioners, particularly in physiotherapists. Burnout is characterized as a combination of emotional exhaustion, depersonalization and low self-esteem that results in decreased efficacy at work. It happens when you feel mentally over-burdened, exhausted, making it difficult for you to meet urgent demands. You start to lose the enthusiasm to do the work. It has negative effects on your home life, job and social life, among other rest of your life. Additionally, long term physical changes brought on by burnout can make you more susceptible to diseases. It causes frequent headaches, muscular disorders, alterations in appetite or sleeping patterns. In a recent study by Asana, which examined more than 10,000 workers across seven countries, it was discovered that roughly 70% of people had burnout in the previous year. All over the world there is a high rate of burnout syndrome.

Aim: The study was aimed to review the various literatures on impact of physical activities among professional workers with relation of burnout syndrome

Methodology: This is a narrative review. The duration of the study was 3 months. Eighty articles are collected from different database sources like pubmed, research gate, springer, google scholar using the term 'burnout syndrome' and 'occupational hazards'. Eighty articles were selected from the different database sources. The study has been analyzed from these articles.

Results: This study shows that various exercises are effective in reducing the mental stress level among professionals.

Conclusion: This review focuses on the impact of various physical activities among professional workers who are prone to severe mental stress and to create awareness to the workers about the effect of exercise which reduces their stress levels.

Keywords: Burnout Syndrome, Occupational hazard, Muscular fatigue, Mental illness.

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Abstract no: 79

Prevalence of Cardiovascular Disease Among Seafarers - A Narrative Review

***S.K.Meenakshi*[1]**, *P.G.Mahesh Kumar* [2]
[1]Postgraduate, [2]Associate Professor, Meenakshi College of Physiotherapy, Chennai

Background: Cardiovascular disease (CVD) is the number one cause of death worldwide. CVD covers a wide array of disorders, including diseases of the cardiac muscle and of the vascular system supplying the heart, brain, and other vital organs. One of the studies has proven that Out of a total of 8125 seafarers aged ≥18 years on selected vessels, 4648 seafarers volunteered to participate in the survey, with a response rate of 57.2%. The prevalence of reported hypertension, diabetes, current smoking and overweight or obesity were 20.8%, 8.5%, 32.5%, and 44.7%, respectively. Overall, 40%, 20.9%, 6% and 1.3% of the study participants respectively had one, two, three and four modifiable CVD risk factors. In recent decades, an increased prevalence of CVD ashore has been observed owing to demographic changes and to the growing importance of unhealthy life-style related cardiac risk factors (such as smoking, high-fat diet and insufficient physical activity). All these factors determine the cardiovascular risk both in the general population and among seafarers. Prospectively, the expected advancing average age of seafarers will raise the CVD risk considerably

Objective: The aim of the study is to review the various literatures for the prevalence of cardiovascular diseases among seafarers

Methodology: 60 articles were collected and analyzed from the past decade of 2000-2022 .The CVD mortality rate was found to be from 27 to 45 per 100000 seafarer-years. The present study is about the prevalence and the risk factors of CVD among seafarers. The article has been collected from the past decades which is from 2000-2022.Multiples of article has been found that risk factors of CVD are obesity, Lack of physical activity, High fat diet and Hypertension etc,

Results and Conclusion: Many of the researchers concluded that heart disease is common in seafarers compared to their peers in offshore jobs. Job related stress poses a contributing risk factor for CVD. Seafaring is associated with specific risk factors that affects BP and can lead to Cardiovascular disease and the role of lifestyle issues such as physical inactivity, unhealthy food ,work related hazards, psychological stress and smoking which is the major factor for contributing cardiovascular disease among seafarers.

Keywords: cardiovascular disease, seafarers, insufficient physical activity

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Abstract no: 80

Physiotherapy as an Integral Part of Organ Transplantation and Management

Kavya Sai Deepika Dubey[1], *Sunith waghra*[2]
[1]Postgraduate, [2]Faculty of physiotherapy, College of Physiotherapy, Nizam's Institute of Medical Sciences

Background: Solid organ transplantation (SOT) has emerged from an experimental approach in the 20th century to now being an established treatment option for patients with end-stage organ dysfunction. Infections, Allograft rejection, extreme high cardiovascular (CV) risk, and cancer are impediments to long-term disease-free survival after SOT. Low physical activity and impaired physical fitness are integral features of post organ transplantation, with a debilitating impact on quality of life.

Aim and Objective: The purpose of this study to raise awareness about integrating rehabilitation in post organ transplantation

Methods: Search Strategy- Various databases like PubMed, Google scholar, Cochrane screened. The search strategy included Effectiveness of Exercise based Rehabilitation in SOT recipients in (i) Physical function, (ii) Exercise capacity (iii) Haemodynamic effects, (iv) Body composition (v) Health related QOL

Discussion: Transplant recipients encounter barriers to physical activity resulting from pre-existing organ disease, immunosuppressive therapy, and a history of inactivity. These include breathlessness, fatigue, low strength, and being overweight. While immunosuppression may hinder physical activity engagement due to its exerted effects on physical fitness, body composition, and cardiovascular health, it may also discourage participation in physical activities. Rehabilitation after SOT initially focuses on maintenance of bodily systems, as well as pulmonary hygiene and chest wall mobility in order to assist with the ventilator/supplemental oxygen weaning process. Promoting early postoperative ambulation plays an important role in achieving early independence and preventing complications.

Conclusion: The physical therapist is an integral part in organ transplantation providing expertise in exercise testing and prescription in all phases, from initial evaluation through postoperative rehabilitation and plays a critical role in SOT recipients achieving optimal function, increased survival, and improved quality of life.

Keywords: Solid organ transplantation, Physical function, Quality of life

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Abstract no: 81

The Relationship Between, Physical Activity Level and Severity Of Primary Dysmenorrhea In Young Adults With Primary Dysmenorrhea- A Cross-Sectional Study

***Mubeena Banu. N*[1], Ponmathi.P[2]**
[1]Postgraduate, [2]Assistant Professor, Faculty of Physiotherapy, SRIHER, Chennai

Background: Primary dysmenorrhea or painful menstruation without pelvic pathology is one of the most common complaints in women's health. Dysmenorrhea pain is often described as cramped and intermittent. More than 50% of women who have menstrual bleeding have painful menstruation, as 10% of them are so severe that they disrupt 1–3 days of their lives each month. Dysmenorrhea is a common health problem among graduating University students which can affect the quality of life of women and in severe cases, leads to disability and inability to function in the absence of school or work place. The information regarding the association of the level of self-reported physical activity level and severity of primary dysmenorrhea is scarce

Aim: The aim of the study is to determine the correlation between the Physical Activity Level and symptom severity in young adults with Primary Dysmenorrhea

Method: Cross Sectional Study. Participants will be recruited through a purposive sampling method. College going students will be included for the study. The participants will be provided with a Self- Administered questionnaire (Demographic data, Pain score, Drug Subscales and the absenteeism to work or college), the WaLIDD scale and IPAQ. The correlation between the scales will be established through Spearman's Coefficient

Results and Conclusion: This is an ongoing study. The data collection is completed and the results will be derived in a week of time. The results will be said at the time of presentation. By the end of the study, we intend that, Physical Activity Levels would have a negative correlation with the symptom severity in Primary Dysmenorrhea

Key Words: Primary Dysmenorrhea, Physical Activity Level, Absenteeism, Menstrual pain, Quality of Life

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Abstract no: 82

Artificial Intelligence Based Innovations in Prosthetic Hand Development and Rehabilitation- A Narrative Review

Navyasree katteboina[1], *Praveen Dowle*[2], *Sravana Kumar Jampa*[3]
[1]Postgraduate, [2] Physiotherapy Faculty, [3] Academic Incharge, College of Physiotherapy, NIMS

Background: Artificial intelligence refers to machines with the ability to 'think.' An estimated 57.7 million individuals are living with amputations across the world. The functional loss caused by amputation results in the loss of connections from the brain to the extremity, and those residual limbs are unable to function as well as healthy limbs due to absence of sensory feedback. Artificial intelligence can play a key role in augmenting the amputee prosthesis interface. A lot of research is being conducted across the world to use Artificial Intelligence to develop more advanced prosthetic devices that can sense and respond to various environments.

Aim: In this review we attempt to appraise and summarize the recent innovations in hand prosthetic development and rehabilitation.

Methodology: Various databases such as PubMed Central, Google Scholar, MEDLINE were screened.

Result: Amputees can intuitively control a prosthetic hand with individual finger and wrist movements up to 97-98% accuracy, and Artificial Intelligent agent's real-time performance is measured by reaction time and information through a hand gesture matching task.

Conclusion: It is a difficult task for the health care professionals to recreate the lost anatomical structure and function in amputees. Use of Artificial intelligence and robotic technology has a huge impact in achieving independent mobility, reducing errors, increasing speed and improving quality of life in individuals with Amputation.

Keywords: Artificial intelligence, Prosthetic hand, Amputees

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Abstract no: 83

Current Physiotherapy Trends In The Management Of Frozen Shoulder Among Diabetes Mellitus Subjects

***Boaz J*[1], *Senthil Selvam*[2]**
[1]Postgraduate, Vels College of physiotherapy, Chennai
[2]Principal and Professor, Vels College of physiotherapy, Chennai

Background: Frozen shoulder also known as adhesive capsulitis, is a painful condition that can cause prolonged disability. Stiffness of the capsule surrounding the glenohumeral joint reduces both active and passive range of motion. The patient with a frozen shoulder will suffer from long- term pain and restricted movement. Patients with diabetes are five times more likely to have frozen shoulder than people without diabetes. Physiotherapy and home exercise can be a first line treatment for frozen shoulder and it is initially treated using conservative method like electrical modalities IFT, heating therapy

Current Trends: Depending on the stage of the frozen shoulder the treatment varies. But the emerging trends in treating the conditions are dry needling, muscle release technique, kinesiology taping in the first stage for managing the pain. Movement with mobilization, end range mobilization and stretching, high grade mobilization technique and capsular stretching are the evolving techniques for the second phase of management and in third stage strengthening and stretching plays a role in maintaining the range.

Results and Conclusion: On the evidence based practices and the research shows that the current technique had shown the greater improvement and sufficiency reduce the pain and improve the quality of life. Hence the emerging technique typically reduces the severity of the condition using Physiotherapy advance treatments.

Keywords: Shoulder pain, adhesive capsulitis, end range mobilization, dry needling, and movement with mobilization

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Abstract no: 84

Effects of Proprioceptive Training on Agility performance for Male Collegiate Football Players

***Ramji K*[1]**, *Balaji C*[2], *Monisha M*[3], *Sangeetha S.A*[4], *Jayaseelan V.K*[5]
[1]Postgraduate, [2]Postgraduate, [3]Postgraduate, [4]Postgraduate, [5] Assistant professor, SOPT, VISTAS, Chennai

Background: Agility is an ability of the neuromuscular system to coordinate explosive changes of direction of an individual and multiple body segments in all planes of motion at variable velocities in an efficient and effective manner. An athlete with good agility will most likely possess qualities such as speed, strength, balance, coordination and spatial awareness and proprioception. Agility can have a beneficial influence on neuromuscular firing pattern to help reduce injury risk (Micheal 2006). Proprioceptive training is defined as "a series of exercises or situations that elicit a response from the nervous system in order to counteract external stimuli". It is based on training operators of balance as a dynamic episode comprising stability and mobility to maintain a position in space and to move in controlled and coordinated manner. Proprioceptive training can be given by various devices such as wobble board, BOSU (Both Side Utilized) ball, T- bow, dyna-discs.

Aim: To find out the effectiveness of Proprioceptive training on agility performance in male collegiate football players.

Method: 30 male football players between the age group of 18-24 years were divided into two groups. Group-A were given Proprioceptive training on bosu ball along with football training programme and Group-B underwent football training programme. A pre and post test for agility was done using the Agility-T test. The total training session was 45 minutes 3 sessions per week for 6 weeks.

Results: The analysis showed that increased agility performance was significant in both groups. The mean value states that Group-A is more effective than Group-B. ($P \leq 0.0001$)

Conclusion: The study concluded that both groups showed significant improvement but the Group-A is more effective than the Group-B.

Key Words: Agility-T Test, Proprioception, Bosu ball, Football players

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Abstract no: 85

A Study to Analyze the Effectiveness Of Post-Operative Therapy Rehabilitation In Improving Hemodynamics Among Individuals Undergone Total Knee Replacement

***Mugilan.B*[1]**, *Geetha Haripriya*[2]
[1]Postgraduate, [2]Assistant professor, Faculty of physiotherapy, Sri Ramachandra Institute of Higher Educational and Research

Background: Total knee replacement / arthroplasty is performed to restore and relieve pain in patients with severely degenerated knees. Hypertension, the commonest vascular comorbidity in the end stage knee OA. There was positive correlation between systolic BP, PP and HR with subchondral bone mineral density. These results suggest that there is rod to plate conversion in subchondral bone with increased PR and HR. Following TKR, venous outflow is significantly reduced. Meta-analysis provides strong evidence that OA is a significant risk factor for CVD.

Aim: The aim of the study is to analyze the effectiveness of post operative therapy rehabilitation in improving hemodynamics and functional status among individuals undergone total knee replacement

Methodology: Sample size is 30. They have been divided into 2 groups - control and experimental. Patients in the control group and experimental group would be rehabilitated according to the Indian rehabilitation protocol for total knee replacement and the experimental group would alone receive the slow breathing technique additionally with rehabilitation. Baseline measurement would be made pre-operatively and post data will be collected at first month review (after 30 days). All the data would be collected for statistical analysis for interpretation between hemodynamic and slow breathing exercise among total knee replacement patients

Result: Significant relationship between patient underwent unilateral total knee replacement procedure and hemodynamics is noted. This is an ongoing study and I intended that slow breathing exercise may have an impact on hemodynamics changes associated with total knee replacement. The future result of the study is expected by July 2023 and this would reduce the risk of cardiovascular following lower limb surgery on longer go.

Key Word: Hemodynamics, Total knee replacement, Breathing exercise, Functional status, Cardiovascular dysfunction

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Abstract no: 86

Development of Clinical Prediction Rule for Diagnosing Diaphragm Dysfunction in Individuals With Non - Specific Low Back Pain

Mubarak.H [1], *Subbiah.K*[2]

[1]Postgraduate, [2]Associate Professor, Faculty of Physiotherapy, SRIHER, Chennai

Background: Low back pain (LBP) is a well-known health problem that affects almost all age groups. The pooled point, annual, and lifetime prevalence of LBP in India was 48% (95% CI 40-56%); 51% (95% CI 45-58%), and 66% (95% CI 56-75%) with high levels of recurrence and disability. The diaphragm, together with the abdominal muscles, may generate hydraulic effects in the abdominal cavity that may assist in spine stabilization and maintaining the lower spine by increased intra-abdominal pressure. The recent research found that, the thickness of right hemidiaphragm has decreased in individuals with LBP compare to the healthy control group and it also claimed that this change might significantly predict LBP

Aim: To develop a clinical prediction rule for diagnosing diaphragm dysfunction in subjects with non specific low back pain (NS-LBP).

Methods: A total of 60 subjects who fulfilled the inclusion criteria will be included after obtaining informed consent to participate. Each subject will undergo a standardized history collection, physical examination, and diagnostic ultrasound procedure to measure the diaphragm thickness and excursion. Likelihood ratios (LRs) will be computed to determine which clinical examination findings are most diagnostic of diaphragm dysfunction. Potential predictor variables will be entered into a logistic regression model to determine the most accurate set of clinical examination items for diaphragm dysfunction.

Results and Conclusion: There are only a few studies showing that there is a diaphragm dysfunction among the individuals with LBP but the correlation between the diaphragm dysfunction and the factors that influence LBP is under-established. Hence this study signifies the accuracy of factors involved in NS-LBP to identify the diaphragm dysfunction in clinical and research setting. The future result of the study, is expected in July 2023, could assist the clinicians to diagnose the diaphragm dysfunction among individuals with NS- LBP in the absence of gold standard support. This research paves way for further studies to focus on, diaphragm dysfunction as a contributing factor for NS-LBP and exploration in the intervention aspect of it.

Keywords: low back pain,likelihood ratios

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Abstract no: 87

Effect of Agility Drills Along With Reaction Time Exercises on Agility And Reaction Speed Among Collegiate Badminton Players

S. Deepak Charan[1] , *S. Hari hara sudan*[2]
[1]Postgraduate, [2]Associate professor, KG college of physiotherapy, Coimbatore

Background: Reaction time and Agility are the two most important elements that have to be trained in badminton, As the shuttle moves at incredible speed and the short distance it travels between the opponent allows a very minimal amount of time to react and execute shots to score or save the points.

Aim: The aim is to identify the effect of agility drills along with reaction time exercises on agility and reaction speed among collegiate badminton players.

Method: Study design: Quasi experimental study. Study setting : ST badminton academy (Coimbatore). 18 players were selected based on the inclusion and exclusion criteria. Education regarding the techniques was given verbally to all the participants. They were randomly divided into 2 groups. Each group has 9 players. Duration of study: 4 weeks. Southeast Missouri (SEMO) agility test and Reaction time ruler drop test were taken as the outcome measure. Group 1 underwent Agility along with Reaction time exercises (Ball drop reaction drill, Surprize catch, Lateral shuffle reaction drill, Shadow badminton drill) along with Conventional exercise., Group 2 underwent Conventional exercise (Warm up, Stairs up and down stepping, On spot jogging, Lunges, Squats, Arm swings, Ladder drills). Outcome measure was measured before and after the exercise intervention.

Result: The pretest t value of Southeast Missouri agility test was 1.6797 and the post test t value was 2.9388. The pretest t value of Reaction time ruler drop test was 1.3543 and the post test was 2.4281. For 16 degrees of freedom at 5% level of significance the post test values of Group 1 is greater than the post test values of Group 2 in both the outcome measures. Thus players of Group 1 showed significant improvement in Agility and Reaction speed when compared to Group 2.

Conclusion: Study concluded that the Group 1 (Experimental group that received Agility along with Reaction time exercises along with conventional exercise) has shown significant improvement in Agility and Reaction speed than Group 2(Control group that received conventional exercise alone).

Key Words: Agility, Reaction speed, Badminton, Southeast Missouri agility test, Reaction time ruler drop test

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Abstract no: 88

Effects of Urinary Incontinence in Sleep Disturbance and Physical Weakness in Community Dwelling Elderly Individuals

Jhanvi K Pandya [1], *Apeksha vaghasiya*[2]
[1]Postgraduate student, J.G College of Physiotherapy, Ahmedabad
[2]Assistant lecturer, J.G College of Physiotherapy, Ahmedabad

Background: Urinary incontinence is a common problem in elderly dwelling people mainly due to functional impairment and concurrent medical diseases. Sleep is a vital physiological process that allows the proper functioning of the immune system, metabolic, and cognition. Fatigue or physical weakness described as weariness, weakness, tiredness, and depleted energy is a multidimensional, nonspecific syndrome that occurs commonly in older adults and can affect life quality.

Aim: Purpose of study was to see the effect of UI in sleep disturbance and physical weakness in community dwelling elderly individuals.

Method: 60 elderly females with age of > 65 years included with UI assessment by Questionnaire for female urinary incontinence diagnosis (QUID). To assess sleep disturbance Jenkins sleep quality scale for physical weakness fatigue severity scale is taken.

Result: the study shows significant results in stress urinary incontinence and urge urinary incontinence with fatigue and sleep disturbance ($p=.014$) so the ($p<0.001$).

Conclusion: This study concluded that there is sleep disturbance and fatigue is present in Stress urinary incontinence and urge UI.

Keywords: UI, elderly women, sleep disturbance, physical weakness, SUI, UUI

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Abstract no: 89

Immediate Effect of Eccentric Training Versus Hold Relax Proprioceptive Neuromuscular Facilitation On Hamstring Flexibility in Tennis Players

Nirali D Pandya [1],*Paryushi Rami* [2]

[1]Postgraduate student, J G College of Physiotherapy, Ahmedabad

[2]PhD, Guide and Senior lecturer at J G College of Physiotherapy, Ahmedabad

Background: Tennis players require good agility and speed in order to react to rapidly variable stimulus. Tennis players perform stretching in warm-up prior to physical activity to prevent injuries and enhance athletic performance by improving flexibility. Eccentrically training a muscle through full ROM may decrease injury rates and increase athletic performance. Hold-relax proprioceptive neuromuscular facilitation (PNF) causes lengthening and static contraction against maximum resistance by autogenic inhibition of muscle.

Aim: Purpose of this study was to compare the immediate effect of eccentric training and hold-relax proprioceptive neuromuscular facilitation (PNF) on hamstring flexibility in tennis players.

Methods: 32 Tennis players with age of 13-19 years were taken through a convenient sampling method and divided into two equal groups. Group A- received Eccentric training and Group B – received Hold-relax PNF .Outcome measure-Active Knee Extension Test (AKET) for Flexibility was taken immediately before and after the treatment.

Result: Data was analyzed using SPSS and level of significance was set at $p<0.05$ .Wilcoxon test was done for within groups that showed significant increase in hamstring flexibility ($p<0.001$). Mann-Whitney U test was taken for between group analysis that showed no significant difference between two groups ($p=0.897$ for AKET).

Conclusion: This study concluded that Eccentric training and hold-relax PNF both are equally effective in improving flexibility and in tennis players.

Clinical implication: Players can optimize these treatments in sprint performance immediately before starting of a game and also can perform in warm-up during practice sessions.

Keywords: Hamstring, Eccentric training, Hold-relax PNF, Active knee extension test, tennis players

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Abstract no: 90

Cyberchondria and Tendency of Repetitive Searching Nature on Exercise in Younger Adults

Meet P Desai[1], *Nidhi Suthar*[2]
[1]Postgraduate student, J G College of Physiotherapy, Ahmedabad, Gujarat
[2]Assistant professor, J G College of Physiotherapy, Ahmedabad, Gujarat

Background: Cyberchondria are a repeated internet search about health conditions/medical information. Today all young adults have smartphones and good internet connection. So, they are searching for everything and want to know as well as health issues.

Aim: The aim of study is to find cyberchondria and tendency of repetitive searching nature for exercise in young adults.

Methods: An observational study conducted in Ahmedabad. 12-item cyberchondria severity scale (CSS) and exercise search related questionnaires were filled from 113 young adults of both the gender between age group of 18 to 26 through online forms.

Result: The statistical analysis of this study shows that the CSS of the respondents has a mean & Sd (37.65 ± sd-8.71), which is low-to-moderate level. In an exercise search related questionnaire 40.8% respondents selected component no. 3 (sometimes).When we assess all the questions mean, we found a higher mean of question no. 6 (mean=3.29) (After Searching, have you felt any misconception regarding exercise?).

Conclusion: The result suggests that low to moderate young adults searching for medical information, exercise information provides misconception to younger adults (which is available on web).

Clinical implications: Awareness about exercises searching on the web

Keywords: Cyberchondria, Health anxiety, Young adults, Exercise, Repetitive searching nature

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Abstract no: 91

Anticipatory Reach and Effect of Vision on Forward Reach Test in Elderly Population

***Aravind B*[1], *Rajeswari M*[2]**

[1]Postgraduate, [2]Assistant Professor, SRIHER, Chennai

Introduction: Postural control involves controlling the body's position in space for the dual purpose of stability and orientation. Vision aids in anticipatory postural regulation by providing information about the body's posture and the complexity of an activity to be performed. Anticipatory control is required to predict the upper limb motions to prepare for upcoming and expected disruptions which will impact the postural control. Fall risk can be decreased by anticipation, quick integration of visual clues, and the development of appropriate behaviors. Age-related decrease in proprioceptive and vestibular function result in an increasing dependence on visual cues, it is also hypothesized that the anticipatory forward reach also gets declined leading to reduced physical functioning and is not well explored which demands the need of this study

Aim: To investigate anticipatory forward reach and effect of vision on forward reach in younger and older adults

Methodology: This observational study includes a sample size of 60 in two groups. Participants in group 1 were recruited between the age of 65-75 who should be able to walk outdoors, perform daily activities without assistive devices and with corrected vision. Participants of group 2 are recruited between the age of 20 – 25. Individuals with musculoskeletal problems in the upper limb, neurological impairments and congenital deformities were excluded from the study. Subjects are instructed to estimate their forward reach in standing position initially followed by performing the actual forward reach along the tape measure mounted horizontally on the wall without moving their feet.

Results: Paired t test showed significant difference at $p<0.001$ between anticipatory reach and actual reach and between eyes open and eyes closed in older adults compared to younger adults. Unpaired t test shows significant difference at $p<0.001$ between the anticipatory reach of both the groups. Mean difference of anticipatory and actual reach between younger and older adults were also significant at $p<0.001$.

Conclusion: Anticipatory forward reach was found to be higher than the actual reach in older population conveying that anticipating and perceiving the distance for planning a task is not appropriate which could increase the risk of falls in older population. Vision plays a major role in the older population in postural control which is evidenced by the decreased forward reach with eyes closed in the older population.

Key Words: Anticipatory reach, forward reach, balance, vision

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Abstract no: 92

Effect of Aquatic and Land Based Plyometric Training on Sprint Time among Young Male Athletes

***S. Satheeswaran*[1], *M. Sri Shankar*[2], *M. Manoj Abharam*[3]**
[1]Postgraduate, [2]Associate professor, [3] Principal, KG college of Physiotherapy, Coimbatore

Background: Lower extremity plyometric exercises are commonly used by athletes to develop explosive speed, strength and power. The majority of the plyometric training sessions take place on land. But, Plyometric in water may provide athletes with several benefits.

Aims and Objective: Hence the study was done to determine the effect of aquatic and land based plyometric training on sprint among young male athletes.

Method: Study design – Quasi experimental study. Study setting - Perks swimming pool, KG college ground. Study population- Athletes from KG institutions. Study Sample size – 20 Male Athletes. Inclusion criteria – Age group between 19-25 years, No injuries in last six months, Athletes under regular training of at least one year. Exclusion criteria- Recent fractures and surgeries, Athletes with hydrophobia, Athletes with any lower limb injuries, Athletes with impaired balance. Method – Each group has 10 athletes, Group A underwent Aquatic plyometric training and Group B underwent Land based plyometric training. Data collection – Direct data collection method. Duration of study – 8 weeks. Sprint time was measured using a 40 yard dash test.

Results: The pre-test t value of the 40 yard dash test was 0.183 and the post-test t value was 4.854. Statistical analysis was made using an independent t' test and paired 't' test at 5% level of significance. Pre test values showed that there is no significant difference between the groups. After intervention, the aquatic plyometric Group A showed a greater level of significant improvement in sprint time than land plyometric Group B.

Conclusion: From this study it is concluded that the Aquatic plyometric training is more effective in improving sprint time among young male athletes.

Keywords: Athletes, Aquatic plyometric training, Land based plyometric training, Sprint time, 40 yard dash test.

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Abstract no: 93

Effect of Parachute Resistance Training Vs Weighted Vest Training on Performance Level in Race Walkers: A Comparative Study

R.Ravibabu[1], *N. Surya Prakash*[2], *M. Manoj Abraham*[3]
[1]Postgraduate, [2]Assistant professor, [3]Principal, KG College Of Physiotherapy, Coimbatore.

Background: Race walking significantly places stress on the lower extremity joints affecting performance. The gait pattern of race walking is different from normal walking that causes biomechanical alterations leading to musculoskeletal disabilities. Parachute Resistance training works on the principle of air resistance and terminal velocity, which helps in improving lower extremity muscle strength and power, decreasing the stress put on joints during physical activity. Weighted vests are a form of wearable resistance that enables an overload to be evenly distributed near an individual's center of mass, potentially increasing the performance.

Methods: The study was completed by using a stratified sampling technique among the race walkers between the age group of 18-29 years, a total of 40 race walkers (20 males and 20 females) were selected based on the inclusion and exclusion criteria by approaching various sports academies. Participants were divided into two groups, Group A and Group B. The groups consisted of 20 participants each. They were verbally interviewed regarding their demographics. Pre-treatment assessment of vo2max and speed was done using the Cooper 12 minute run test and 10 meter walk test, respectively. Participants in group A underwent Parachute resistance training program, and group B underwent weighted vest training program and post-treatment assessment of all the parameters was done.

Results: Group A shows significant improvement in the performance level of race walkers as compared to Group B with significant p-value of 0.001.

Conclusion: The study concluded that Parachute resistance training is more effective in improving the performance level than weighted vest training in race walkers.

Keywords: Parachute resistance training, Weighted vest training, Racewalkers, cooper 12 minute run test, vo2 max, performance level.

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Abstract no: 94

Optimal Intervention Timing For Robotic-Assisted Gait Training Among Hemiparetic Stroke Patients

Gurumurthy.T[1], *Hari Hara Sudan.S*[2], *Pradhap Sankar.V*[3], *Manoj Abraham.M*[4]
[1] Postgradute, [2]Associate Professor, [3]Assistant Professor, [4]Principal, Kg College Of Physiotherapy, Coimbatore.

Background: This study was designed to determine the Optimal Intervention Time (acute, subacute, and chronic stages) for G-EO robot-assisted gait training (RAGT) rehabilitation to improve clinical outcomes, including sensorimotor function, balance among acute(ASG), subacute(SSG), chronic(CSG) hemiparetic stroke patients.

Methodology: This study was done in Robotic Neuro Rehabilitation Centre Ayur green hospital Edappal, Malappuram, Kerala. Totally 36 hemiparetic stroke patients were included. Each patient consistently received G-EO RAGT for 30 min/session, thrice a week, for 4 weeks. Outcome measures are Fugl–Meyer Assessment (FMA), Berg Balance Scale (BBS), Trunk Impairment Scale (TIS), Modified Ashworth Scale (MAS) were examined before and after the intervention. Data analysis was done by using paired t-test, ANOVA, ANCOVA and Bonferroni test.

Result: Significant differences were observed in the outcomes of FMA, BBS, TIS, between acute, subacute and chronic stroke groups. A significant time effect was observed for all variables, except for the MAS, in the ASG and SSG, whereas significant time effects were noted for the FMA, BBS. Bonferroni's post hoc test confirmed that the ASG showed a greater increase in the FMA than the SSG ($p = 0.025$), ASG showed a greater increase in the BBS than the SSG ($p = 0.028$) 2), ASG showed that the greater increase in the TIS than the CSG ($p = 0.029$). Statistical significance was set up at ($p<0.05$).

Conclusion: RAGT improves the recovery of sensorimotor function, balance and trunk stability more effectively in the acute stage than in the subacute and chronic stages of stroke. Our findings provide clinical evidence-based insights for determining the most appropriate time at which rehabilitation interventions should be performed.

Keywords: Stroke; Recovery stage; Robotic-assisted gait training; G-EO; Sensorimotor function

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Abstract no: 95

Effect Of Soft Tissue Release Manual Therapy Techniques in Patients with Moderate Chronic Obstructive Pulmonary Disease – A Pilot Study

Sivaguru.C[1], *M.Manoj Abraham*[2], *N. Suriya*[3]
[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG College of Physiotherapy, Coimbatore.

Background: In Chronic Obstructive Pulmonary Disease (COPD) an extra pulmonary manifestation includes altered chest wall mechanics and musculoskeletal dysfunction. The influence of soft tissue manual therapy techniques on chest expansion remains largely unclear. Therefore, the purpose of this pilot study was to find the effectiveness of soft tissue release manual therapy techniques (STRMTT) on improvement of chest expansion and health related quality of life in patients with moderate COPD.

Methodology: A comparative study design with two groups- Experimental Group and Control Group, conducted on a total 20 subjects, 10 in each group. The Experimental group subjects received soft tissue release manual therapy techniques along with conventional treatment whereas control group subjects received only conventional exercises. Both the group subjects received treatment twice in a week for a period of eight weeks. The outcome measures such as Chest expansion and Quality of life were measured before intervention and after 8 weeks of intervention.

Result: The comparative analysis of post intervention means using Independent 't' test between the groups found statistically significant difference ($p<0.05$) in Chest expansion at Axillary level and Xiphisternum level and there is no statistically significant difference in Quality of life measured using St. George respiratory questionnaire components- Symptoms, Activity, Impact and total score.

Conclusion: The study concluded that 8 weeks of soft tissue release manual therapy techniques along with conventional treatment showed statistically significant effect in improving chest expansion when compared with the only conventional exercises.

Key Word: Moderate COPD, Soft tissue manual release techniques, Manual therapy, chest expansion, St George Respiratory Questionnaire.

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Abstract no: 96

Effectiveness of Bosu Ball versus Swiss Ball Exercises on Bowling Speed among Cricket Fast Bowlers: A Comparative Study

Ephreme .J[1], *Suryaprakash.N*[2], *Prathapsankar.V*[3], *Manoj Abraham. M*[4]
[1]Postgraduate, [2]Assistant Professor, [3]Assistant Professor, [4]Principal, KG College of Physiotherapy, Coimbatore

Background: Cricket is a popular sport played in several countries, majorly in India, Australia and England. Since fast bowling is the toughest job in cricket, a pace bowler should be stronger than others. Core muscle stability is more essential to fix proximal stability to facilitate distal mobility.

Aims and Objective: Therefore the study was conducted to compare the effects of BOSU ball and Swiss ball exercises among cricketers

Methodology: The study was conducted in KG College of Physiotherapy, KG Campus, Saravanampatti, Coimbatore. The study was conducted over a period of 6 weeks, 3 alternative days / week for 45 minutes. 20 fast bowlers randomly selected who fulfilled inclusion and exclusion criteria were selected and divided into 2 groups by simple random sampling method. Group A received BOSU ball exercise and Group B received Swiss ball exercise. Outcome measures include bowling speed and core stability using radar gun and pressure biofeedback unit.

Result: Statistical analysis within the group using paired t test, showed significant improvement post exercise protocol in both groups p value 0.001. Statistical analysis between groups using unpaired t test showed significant improvement in Group A with p value 0.001, revealing Group A is better.

Conclusion: The conclusion of the study is that both the exercise groups are effective in improving core stability and bowling speed, but the BOSU ball group was more effective than the Swiss ball group.

Keywords: BOSU ball, Swiss ball, Core stability, Bowling speed, fast bowlers

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Abstract no: 97

Effect of Muscle Energy Technique and Eccentric Training on Improving Hamstring Flexibility and Range of Motion in Female Athletes

[1]***Sruti.A*** *, Sri Shankar.M[2], Manoj Abraham.M [3]*
[1]Postgraduate, [2]AssociateProfessor, [3]Principal,KG college of physiotherapy

Background: Hamstring muscles are large, long muscles located on the back of the thigh which acts upon two joints, the hip and knee. The hamstring muscles are found to be the most prevalent for tightness in the body. Muscle tightness is a limiting factor for optimal physical performance including daily activities and an important intrinsic factor for sports injuries. The purpose of the study was to analyze the effect of Muscle energy technique and Eccentric training on hamstring flexibility in female athletes.

Methodology: The study was a pre-test and post-test experimental study conducted in KG College of Health Sciences, KG campus, Saravanampatti, Coimbatore, for a period of six months. 20 female athletes of age group 18-25 who fulfilled the inclusion criteria were selected. The athletes were divided into two groups, each group consisting of 10 athletes. Group-A received Muscle energy technique and conventional exercise, 3 sessions a week for 4 weeks, Group-B received Eccentric training and conventional exercise, 3 sessions a week for 4 weeks. The outcome measures were Active knee extension test and V-Sit and reach test.

Result: The Pre and Post test mean values shows that both the groups (Group-A and Group-B) showed significant difference in Active knee extension test and V-Sit and reach test. A statistically significant ($p<0.05$) improvement was obtained in Group-A Muscle energy technique along with conventional exercise for hamstring flexibility in females.

Conclusion: The study concludes that there is a significant effect on hamstring flexibility in female athletes by Muscle energy technique, according to the results of the Active knee extension test and V-Sit and reach test.

Keywords: Female Athletes, Muscle energy technique, Eccentric training, Active knee extension test, V-Sit and reach test, Hamstring flexibility.

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Abstract no: 97

Efficacy of Kinesio Taping Along With Tens for Low Back Pain in Pregnant Women

Nithiesh P[1]
[1]Postgraduate, KG College Of Physiotherapy, Coimbatore

Background: Low back pain is one of the common problems during pregnancy. Although, the pain usually occurs in the third trimester, it might be seen among several women from the first trimester too, there are various type of application for the treatment of low back pain during pregnancy, If there is an obvious deficit, bed rest, exercise, conventional physiotherapy , using various methods for the lumbar area are recommended, since the main and the only complaint is low back pain.

Aims and Objective: The aim of the study is to find the efficacy of Kinesio taping along with TENS for low back pain in pregnant women

Methodology: An experimental study was conducted in the outpatient department of KG hospital.30 subjects were selected based on criteria subjects were divided into 2 groups. Groups A Received Tens and Group B received Tens with Kinesio taping. Pretest and post test was done using VAS and Back pain functional scale.

Result: On comparing both Group A & Group B the outcome measure using VAS & BPFS, from unpaired t-test VAS showed T value4.2227 & P value is 0.0002, which is less than p value 0.05BPFS showed T value2.4955 & p value 0.01, which is lesser than p value is 0.05. hence alternative hypothesis is accepted & null hypothesis is rejected.

Conclusion: The study concluded that kinesio taping along Tens in group B shows more effectiveness than Group A (Tens) in low back pain in pregnant women.

Keywords: Low back pain, pregnant women, kinesio taping, VAS, BPFS

Indian Journal of Physiotherapy and Occupational Therapy
An International Journal

Abstract no: 99

Effectiveness of Neurological Music Therapy on Hand Function in Children with Spastic Hemiplegic Cerebral Palsy

Dharani.K[1], *Pavithra.V*[2], *Manoj Abraham.M*[3]
[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG College of Physiotherapy, Coimbatore.

Background: Cerebral palsy describes a group of permanent disorders of development of movement and posture, causing activity limitation .Affecting hand function of children with hemiplegic cerebral palsy are limited and they have difficulty in performing complex tasks in ADL. Most of the studies involving hand function are improved by a task oriented approach. But,

Aims and Objective: This study evaluates the effectiveness of music therapy on hand function in spastic hemiplegic cerebral palsy.

Methodology: Pre and post experimental study done in the department of physiotherapy, KG hospital, Coimbatore. .10 subject with spastic hemiplegic cerebral palsy of age 8-15 yr, level 2 of MACS were included . subjects received Neurological Music Therapy on both upper limbs for 4 weeks , 4 days per week,40 min session.. The outcome measures were Box Block Test and 9 Hole Peg Test.

Result: There was significant difference between pre and post test scores when evaluated with box and block test (paired "t" test of right upper limb is 19.7142 and left upper limb is 15.5791(p value =<0.0001) and 9 hole peg test (paired "t" test of right upper limb is -10.748 and left upper limb is -16.6033(p value=<0.0001).All measurement made after intervention were statistically improved compared to measurement made before piano training.

Conclusion: The conclusion of this study is hand function can be improved with neurological music therapy in children with spastic hemiplegic cerebral palsy.

Keywords: Hand function, spastic hemiplegic cerebral palsy, music therapy

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An International Journal

Abstract no: 100

The Effectiveness of Aerobic Exercise Verses Buerger's Exercise in - Varicose Vein among Security Guard

***Dineshkumar.V*[1] ,** *Pradhap Sankar.V*[2], *Manoj Abraham.M*[3]
[1]Postgraduate, [2]Assistant Professor, [3]Principal, Kg College Of Physiotherapy

Background: Varicose veins are torturous, widened superficial veins in the subcutaneous tissues of the legs which are often easily visible, these are generally larger than 3mm in size. Maintaining healthy body weight and doing exercise help lessen their emergency. Appropriate exercise can be the best preventive and defensive strategies against varicose veins.

Aim: This study aims to find the effectiveness of Buerger's exercise and aerobic exercise in varicose veins among security guards.

Methodology: This study was done in KG pain relief Centre and Hospital. 20 patients who fulfill the inclusive criteria were selected. In this study group A consisted of 10 patients and was trained with aerobic exercise training and group B consisted of 10 patients was trained with Buerger's exercises. Both were performed for 30 minutes per day for four sessions in a week and this was given for 10 weeks.

Result: On comparing pretest and post test there was statistically significant improvement in means of NPRS($t=3.40, p<0.0001$) and 12 min walk test($t=15.63, p<0.0001$) after intervention in both groups.

Conclusion: The present study concluded that both the exercise is more significant results but Buerger's exercise is more effective than aerobic exercise

Keywords: Varicose vein; Aerobic exercise; Buerger's exercise, NRPS,12 min walk test

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An International Journal

Abstract no: 101

Effects of Instrumental Assisted Soft Tissue Mobilization with Static Stretching in Patients with Plantar Fasciitis

***Mayilmathi.V*[1]**, *Suganya.M*[2], *Manoj Abraham.M* [3]
[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG College of Physiotherapy

Background: Instrumental assisted soft tissue Mobilization is thought to be an advanced form of soft tissue mobilization employs specially designed stainless steel instruments with beveled edges that are specifically designed for various parts of the body contoured with concave and convex edges to target certain areas of the body that are convex and concave respectively. Technique is used to detect and release scar tissue, adhesions, fascial restrictions, soft tissue lesions, by using a variety of multidirectional stroke techniques.

Aim: To find out the effects of instrumental assisted soft tissue mobilization (IASTM) with static stretching in patients with plantar fasciitis.

Methodology: The study was conducted in KG pain relief center Coimbatore. Interventional study. 20 patients with plantar fasciitis were included in this study. GROUP A – Experimental group [N=10] received Instrument Assisted Soft Tissue Mobilization (using Graston tool 4 & 6) along with static stretching. GROUP B – Control group [N=10] received conventional therapy alone for 3 days a week for 2 weeks. Pre and post assessment for pain, range of motion and foot function were assessed using Numerical pain rating scale, goniometer and foot function index respectively.

Result: There was a statistically significant improvement in means of NPRS (t=4.71, p=0.001), ankle dorsiflexion active range of motion (t=5.81, p=0.001) and Foot Function Index (t=3.89, p=0.002) after intervention in both groups.

Conclusion: Group A Instrument Assisted Soft Tissue Mobilization (IASTM) technique combined with static stretching was significantly more effective than conventional therapy on reducing pain, improving range of motion and functional disability for patients with plantar fasciitis.

Keywords: Plantar Fasciitis, Instrumental Assisted Soft Tissue Mobilization, Static stretching, Range of motion, Foot Function Index

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An International Journal

Abstract no: 102

Assessment of Lower Extremity Function in Sewing Machine Operators

Nisarg H Patel[1], *Hemal Patel*[2]
[1]Postgraduate student, J G College of Physiotherapy, Ahmedabad
[2]PhD, J G College of Physiotherapy, Ahmedabad

Background: Musculoskeletal disorder has been progressively common throughout the world. It is one of the most common work-related disorders in sewing machine operators. Sewing machines involve continuous, repetitive tasks like foot paddling, pressing and working in this faulty posture for a long time increases the chance of developing work related musculoskeletal disorder among them.

Aims and Objective: The aim and objective of this study is to assess the lower extremity function in sewing machine operators.

Methods: An observational study was conducted in the sewing machine operators of Ahmedabad city. Lower Extremity Functional Scale (LEFS) questionnaires were filled from 104 sewing machine operators of both the genders through online Google forms. Ethical clearance has been taken.

Result: The Statistical analysis of this study shows that Components No.2 (Quite a Bit of Difficulty) of LEFS had the most number of responses. If you want to check the higher disability ask the question No.6 and No.17

Conclusion: The study concluded that 88.77% of Sewing Machine Operators had Moderate to Higher Difficulty in Lower extremity function

Keywords: Lower extremity function, Sewing machine operators

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Abstract no: 103

Effects of Ischemic Compression on the Trigger Points in the Upper Trapezius Muscle in Patients with Myofascial Pain

***Vimalraj .P*[1], *Suganya .M*[2], *Manoj Abraham.M*[3]

[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG College Of Physiotherapy.

Background: Myofascial pain is responsible for many cases of chronic musculoskeletal pain mainly in trapezius. It is caused by active trigger points. Myofascial trigger points are defined as a hyper irritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band.

Aims and Objectives: To find the effectiveness of ischemic compression on myofascial trigger points in upper trapezius patients to reduce pain and improve functional activities.

Methodology: This study was done in KG Pain Relief Centre. 30 patients who fulfill the inclusive criteria were selected. Patients were selected by using a convenient sampling method. Group A Consists of 15 patients was treated with ischemic compression with stretching and group B consists of 15 patients was treated with active neck exercises with stretching. Group A (N=15): ischemic compression for 90 seconds and 10 seconds of relaxation with stretching for 30 seconds. Group B (N=15): neck exercises with stretching for 30 seconds. Study duration was 6 months.

Result: The Data from 30 patients with myofascial pain were used for statistical analysis on comparing pre test and post test with group A and B on inch tape in mean value at $p<0.01$.There is a significant improvement in ischemic compression with stretching technique on upper trapezius muscle trigger points in group A.

Conclusion: There is a significant improvement in reduction of pain and improved the lateral flexion range of motion in the trigger points of upper trapezius muscle by ischemic compression technique followed by stretching.

Keywords: Myofascial trigger point, Ischemic compression with stretching, Active neck exercises with stretching

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An International Journal

Abstract no: 104

Effect of A Corrective Exercise Program Using Proprioceptive Neuromuscular Facilitation Along with Ergonomic Education on Forward Head and Rounded Shoulders Among Adolescent Population

***Jayadevan*[1], *Hariharasudan*[2], *Manoj Abraham.M*[3]**

[1]Postgraduate,[2]Assistant professor, [3]Principal, Kg college of physiotherapy,

Background: Due to the current lifestyle poor posture is the most common among adolescents population, and the frequency of personal computers has led to sustained and prolonged periods of sitting in front of monitors. Therefore this has made them adapt to faulty postures that have caused musculoskeletal changes in the body creating symptomatic problems like pain commonly in neck and upper back. The static forward bent posture causes deformity like rounded shoulders and forward head posture. This needs to be corrected as early as possible by stretching and strengthening the muscles around the shoulder girdle. And

Aims and Objective: Aim of study to investigate the effects of using corrective exercise program proprioceptive neuromuscular facilitation along with ergonomic Education to correct forward head and rounded shoulders in adolescent children.

Materials and methodology: An experimental study was conducted at KG College of Physiotherapy, Coimbatore, for a period of 8 weeks. 20 volunteers who had neck pain received proprioceptive neuromuscular facilitation with a corrective exercise program for 5 sessions per week for 8 weeks. The participants were selected on the basis of inclusion and exclusion criteria. The outcome measures were Numerical pain rating scale (NPRS), Occiput to wall test (OTWT), Shoulder to wall test (STWT). The interpretation of the study was done on the basis of comparing pre and post test assessment.

Result: The result of this study showed significant difference between the pre and post mean ± SD of NPRS, OTWT, STWT shows $p < 0.0001$ which was extremely significant.

Conclusion: This study had a positive effect on adolescent children who had forward head and rounded shoulders and PNF can be used for correcting these along with ergonomic education.

Key words: PNF, Forward head, Rounded Shoulders, Ergonomics, Adolescents

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An International Journal

Abstract no: 105

To Evaluate the Cardiorespiratory Fitness among Post Covid Individuals

R .Ajith [1], *Suganya.M* [2]. *Manoj Abraham*[3]

[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG COLLEGE OF PHYSIOTHERAPY

Background: Corona virus disease is an infectious disease caused by coronavirus (COVID-19) that spreads rapidly throughout the world. The virus which causes a - typical pneumonia progressing to acute lung injury and acute respiratory distress (ARDS) in some individuals was named COVID-19. Queens college step test is one of many variations of step test procedure used to determine aerobic fitness.

Aims: The Aim of the study was to evaluate the cardiorespiratory fitness among young adult males and females after recovered from covid19.

Methodology: The study was conducted in KG multi Speciality Hospital, Coimbatore.0 30 Patients were selected between 18-21 age group by convenient sampling method. The study duration was three months. The patients were asked to perform a Queens College step test. Outcome measures - VO2max was assessed indirectly by following the protocol of Queen's college Step test method. As the individuals stepped to a four-step cadence "up- up down-down" stepping was started after the brief demonstration and practice period.

Result: The study was done to analyze the cardiorespiratory fitness among post- covid individuals. The statistical analysis of data (N=30) Patients are 34% (10 Patients) under the good category, 43% (13 Patients) under the average category, 23% (7 Patients) under the fair category.

Conclusion: Based on the results, this study concluded that cardiorespiratory fitness reduced among post, covid 19 individuals.

Keywords: Post Covid 19 patients, Queens college step test, cardiorespiratory fitness

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An International Journal

Abstract no: 106

An Inadequate Follow Up Of Stroke Can Lead to Abnormal Posture and Disc Lesions to Disability- A Case Report

Manju bashini[1], *S.S. Subramanian*[2]

[1]Postgraduate, [2]Principal, Sree Balaji school of Physiotherapy, Chennai

Background: Post Neurological recovery especially in hemiparesis subjects, largely depends on continued follow up to sustain the improved components related to their daily activities and functional independence. Changes in posture, soft tissue tightness, lowered physical activities post stroke can predispose for lumbar degenerative disc lesions. These can lead to marked reduction in mobility, aesthetic and to a larger extent on functional activities.

Aims and Objective: To determine the inadequate follow Up in stroke patients who could have abnormal posture and disc lesions to disability.

Methodology: A Hypertensive female aged 56 years had hemiparesis 4 years back with medical treatment, reasonable functional recovery. Later developing marked thoracic kyphosis, scoliosis, hip and knee flexor tightness, lumbar disc lesions were found. Chronic low back ache with severe restrictions for her walking and her daily activities. She gave advice for surgical management of the lumbar spine. Whereas she was evaluated and treated with specific physiotherapeutic measures for one year period with weekly twice frequency from 12/2021 to 12/2022 with core strengthening, specific stretching, lumbar stability.

Result: The results were discussed with evidence.

Conclusion: Findings can be more important as follow up with post stroke to be more emphasized in order to minimize complications and to sustain post stroke recovery for functional activities.

Keywords: Stroke, follow up, kyphosis, scoliosis

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Abstract no: 107

Effectiveness of Proprioceptive Exercises on Knee Joint Pain and Risk of fall in Patients with Knee Osteoarthritis

Mayur Parmar[1], *Hemal Patel*[2]
[1]Postgraduate student, J G College of Physiotherapy, Ahmedabad
[2]PhD, Professor, J G College of Physiotherapy, Ahmedabad

Background: People with knee OA experience loss of proprioception, which may affect postural stability and risk of fall. Lack of safety in performing some activities justifies the extreme importance of identifying risk factors for falling. Implementation of knee proprioceptive exercises will stabilize the joint during static and dynamic functional tasks are key points to concern.

Aims: The aim of the study is to find the effectiveness of proprioceptive exercises on knee joint pain and risk of fall in patients with Knee OA.

Method: A total of 40 patients had participated in the study. All the patients were screened based on inclusion and exclusion criteria. Patients were divided into 2 groups of 20 patients each. The Experimental Group received Proprioceptive exercises with conventional treatment and the Control Group received conventional treatment. The intervention was given for proprioceptive exercises for 4 weeks, 3 days/week for 20 minutes and conventional therapy was given for 4 weeks, 3 days/week for 20 minutes. For knee joint pain and risk of fall outcome measures were taken are NPRS and TUG test, respectively. The measurements were taken before and after four weeks of intervention.

Result: Within group analysis of proprioceptive exercises for knee joint pain suggest statistically significant improvement on pain NPRS ($p<0.01$) and study shows that between group analysis of proprioceptive exercise for knee joint pain suggest statistically not significant improvement on pain NPRS ($p=0.266$) post intervention. Within group and between group analysis of proprioceptive exercise for risk of fall suggest statistically significant improvement on risk of fall TUG test ($p<0.01$) post intervention.

Conclusion: This study can be concluded that there is significant effect of proprioceptive exercises on knee joint pain and risk of fall in patients with knee osteoarthritis in within groups. In between groups proprioceptive exercises are effective on risk of fall, but there is no effect of proprioceptive exercises on knee joint pain in comparison with control groups in patients with knee osteoarthritis.

Keywords: Proprioceptive exercises, pain, risk of fall

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Abstract no: 108

Intermittent Intensive Physical Therapy in Children with Cerebral Palsy-A Pilot Study

Ch.Rekha[1], *N. Senthil Kumar Natrajan*[2]
[1]Post Graduate, SCPT, [2]Professor, Saveetha College of physiotherapy

Background: In the world it ranges from 1.5 to more than 4 per1000 live births of a defined age range. In India>1 million/year are affected. About 1/323 children have cerebral palsy according to centers for disease control and prevention(CDC),which tracks through (ADDM) autism and developmental disabilities monitoring cerebral palsy network. Cerebal palsy more in boys than girls, black than whites, 77.4% had spastic, 58.2%walk independently.

Aim: The aim of the study is to compare the effectiveness of intermittent intensive therapy and conventional therapy in children with cerebral palsy.

Objective: The study is designed to determine the feasibility of a rehabilitation program combining intensive therapy periods with periods without therapy over a period in children with cerebral palsy.

Methodology: Multiple baseline design was used to provide a clear demonstration that performance changes when the intervention is introduced. The design thus provided a between patient control and within patient control.

Result: The intermittent intensive therapy shows that there is more improvement when compared to conventional and also it is very feasible.

Discussions: In this type of treatment regime there is a disadvantage that it was organizational. The scheduling of treatments are more difficult when children have appointments in other services.

Conclusion: In conclusion this pilot study showed that children with moderate impairments who had hemiparesis improved their motor performance when short periods of high frequency alternated with longer periods of rest.

Keywords: Cerebral palsy, CDC, ADDM

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Abstract no: 109

Efficacy of Cervical Spine Stabilization Exercises on Beta – Endorphin Level in Patients with Cervicogenic Headache

Akila B[1], *Ramana K*[2], *Kumaresan A*[3]

[1]PostGraduate, [2]Assistant Professor, [3] Professor Saveetha College of physiotherapy, Saveetha Institute of Medical and Technical Sciences, Chennai

Background: The body's natural painkillers are called endorphins. It is proposed that b-endorphin plays a part in the neuronal dysfunction seen in classical cervicogenic headache. A unilateral headache that originates in the neck is the symptom of a cervicogenic headache (CGH).

Aim and Objective: The aim of the study is to find the efficacy of cervical spine stabilization exercise on the beta endorphin level in patients with cervicogenic headache.

Methods: The study was an observational study, conducted at Saveetha institute of medical science and technology (SIMATS) for a period of 6 weeks. The primary outcome was tested using Headache Disability Questionnaire with patients aged 20-40 years . The patients will be positioned in standing for measuring craniovertebral angle using artificial intelligence by KINOVEA app then a blood test will be measured with endorphin levels in the blood plasma. The subjects were given a Cervical spine stabilization Exercise Program for 45 minutes per session, 5 sessions per week for 4 weeks. The patient is then assessed with beta endorphin level after 4 weeks of training.

Result: Statistical analysis of the quantitative data for both male and female shows the levels of endorphin in patients with cervicogenic headache. There was a statistically significant reduction in the beta endorphin level in the cervicogenic patients with the significant value of $p < 0.001$.

Conclusion: This study emphasizes that there is an efficacy of cervical spine stabilization exercise on endorphin level in patients with cervicogenic headache.

Keywords: endorphin levels, cervicogenic headache, cervical spine stabilization exercise, neuronal dysfunction

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Abstract no: 110

Efficacy of Core Muscle Stabilization in Chronic Non Specific Low Back Pain Patients – A Systematic Review

***S. Mohammed Luqman*[1], *J. Saravan kumar*[2]**
[1]Postgraduate, Saveetha College of Physiotherapy
[2]Assistant Professor, Saveetha College of Physiotherapy

Background: Low back pain is defined as pain localized between the 12th rib and the inferior Gluteal folds with or without leg pain, most cases are nonspecific but in about 10% of Cases a specific cause is identified. The major causes of low back pain are weakness of superficial trunk muscles, abdominal muscles and motor control or delayed activation of deep muscles (multifidus and transversus abdominis). Hence Core Stabilization Exercise provides greater support to the spine, control of deep muscles of lumbar spine and pelvis, and integration of activity of superficial and deep trunk muscles. Core Stabilization exercises includes with abdominal tights, pelvic tilts, partial curls, Extension exercise, bridging exercises: supine, prone, side, quadruped exercises, Multifidus exercises, plank, pelvic floor exercises, diaphragmatic exercises, modified Push Ups. These exercises can heal soft tissue injury, such as muscle strain and torn Ligaments and also helps in reducing low back pain and other back injuries.

Aims and Objective: The aim of the study is to review the efficacy of core muscle stabilization exercise in chronic nonspecific low back pain patients.

Methodology: Inclusion criteria was Randomized or quasi-randomized controlled trial studies And Experimental study design. Sample size was 245 articles, 161 articles were collected from Google scholar, 28 articles from PubMed, 29 articles from Cochrane library and 27 articles from Research gate. Methodology of the Study was designed as a Systematic Review.

Results: Out of 245 published studies, we selected 14 articles which describing about Efficacy of core muscle stabilization exercise in chronic non specific low back pain, Among which 8 articles discussed about the effectiveness of core stabilization exercise, 2 articles about lumbar stabilization, 2 articles about Pilates based exercise, 2 articles About segmental stabilization in reducing chronic nonspecific low back pain.

Conclusion: By reviewing the study, we conclude that core muscle stabilization exercise is Effective in reducing the chronic nonspecific low back pain (CNSLBP).

Keywords: Chronic nonspecific low back pain, Core stabilization exercise, Oswestry

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Abstract no: 111

Effectiveness of High Intensity Interval Training on Blood Lactate Level among Healthy Young Athletes - A Narrative Review

Bharathi.R[1], *Muthukumaran Jothilingam*[2]
[1]Postgraduate SCPT, [2]Professor, Saveetha College OF Physiotherapy

Background: High-intensity interval training (HIIT) is a growing fitness trend. This type of training is characterized by repeated short-to-long bouts of intense exercise separated by intervals of recovery or rest. HIIT is an alternative to moderate-intensity continuous training (i.e., traditional endurance training) with similar adherence rates. A recent systematic review has shown that one session of HIIT has positive acute effects on executive function in healthy adults and athletes. These single bouts of exercise are purported to improve executive function by increasing circulating levels of peripheral exercise factors, including lactate. No review so far has analyzed the various adaptations of HIIT exclusively in young athletes which is important since the adaptation to HIIT may be different in athletes compared to diseased or untrained children. The purpose of this review is to determine the effect of HIIT on post training blood lactate levels and to provide evidence-based recommendations for the application of HIIT in athletes.

Aim: The aim of the study is to review the effectiveness of High intensity interval training (HIIT) on blood lactate levels among young athletes.

Search Method: Studies for the review were collected from database PubMed, Google scholar, Cochrane Library, Research gate, Journal of orthopedics and sports physical therapy.

Methodology: For this study, a total 195 articles were collected from the above-mentioned databases using the search terms “HIIT” and “Blood lactate” and “Athletes".

Results: Out of 195 published studies, we selected 12 articles which describing about endurance and cognitive levels in young athletes, 10 articles describing about HIIT protocol and its effects on athletes and 3articles describing about Effectiveness of HIIT on blood lactate levels and cognition in young athletes based on inclusion and exclusion criteria.

Conclusion: By reviewing all these studies, we conclude that HIIT is effective in eliciting blood lactate levels in athletes, thereby improving their cognitive functioning, specifically executive functioning, learning, memory and their athletic performance.

Keywords: HIIT, Blood lactate level, Athletes, cognition

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Abstract no: 112

The Effect of Radial Extracorporeal Shock Wave Therapy on Hand Strength in Mild to Moderate Idiopathic Carpal Tunnel Syndrome

Hazliza Razali[1], *Naresh Bhaskar Raj*[2], *Zakaria Yusoff*[3]
[1,2,3] Universiti Sultan Zainal Abidin, Terengganu, Malaysia

Introduction: Idiopathic Carpal tunnel syndrome (ICTS) is a mononeuropathy caused by compression of the median nerve in the carpal tunnel. Ultrasound therapy (UST) and nerve and tendon gliding exercise are commonly used in physiotherapy clinical practice but studies have found uncertain evidence regarding the effect. Extracorporeal Shock Wave Therapy (ESWT) is a novel non-invasive treatment for ICTS but there is very scarce literature on the usage of ESWT in ICTS.

Aim: The aim of the study is to analyze the effect of different physiotherapy intervention on hand strength in mild to moderate ICTS.

Methods: This study consisted of both male and female ICTS patients. The 60 subjects were allotted into of three groups, UST Group; received Ultrasound therapy (UST) combined with nerve and tendon gliding exercise, ESWT Group ; received radial extracorporeal shock wave therapy (rESWT) combined with nerve and tendon gliding exercise and Control Group; received only nerve and tendon gliding exercise, two times per week for four weeks. Following four weeks of intervention period, 8 subjects withdrew from this study. The evaluation of grip and pinch strength (palmar and lateral) was performed at baseline, 2 weeks, 4 weeks and follow-up by use of calibrated Jamar hydraulic portable dynamometer.

Results: Repeated measure ANOVA shows superior effect in grip strength ($p<0.005$) in the ESWT group for all comparisons based on time (time effect). The overall increment in the ESWT group from baseline to follow-up showed; grip strength was 48 %, pinch strength (palmar) was 132% and pinch strength (lateral) was 75%.

Conclusion: This study concludes that the rESWT is an effective modality for mild to moderate ICTS. The beneficial effect of this non-invasive modality on hand strength is safe and valuable to be used as one of physiotherapy modality in Malaysia.

Keywords: Carpal Tunnel Syndrome, Extracorporeal Shock Wave Therapy, Ultrasound Therapy, Nerve and Tendon Gliding Exercise, Hand function, Hand Strength, Grip Strength, Pinch Strength

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Abstract no: 113

Prevalence of Sleep Disturbance and Health Related Quality of Life among Post Covid Patients

***Vasanth kumar.S*[1], *Suganya.M* [2], *Manoj Abraham.M* [3]**
[1]Postgraduate, [2]Assistant Professor, [3]Principal, KG College of Physiotherapy

Background: Coronavirus disease is an infectious disease caused by a newly discovered coronavirus [SARS- COV-2]. Recent case reports and observational studies have suggested that COVID‐19 patients are likely susceptible to developing depression, anxiety, and sleep disturbances. Hence the study determines to identify their sleep disturbances and health related status.

Aims and Objective: Objective of the study was to find out the prevalence of sleep disturbance and health related quality of life among post covid patients.

Methodology: The study was conducted in KG speciality center Coimbatore, an observational study. 50 post-covid patients were selected based on the inclusion and exclusion criteria. The patients who were recovered from covid-19, age group between 18-60 years were taken and they were asked to complete the sleep quality index scale and Short form- 36 questionnaire. The outcome measure was sleep quality index scale and Short Form-36 [SF- 36] used to assess sleep disturbance and health quality of life.

Result: There were about 12% of subjects have very good quality of sleep, 20% of subjects have fairly good quality of sleep, 42% of subjects have fairly bad quality of sleep and 26% of subjects having very bad quality of sleep and There were about 44% of subjects having lot of limitations, 32% of subjects having a smaller number of limitations, 24% of subjects having no limited at all.

Conclusion: This study concludes that post-covid patients had disturbance in sleep and reduced health related quality of life. We recommend the patients to engage in some sort of breathing exercise, active cycle of breathing technique which includes thoracic expansion exercise and forced expiratory technique in order to regulate sleep and to improve better quality of life.

Keywords: Post covid patients, Sleep disturbance, Health related quality of life.

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Abstract no: 114

Effectiveness of Body Weight Supported Treadmill Training (Bwstt) and High Intensity Resistance Training (Hirt) on Strength, Balance and Gait Among Parkinson Individuals

[1]***Ishwarya.D.*** *Hariharasudan[2], Manoj Abraham.M [3]*
[1]Postgraduate, [2]Associate Professor, [3]Principal KG College of Physiotherapy, Coimbatore

Background: Weakness, Imbalance and Gait abnormality are the most common dysfunctions encountered by Parkinson population as the cardinal features of rigidity and postural abnormality gradually peaks with the disease progression. Body weight supported treadmill training (BWSTT) is a method for retraining locomotion. The harness of BWSTT provides support and reduces the weight on the feet while patients walk on the treadmill. High-intensity resistance training is a form of interval training which utilizes strength-based movements workout by combining strength training with cardio conditioning.

Aims and Objective: The aim of the study is to find the effectiveness of body weight supported treadmill training and high intensity resistance training on strength, balance and gait among Parkinson individuals.

Methodology: A Total of 20 Parkinson patients were purposively selected for this Experimental study, both genders between the age group of 55 -70 years, in the category of stage 2 and 3 in Hoehn and yahr scale were included in this study and intervention BWSTT and HIRT for 5 days/ week for 8 weeks was given. Pre-test and Post-test were measured with outcomes of Strength by Manual Muscle Test (MMT), Balance by Berg Balance scale (BBS), and Gait by Timed up & go test (TUG) was used.

Results: The results showed that there was significant improvement with the pre-test and post-test mean values of MMT was 3 and 4.40, whereas the BBS was 40.5 and 48.2, and TUG was 13.56 and 11.39 respectively.

Conclusion: Hence this study concluded that patients who received BWSTT and HIRT showed significant improvement on strength, balance and gait among Parkinson individuals.

Keywords: Parkinson disease, Strength, Balance, Gait, MMT, Berg Balance Scale, Timed up & go test

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Abstract no.115

Effect of Proprioceptive Training and Strength Training on Agility in Table Tennis Players - Experimental Study

Barathsha[1], N.Suryaprakash[2]
[1]Postgraduate, [2]Assistant Professor, K G college of Physiotherapy, Coimbatore

Background: Table tennis is a dynamic sport. Proprioception is an important sensory and motor function for all mobility actions. Proprioception plays an important role in sports and they contribute greatly to the performance of athletes. Strength training involves the performance of physical exercise which are designed to improve strength. Agility is the ability to move and change the direction and position of the body quickly and effectively which is under control.

Aims and Objective: The aim of the study is to find out the effect of proprioceptive training and strength training on agility in table tennis players.

Methodology: The study design was experimental study, study setting in Kg college of physiotherapy, study sample total 20 players were included into the study with 10 players in each in the group. Sampling method was convenient. Study duration was 6 months and individual training was 6 weeks.

Result: The study was conducted to find out the effect of proprioceptive and strength training on agility for table tennis players. When comparing the mean values of both the post test mean values proprioceptive training (N=10 subjects) are as follows (Agility-9.38). strength training (N=10 subjects) are as follows (Agility- 10.20). so proprioceptive training groups show a significant improvement in agility than the strength training group.

Conclusion: The study concluded that the group one which underwent proprioceptive training showed significant improvement in agility when compared to group two which underwent strength training.

Keywords: Table tennis, proprioceptive training, strength training, agility and agility T test

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An International Journal

Abstract no: 116

Immediate Effect of Muscle Energy Technique in Non Specific Low Back Pain

Prabakaran.K[1]

[1]Postgraduate, KG College of physiotherapy

Background: Non specific low back pain interferes with quality of life and work performance, transpires to be similar in all cultures. Low back pain affects about 60-70%of the population in industrialized nations. The prevalence of low back pain in India is estimated to be 42.4%annually. Non specific low back pain does not cause any structural changes nevertheless decrease an individuals quality of life. The most common source of pain is the paraspinal muscles along with the Quadratus Lumborum muscle, an indispensable cause for non-specific low back pain.

Aims and Objective: The aim of the study is to find the immediate effect of muscle energy technique in non specific low back pain.

Methodology: This is a single interventional study, this study was conducted in Kg hospital. Subjects with non specific low back pain between the age of 20-40 years. They were included in the study based on the inclusion and exclusion criteria. After acquiring the consent of participants they were randomly allocated into 2 groups. Experimental Group (N=25), Control Group (N=25). Experimental group received muscle energy technique with hot packs for 20 minutes, while the control group received only hot packs for 20 minutes. Pre and post assessment for both groups were done using NPRS (Numerical Pain Rating Scale) and Range of Motion using Modified Schober's test.

Result: In this study there is a significant improvement in pain intensity Numerical Pain Rating Scale (NPRS) and all the lumbar range of motion in pre and post intervention of Muscle Energy Technique in Experimental group and Control group with p value of <0.05, there is a statistical difference in improvement between Experimental group and Control group in pain (NPRS) and all Lumbar range of motion.

Conclusion: There was an improvement on pain and all Lumbar range of motion compared to pre and post Muscle Energy Technique shows the immediate effect of Muscle Energy Technique on pain and all Lumbar range of motion in Non specific low back pain.

Keywords: Non specific low back pain, Quadratus lumborum muscle, Muscle Energy Technique, NPRS, schober's test

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An International Journal

Abstract no: 117

Impact of Core Strengthening in Sciatica, Post ACL Reconstruction: An Evidence Based Longitudinal Study

R Mega[1], *S.S.Subramanian*[2]
[1]Postgraduate, Sree Balaji School of Physiotherapy, Chennai
[2]Principal, Sree Balaji School of Physiotherapy, Chennai

Introduction: Surgical intervention of extremity can later result in contralateral spinal ailments especially with post ACL-R. Without proper follow up they can lead to contralateral leg pain, lumbar disc lesion etc. ACL-Reconstruction subjects developing sciatica due to disc herniation can benefit from core strengthening exercises

Background Information: The patient was an 32 year old endomorph have undergone ACL-R (Rt side) on 16/07/2021 has developed sciatic pain with MRI spine taken on 20/12/2021 with bilateral diffuse disc bulge at L4-L5 and advised by orthopedic surgeon .He was treated for two weeks of specific core strengthening .The results were discussed with due evidence.

Aim of the Study: Aims and objectives of this research where to evaluate lumbar disc lesions post ACL reconstruction with physiotherapy

Materials and Methodology: 32 years old endomorph IT professional was treated with ACL-R (right side) on 16/07/2021. Later he developed left sciatica 20/12/2022 and was advised for discectomy. However he was treated with core strengthening exercises from 28/12/2022 to 28/03/2023 with weekly three sessions results of pre and post waist circumference Oswestry scale, lysholm scale were recorded and discussed with due evidence.

Results: Results of this study shows that there is a significant difference in Lysholm scale and Oswestry score and also there is a reduction in his waist circumference that are analyzed with due evidence.

Conclusion: Findings of this research shows the importance of post ACL-R follow up with focus on physiotherapy for obesity kinetic analysis based exercise to minimize & complications post ACL-R.

Keywords: Sciatica, ACL reconstruction, Oswestry low back disability questionnaire, lysholm knee scoring scale

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An International Journal

Abstract no: 118

Effectiveness of Stepping Exercise on Endurance and Strength Among Geriatric Population

Renuka.S[1], *Kumaresan A*[2]

[1]Postgraduate , [2] Professor, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai

Background: Aging is associated with decline in neuromuscular and cardiovascular systems, resulting in an impaired capacity to perform daily activities. Decline in endurance capacity and strength among elderly are primarily due to decline in physical inactivity and muscle mass. Improving endurance and strength among the elderly is critical for maintaining physical function, reducing the risk of chronic diseases and falls, and improving their quality of life.

Aim: To determine the effectiveness of stepping exercises on endurance capacity and strength among geriatric population.

Objective: The purpose of this study is to find the effectiveness of stepping exercises on endurance capacity and strength among geriatric population.

Methods: This randomized control trial was conducted on 30 older adults at Saveetha medical college and hospital. Participants who met the inclusion criteria were randomly allocated into two groups, Stepping exercise group(A) (n=15) and Conventional group(B) (n=15). Participants in group A received Stepping exercise along with aerobics and group B received strength and aerobic training for the duration of 5 days per week for 40 minutes/sessions. Pre and post-test evaluation were done using TUG test, 5*sit to stand test, 2 mins step test and hand-held dynamometer to measure endurance capacity and strength. To analyze the data, paired t-test, independent sample t-test, was used.

Results: This study showed a statistically significant difference in both strength and endurance among geriatric population.

Conclusion: Stepping exercise has shown considerable effect on improving endurance capacity and strength among geriatric population. Being a low-impact form of exercise, it is safe and can be easily adapted to individual fitness levels and physical abilities.

Keywords: Stepping exercise, endurance, strength, hand dynamometer

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Abstract: 119

Effects of Biopsychosocial Approach on Cognition among Parkinson's Population

***Jayadharshini.E*[1]**, *Kumaresan A*[2]
[1]Postgraduate, [2] Professor, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai

Background: Cognitive decline is a common debilitating symptom in Parkinson's disease (PD). Cognitive impairment in Parkinson's disease can have a significant impact on many aspects of an individual's life, social interactions, and overall quality of life. Biopsychosocial approach is likely to address not only the underlying biological mechanisms of cognitive impairment in Parkinson's disease, but also the psychological and social factors that can contribute to cognitive decline and influence treatment outcomes.

Aims and Objective: To analyze the effects of biopsychosocial approach on cognition among Parkinson's population.

Method: This randomized clinical trial was conducted on 30 older adults with Parkinson's disease at Saveetha medical college and hospital. Participants who met the inclusion criteria were randomly allocated into two groups of intervention (n=15) and control (n=15). Participants in the intervention group received the multiple intervention based on biopsychosocial approach with duration of 60 minutes-sessions. Pre and post-test were done using Scales for Outcomes in Parkinson's disease-cognition (SCOPA-cog) and Parkinson disease Quality of Life Questionnaire (PDQ-8). To analyze the data, paired t-test, independent sample t-test, were used.

Result: Multiple intervention based on biopsychosocial approach intervention groups showed significant improvement in post-test mean values ($p \leq 0.001$) on improving cognition and quality of life.

Conclusion: Multiple intervention based on biopsychosocial approach has shown effectiveness on cognition and quality of life among Parkinson population. Thus, the approach emphasizes the importance of addressing not only the biological factors associated with the disease but also the psychological and social factors that can contribute to cognitive decline.

Keywords: Biopsychosocial, cognition, Parkinson, geriatric population

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Abstract no: 120

Effect Of Spinning Exercises In Improving Cardiovascular Function In Rheumatoid Arthritis Patients

Sirasani Thejasree[1], *Varalakshmi*[2]

[1]Postgraduate, Apollo College of Physiotherapy, Hyderabad

[2]Assistant Professor, Apollo college of Physiotherapy, Hyderabad

Background: Rheumatoid Arthritis (RA) defined as a chronic, systemic, autoimmune disease characterized by joint swelling, joint tenderness and destruction of synovial joints, leading to severe disability. Several studies have suggested that the development of atherosclerosis is a risk of CVD, and became most common in RA. Previous studies showed that in RA patients, endothelial dysfunction and arterial stiffness were reduced by regular exercise and has been shown to induce long term anti-inflammatory effects and reduce the risk of CVD. But few studies showed that spinning exercise is effective in improving cardiovascular function.

Aim of the study: The purpose of the study is to determine and to evaluate the effect of spinning exercise in improving cardiovascular function in Rheumatoid Arthritis patients

Methods: The study design is experimental study with a simple randomized sampling technique. A sample size of 30 was selected based on the inclusion and the exclusion criteria. The study duration was 10 weeks. The subjects were randomized into 2 groups 15 subjects Group A (Experimental group) and 15 subjects group B (Control group). Before and after the treatment subjects were assessed with 6-minute walk test, Blood pressure and Rate Pressure product

Results: The results revealed that group A showed significant improvement in aerobic capacity and maintaining of blood pressure at 10 weeks compared with the group B

Conclusion: Group A showed significant improvement in aerobic capacity and maintaining of blood pressure at 10 weeks compared with Group B.

Keywords: aerobic capacity, blood pressure, VO2max, spinning exercise

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An International Journal

Abstract no: 121

Effect Of Low Level Laser Therapy In Myofascial Trigger Points In Calf Muscle: A Case Series

***Vakati Bhavya Vyshnavi*[1], *Alapaka Prathyusha*[2], *Hannah Rajasekhar*[3], *Lilima Patel*[4]**

[1]Postgraduate, Apollo College of Physiotherapy, Hyderabad

[2]Postgraduate, Apollo College of Physiotherapy, Hyderabad

[3]Professor and Principal, Apollo college of Physiotherapy, Hyderabad

[4]Assistant professor, Apollo college of Physiotherapy, Hyderabad

Background: Myofascial trigger point (MTrP), defined as a hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The active trigger point causes a clinical pain complaint, is always tender, prevents full lengthening of muscle, weakens the muscle, and causes referred pain during direct compression. Low level laser therapy is used for pain relief, accelerated tissue regeneration and reduction of inflammation.

Aim: To study the effect of Low Level Laser Therapy on pain and Range of motion in patients with Myofascial trigger points in calf muscle.

Methods: The Sampling technique is Purposive sampling. And the study was conducted in Apollo Institute of Medical science and Research, with a total sample size of 4 and the duration of treatment is 5 sessions.4 subjects were taken into the study based on the inclusion and the exclusion criteria. Patients were treated with low level laser therapy whose wavelength is 655nm, Duration 6 minutes, Power: 6 joules/cm^2.

Results and Conclusion: The Low-level laser therapy has proven to be effective in reducing pain and improvement of Range of motion in patients suffering with Myofascial trigger points of calf muscle.

Keywords: Low level laser therapy, Myofascial trigger points

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Abstract no: 122

Comparative Effects of Percussion Thera gun Versus Physical Activity in Non-Specific Neck Pain in Young Adults - A Randomized Clinical Trial

***Reshi Chockalingam*[1], *S.Senthil kumar*[2], *N.Senthil kumar*[2]**

[1]Postgraduate, [2]Assistant professor, Saveetha college of physiotherapy, SIMATS, Chennai.

Background: The percussion theragun uses fast oscillatory back and forth movements to produce vibrations of different frequencies. These vibratory frequencies are then subjected superficially to the skin, which then reduces local and systemic changes. Handheld percussive massage treatment has acquired fame as of late, for both remedial use and in sports practice. It is utilized with the objectives of expanding adaptability and execution, in addition to quicken recovery. Physical activity is any movement that uses energy. Physical activity has a major impact on health. Some effects are well known; as a main part of energy expenditure, physical activity has a great influence on energy balance and body composition. Physical activity also helps improve strength, flexibility and when practiced properly it also helps in faster recovery..

Objectives: Both physical activity and percussion using the theragun have positive effects on pain relief and ROM. The purpose of this study was to evaluate the therapeutic effects of the percussion theragun as compared to physical activity and try to come up with the best possible treatment plan for non-specific neck pain. The range of motion and VAS values for pain before and after the treatment values are to be measured. Evaluate the data and figure out which of the two interventions is better.

Method and Measures: The study was conducted on 36 subjects with non-specific neck pain who were given 3 consecutive sessions (in a span of 3 days) of intervention. Through randomized method subjects were divided into conventional (physical activity) group and the percussion theragun group. Outcome measures such as VAS (visual analogue scale) and Neck range of motion were assessed

Results: Both the groups showed improvement in the parameters of outcome measures. The percussion theragun group showed significantly greater improvement than the physical activity group.

Conclusion: The current study provided evidence to prove that the protocols used in this study show significant reduction in pain and range of motion in subjects with non-specific neck pain in both the groups. Both the physical activity protocol and therapy with the percussion theragun proved to be effective in a 3 day protocol.

Key Words: Percussion Theragun, Vibration Therapy, Hot Moist Pack, Neck Isometrics, Theraband Strengthening

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Abstract no: 123

Syringomyelia- Decompression of Syrinx And Vp Shunt- 16 Years Longitudinal Follow Up With Physiotherapy An Evidenced Analysis

***R. Yuvarani*[1]**, *S. S. Subramanian*[2]
[1]Postgraduate, [2]The Dean, Sree Balaji School of Physiotherapy

Background: Neurological ailments among childhood period prompt identification with due medical intervention, for better health benefits.

Aim: The aim of this longitudinal follow-up study is to evaluate the effectiveness of decompression of syrinx and VP shunt, along with physiotherapy in the management of syringomyelia. The study will focus on patients with syringomyelia who have undergone decompression of syrinx and VP shunt placement, and will examine the long-term outcomes of these procedures.

Methodology: One of the rare conditions of a syringomyelia child at the age of 4 years, having undergone VP shunt twice followed by orthopedic surgeries of the hip requiring long term physiotherapy his age 4-20 years (2004-2020) were discussed with evidence.

Results: Apart from medical care, contribution from the family, weekly thrice physiotherapy, their psychological changes, clinical prognosis for 16 years were analyzed and researched using literature evidence.

Subjects requiring prolonged periods of continued health care were challenging as findings of this research which can be more an informative learning for further similar healthcare situations.

Keywords: Syringomyelia, VP Shunt, Physiotherapy, Decompression of Syrinx

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Abstract no: 124

Return to Sports Post ACL - Reconstruction with 1 Year Longitudinal With Physiotherapy Evidence

***Nivedhika. B*[1], *S.S.Subramanian*[2]**
[1]Postgraduate, Sree Balaji School of Physiotherapy, Chennai
[2]Principal, Sree Balaji School of Physiotherapy, Chennai

Background: The anterior cruciate ligament (ACL) is important for maintaining stability of the knee joint, particularly in activities involving weaving, pivoting or kicking. The knee becomes unstable with a ruptured ACL and the joint may become more damaged over time. ACL reconstruction is the surgical treatment of choice to restore stability at the knee joint. Post-operative outcomes with ACL-R wire is more important with return to sports

Aims and Objective: To analyze the return to sports post ACL – reconstruction

Methods: The carved role at physiotherapy were analyzed with one year longitudinal follow up of 21 year old post right ACL-Reconstruction football player from 2022-2023.He was treated with core and proprioceptive exercises with thrice a week frequency

Result: LYSHOLM and WOMAC scores of this subject were recorded and analyzed with due evidence

Conclusion: The outcome of this research can lay the foundation for the pivotal role of physiotherapy in return to sports post right ACL-reconstruction. Studies are yet to be completed.

Keywords : ACL, Proprioceptive exercises, Core muscle exercises.

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Abstract no: 125

Anterior Cervical Discectomy and Fusion Following Whiplash Injury– Longitudinal 10 Years Study of A Quadriparesis

***M.Bharathi*[1], *S.S.Subramaniam*[2]**

[1]Postgraduate, [2]Principal Sree Balaji College of Physiotherapy, Chennai

Background: Whiplash injury can vary with their expected prognosis. As me role of physiotherapy post ACDF following traumatic whiplash injuries this research gets more significant Anterior cervical discectomy and fusion (ACDF) is a type of neck surgery that involves removing a damaged disc to relieve spinal cord or nerve root pressure and alleviate corresponding pain, weakness, numbness, and tingling. A discectomy is a form of surgical decompression, so the procedure may also be called an anterior cervical decompression. It is rare, a post-ACDF complication that can lead to quadriparesis can occur in some cases. During an ACDF surgery, the surgeon must operate near the spinal cord to remove the damaged disc and perform the fusion. If there is an error in the surgical technique, or if the spinal cord is inadvertently damaged during the procedure, this can lead to nerve damage and quadriparesis. In post ACDF which is followed by quadriparesis, to determine the effect of physiotherapy management helps to recover duration and how it helps in QOL of ADL.

Aim: The aim of this study is to find out the longitudinal effect of physiotherapy management in post surgical cases. To analyze the physiotherapy management using neck disability index score for ACDF following whiplash injury.

Methodology: Ten years follow- up of a post - ACDF subjects with physiotherapy from having quadriparesis of a 46 years old male diabetic was discussed with due evidence.

Results And Conclusion: Results were analyzed with QOL and findings of this research can lay the importance of continued physiotherapy of how much impact it can have on subjects QOL be established but larger sample study could further substantiate this study.

Keywords: ACDF- anterior cervical discectomy, QOL- quality of life, NDI- Neck disability index

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Abstract no: 126

Comparative Study on the Effectiveness of Core Stabilization Exercise and Schroth Method on Adolescent Idiopathic Scoliosis

Yogesh.M[1] *, Pradhapsankar*[2] *, M.Manoj Abraham*[3]
[1]Postgraduate ,[2]Assistant Professor,[3] Principal ,KG College Of Physiotherapy

Background: Idiopathic scoliosis is one of three different types of scoliosis that cause the spine to develop an abnormal curve. Adolescent idiopathic scoliosis probably results from a combination of genetic and environmental factors. The Schroth method is a nonsurgical option for scoliosis treatment.

Aims and Objective: The aim of this study is to compare the efficiency of the Schroth method and the core stabilization exercise in patients with adolescent idiopathic scoliosis.

Methodology: The comparative study consists of 30 subjects with adolescent idiopathic scoliosis with mild curve magnitude (0-30) randomly divided into two groups; the Schroth group A=15 and the core stabilization group b =15. The patients in the Schroth group were treated with supervised Schroth exercises, and the patients in the core group were treated with supervised core stabilization exercises; both groups performed the exercises 3 days \ week for a total of 10 weeks, and both were given additional traditional exercises to perform. Cobb angle and bunnell' scoliometer is used for analyzing the curve magnitude and angle trunk rotation (ATR)in group A and group B.

Result: The pre and post test values were assessed by COBB ANGLE and BUNNEL'S SCOLIOMETER in Group A and B. The calculated t value by paired value where for group A is 13.56 and 11.29 ,for group B is 12.08 and 11.24. The calculated t value was more than the table value.so the paired t value shows the group A Schroth method is more effective than group B core stabilization.

Keywords: Adolescent idiopathic scoliosis, Schroth method, Core stabilization exercise, Cobb angle, and Bunnel's scoliometer.

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Abstract no: 127

Efficacy of Integrated Neuromuscular Inhibition Technique and Cervical Traction on Myofascial Trigger Points among Women with Trapezius Myalgia

B. Varshini[1]

[1]Undergraduate Student, VELS School of Physiotherapy, VISTAS, Chennai

Background: Trapezius myalgia is the muscle pain, stiffness or tightness of the upper trapezius, that causes persistent neck- shoulder pain. And the prevalence of trapezius myalgia is higher in Women due to static loading on neck muscles, high repetitiveness, low control, and high mental demands. Hence Ischemic compression, Strain CounterStrain, Muscle Energy Technique are supported to relieve the myofascial trigger points by deactivating the taut bands in trapezius muscle.

Aims and Objective: This study is to evaluate the efficacy of Integrated Neuromuscular Inhibition Technique on myofascial trigger points and cervical traction on pain and cervical range of motion among women with trapezius myalgia.

Methodology : Twenty young women, diagnosed with neck pain with upper trapezius trigger points were selected by simple random sampling and divided into two groups, Group A (n = 10) was treated with integrated neuromuscular inhibition technique and cervical traction; Group B (n=10) was treated with stabilization exercises. The study was conducted for 2 weeks and the outcome measures in terms of pain intensity and cervical range of motion was measured at baseline and end of the treatment.

Result: On comparing the mean values of Group A & Group B, analysis showed reduction in pain with a mean value of 3.03 ± .614 and improved cervical range of motion in Group A post-test values in terms of numerical pain rating scale (NPRS) , and cervical range of motion using goniometer.

Conclusion: The present study concluded that group A is superior as it is based on the phenomenon of reciprocal inhibition and post-isometric relaxation (in-turn resolving muscle spasm), thereby improving cervical function by reducing the trigger points on upper trapezius muscle. Hence group A proves to be significant when compared to group B.

Key words: Ischemic compression, Strain CounterStrain, Muscle Energy Technique, NPRS, Goniometer.

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Abstract no: 128

Correlation between the Hyper Lumbar Lordosis and Abdominal Muscle Strength, Hip Flexor Tightness and Its Associated Musculoskeletal Disorders Prevalence in Overweight Females

Jency Thangasheela G[1], *Macklin Abraham Navamani J*[2], *Tamilarasan Madhan*[3]
[1]Professor, Cherraan's College of Physiotherapy
[2]Associate professor, Karunya Institute of Technology and Sciences
[3]Student, Cherraan's College of Physiotherapy

Background: Spinal curvature in sagittal plane, lumbar lordosis is necessary for weight bearing, increase efficiency of paraspinal muscle and maintaining erect posture. If lumbar lordosis changes into hypo or hyper lordosis, load on facet joint and disc increases and compression of nerve root, degeneration of disc and facet joint, increased hip flexor tightness and diminished abdominal muscle strength.

Objectives: To assess the correlation between hyper lumbar lordosis and abdominal muscle strength, hip flexor tightness and its musculoskeletal discomfort in overweight females.

Methodology: 13 overweight females were selected between the age of 30 to 60 years. Lordotic curve, abdominal muscle strength, hip flexor tightness and musculoskeletal discomfort was assessed by flexi curve, abdominal curl up test, Thomas test and Cornell musculoskeletal discomfort questionnaire. Data were assessed by a descriptive statistical method.

Results: There is negative correlation between hyper lumbar lordosis and abdominal strength (-0.18), positive correlation between hyper lumbar lordosis and hip flexor tightness (0.18).Hyper lordosis increases the risk of musculoskeletal problems.

Conclusion: Hence we conclude, active correction exercises and changing bad postural habits, reduce musculoskeletal disorders, hip flexor tightness and increase abdominal muscle strength.

Keywords: Abdominal muscle strength, Hip flexor tightness, musculoskeletal discomfort, hyper lordosis

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Abstract no: 129

Role of Physiotherapy in Pott's Fracture in Open Internal Fixation Surgery

Keerthana Saravanan[1]

Undergraduate, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Pott's fractures are common fractures occurring in all age groups. Any bony injuries and fractures around the ankle joint are referred to as pott's fracture. Appropriate physiotherapy management is necessary for optimal functioning and to prevent postoperative complications. Some of the important physiotherapy interventions after pott's fracture are pain free flexibility, strengthening and balance exercises.

Aims and Objectives: To assess the role of physiotherapy in ORIF of Pott's fractures in adults with fibular plating and Screw fixation of medial malleolus.

Materials and Methods: A total of 40 patients were taken in this study based on the inclusion and exclusion criterias. The role of physiotherapy was analyzed for the 40 patients. The studies were collected from the database of Cochrane library base, Pubmed central, PEDro, rehab data, research gate and SAGE journal.

Results: In our series of 40 patients, 20 patients (50%) had excellent results as per Olerud and Molander Scoring system, 12 (30%) had Good results. 4 patients (10%) had fair results and a favorable outcome of 93%.

Conclusion: Our Study recommends ORIF of displaced Closed Pott's fractures, Cannulated Cancellous screw for medial malleolus and Lag Screw with posterior Neutralization plate for lateral Malleolar fractures need Physiotherapy management to prevent postoperative complications and provide optimal Function for the patient .

Keywords: Pott's fracture, Malleolus, Cannulated cancellous screw, Plate, Open reduction.

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Abstract no: 130

Role of Physiotherapy in Carpal Tunnel Syndrome

Thoufeeq Fathima[1]

[1]Undergraduate, Saveetha College of Physiotherapy, SIMATS, Chennai

Background: Carpal tunnel syndrome is the one of the most common peripheral compressive neuropathies in the dominant hand as it passes through the carpal tunnel. It is because of the compression of the median nerve that is caused due to occupational, systemic and anatomical factors. It includes symptoms such as pain, numbness and tingling sensation of the thumb, index finger, middle finger and half of the ring finger. It may radiate the pain and paraesthesia into the forearm, elbow, and shoulder. Grip strength decrease will lead to dexterity loss and atrophy of the nerve muscles.

Aims and Objective: To compare the effect of tendon gliding exercises and strengthening exercises for carpal tunnel syndrome pain and functional activities among patients.

Materials and Methods: A total of 70 patients were selected for the study based on the inclusion and the exclusion criteria. The Boston carpal tunnel syndrome questionnaire and Visual analogue scale was given to the patients in the clinical settings. Among that, 70 patients were divided into two groups of A and B. Group A consisted of 40 patients and they were given nerve glide technique and group B consisted of 32 patients and they were given strengthening exercises.

Results: Nerve gliding technique was significantly effective for individuals with carpal tunnel syndrome, compared to the strengthening exercises.

Conclusion: The conclusion of the study is that both nerve gliding exercise and strengthening exercise is given, but nerve gliding exercise is found to be more effective. Nerve gliding technique can be included as an important exercise for individuals with carpal tunnel syndrome.

Key Words: Carpal tunnel syndrome, Nerve gliding exercise, Strengthening exercise, Boston carpal tunnel syndrome questionnaire.

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Abstract no: 131

Comparing the Effects of Maitland Mobilization Technique versus Exercise with Therapeutic Ultrasound in Adhesive Capsulitis

S. Sharon Jecintha[1], *Vinodhkumar Ramalingam*[2]

[1]Undergraduate student, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai
[2]Professor, Saveetha College of Physiotherapy, SIMATS, Thandalam, Chennai

Background: Adhesive capsulitis, sometimes referred to as frozen shoulder, is an inflammatory illness that causes discomfort and stiffness in the shoulder. Patients between the ages of 40 and 60 are most frequently affected by adhesive capsulitis. Various interventions were made physiotherapists use to lessen pain and increase range of motion of the shoulder which encompasses physical exercise, electrotherapy and various forms of mobilization. Researches have shown that Maitland mobilization technique seems to be less effective than other interventions.

Aims and Objective: To investigate the effectiveness of Maitland Mobilization Technique with Therapeutic Ultrasound over Exercise with Therapeutic Ultrasound in improving the functional performance of patients with Adhesive capsulitis.

Methods: 28 Participants with Adhesive capsulitis will be selected randomly from the population using a convenient sampling method based on Inclusion and Exclusion criteria and divided into two equal groups. The experimental group (n=14) will be given Ultrasound with Maitland Mobilization Technique with 1MHz in frequency, continuous mode and 1.5W/cm² of intensity with 5cm² sized transducer for 10 mins of treatment duration. The control group (n=14) will be given with Exercises like Pendulum exercise, Rotator cuff exercise, Wall creeping exercise, Isometric Scapular Retraction, Active assisted ROM exercises, Codman exercises. Each will be given for 10-15 repetitions within the pain free range.

Discussion: After completing the study the results will be updated.

Keywords: Maitland Mobilization, Ultrasound, Adhesive capsulitis, Pendulum exercise, Isometric scapular Retraction, Codman exercise.

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Abstract no: 132

Awareness and Knowledge of Physiotherapy among Secondary Students in Kuala Terengganu

Mazni Kamal[1] *Naresh Bhaskar Raj*[2]
[1,2]Faculty of Health Science, Universiti Sultan Zainal Abidin (UniSZA), Terengganu, Darul Iman, Malaysia

Background: Physiotherapy is a healthcare profession concerned with human function and mobility, as well as the maximization of potential. In recent days, though the awareness about the Physiotherapy profession is increasing, maybe still the complete awareness is not achieved. There is a high percentage of students who hold incorrect beliefs, necessitating the inclusion of specific teaching about it during undergraduate training.

Aims and Objective: The purpose of the study was: (1) to examine the level of awareness regarding physiotherapy among secondary students in Kuala Terengganu, (2) to identify level of knowledge regarding physiotherapy among secondary students in Kuala Terengganu and (3) to determine the relationship between the level of awareness and knowledge regarding physiotherapy among secondary students in Kuala Terengganu.

Method: This is a cross sectional study and conducted by online survey. The survey instrument for the study was a four sectioned, self-administered questionnaire. Section A was on demographic data (4 questions), while section B was on level of awareness regarding physiotherapy (12 questions). Section C required information on level of knowledge about physiotherapy practice (6 questions) while section D was on physiotherapy as a career (5 questions). A total of 388 students form four and form five from 23 of SMK in Kuala Terengganu participated in the study. The method for sampling applied was convenience sampling.

Results and Conclusion: The response of this study is 100% (n=338). Majority of respondents are from four (n= 205,60.7%), 16 years old (n=205,60.7%), and Malay race (n=187,55.3%). The relationship between level of awareness and knowledge is (r= 0.189, CI=1.2449, 1.2744, p value= 0.002). The result showed there is a statistically significant, positive and weak correlation between level of awareness and level of knowledge regarding physiotherapy among secondary students (r=0.189, p=0.002).

Keywords: Physiotherapy, Awareness, Knowledge, Secondary Students

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Relationship between Back Pain and Job Satisfaction among Teachers in Kelantan

Nor Amirah Binti Mohamed @ Mohd Ghazali[1],*Naresh Bhaskar Raj*[2]

[1,2]School of Rehabilitation Sciences, Universiti Sultan Zainal Abidin(UniSZA), Terengganu Darul Iman, Malaysia

Background: Back pain is one of the most common health problems experienced among individuals, particularly among those who have jobs that require them to sit, stand or perform physically demanding activities for long hours. Teachers are one such group of professionals who are at higher risk of developing back pain due to the nature of their jobs. This has been acknowledged as a significant problem that can impact the job satisfaction of the teaching profession. This study aimed to identify the relationship between back pain and job satisfaction among teachers.

Aims and Objectives: This study examines how back pain is related to the level of job satisfaction among teachers in Kelantan.

Methodology: A cross-sectional study was conducted among randomly selected teachers from thirty four primary schools in Tanah Merah, Kelantan from December to February 2023. The level of lower back pain was assessed using an Oswestry Low Back Pain Disability, while for Teacher satisfaction scale (TJSS) was used to examine the teacher satisfaction level.

Results: The response rate of this study was 100% (n=208). The majority of respondents are females (n=170,81.7%), Malay(n=174,83.7%), married(n=163,78.4%), aged between 30- 39 years old(n=64,31.3%),40-49 years old(n=119,57.2%) and have more than 10 years of work experience. The level of back pain and job satisfaction among teachers (r=-.129, 95%CI=1.6970, 1.9059, P-value= .064) were no significant correlation between two variables.

Conclusion: There is insufficient evidence to conclude that back pain among teachers is directly related to job satisfaction. Teaching may be physically stressful and teachers often experience high levels of stress and burnout. However, the findings on the relationship between back pain and job satisfaction are not related.

Keywords: Back pain, job satisfaction, teachers, correlation

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Expansion of Physiotherapy in Primary Health Care to Improve Global Health: A Systematic Review

Diwakar bille[1], *Sravana Kumar Jampa*[2]
[1]Postgraduate, [2]Associate Professor, College of physiotherapy, Nizam's institute of medical sciences, Punjagutta, Hyderabad

Background: Primary health care is a method of healthcare delivery that involves responding to illness within the determinants of health. Physiotherapists contribute to PHC through their expertise, in health screening, managing musculoskeletal conditions, cardio respiratory, neurological conditions and postsurgical rehabilitation focuses on functional or mobility limitations.

Aims and Objective: This study aims to characterize the function of the physiotherapist in PHC teams and to create awareness among the physical therapists on the perceived facilitators and barriers of integrating physiotherapists into PHC teams.

Methodology: The search strategy included the electronic database Google Scholar, pubmed for the articles related to primary health care, global health and reviewed the studies and identified the importance of physiotherapists in primary health care.

Discussion: Primary health care necessitates the use of a multidisciplinary approach that incorporates many categories of health care professionals (HCPs), including doctors, nurse practitioners, pharmacists, dieticians, social workers, and rehabilitation specialists. The demand for such services, however, far outstrips their availability in PHC organizations, and their incorporation into PHC has been limited. Integration of physiotherapy into PHC is cost effective, improves individual's outcome and satisfaction with their care. It enhances the health care team's ability to provide quality care. Additionally, it has increased the accessibility and affordability of physiotherapy care.

Conclusion: PHC Providers who have a physiotherapist as a part of their teams reported a decrease in the amount of pain medication and associated health care cause. The integration of physiotherapists into PHC would be enhanced by a greater understanding of the role of physiotherapy into primary health care by other health care professionals.

Keywords: Physiotherapy intervention, Primary Health Care, Health Care Professionals, Global Health, Health conditions.

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Aquatic Therapy for General Debility to Systemic Dysfunction

***Suresh Page*[1]**, *Sunith Waghray*[2], *Sravana Kumar JN*[3]
[1]Postgraduate, [2]Assistant Professor, and [3]Associate Professor, College Of Physiotherapy, Nizam's Institute of Medical Sciences, Hyderabad

Background: The aquatic environment has broad rehabilitative potential, extending from the treatment of acute injuries through health maintenance in the face of chronic diseases, yet it remains an underused modality. Because of its wide margin of therapeutic safety and clinical adaptability, aquatic therapy is a very useful tool in rehabilitation. Immersion brings about a number of physiologic changes when used to treat a variety of common systemic dysfunctions. Debility is a state of general weakness or feebleness that may result from one or more medical conditions that produce symptoms such as pain, fatigue, cachexia, and physical disability. It places a subject at increased risk of adverse outcomes, including falls, hospitalization, and mortality. In this series, we provide an overview of the global impact and burden of general debility as well as various aquatic therapy methods applied to it

Aims and Objective: To find out the effectiveness of aquatic exercises in improving the strength of group muscles and also aimed to enhance balance and mobility in general debility to systemic dysfunction patients.

Methods: Methods of aquatic therapy are 'The Watsu, Bad Ragaz Ring, Feldenkrais, Halliwick, and Burdenco methods, and their underlying physiology are highlighted, these methods are used in rehabilitation for better yield in systemic dysfunctions like fibromyalgia with the inability to fully weight bear, inability to tolerate impact stresses, inability to tolerate land-based positions for resistance, arthritis, functional postural deviations in muscle imbalance, and reciprocal reeducation in multiple sclerosis.

Results: Aqua therapy improves flexibility, joint motion Aquatic therapy was found to reduce pain, increase quality of life and reduce dysfunction.

Conclusion: In clinical practice, there is a need for further exploration and implementation of different aquatic methods as a pragmatic treatment for subjects with general debility these various methods of aquatic therapy with the principles applied in a precise manner to establish positive outcomes.

Keywords: Aquatic therapy, general debility, rehabilitation, balance , gait, pool therapy, physiotherapy

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Exercise Prescription in Polycystic Ovary Syndrome

***Santhoshini Ram*[1], *Sunith Wagharay*[2] ,*Sravana kumar Jampa*[3]**
[1]Postgraduate, [2]Assistant Professor,[3]Associate Professor, College of Physiotherapy, Nizam's Institute of Medical Sciences

Background: Polycystic ovary syndrome (PCOS) is a common and complex endocrinopathy with reproductive and metabolic manifestations. Exercise training has consistently been found to result in improved clinical outcomes in women with PCOS, but shortfalls with exercise prescription are evident. Our objective was to analyze evidence on the effectiveness of exercise in the management of PCOS, when compared to (i) usual care, (ii) diet alone, and (iii) exercise combined with diet, and also exercise combined with diet, compared to (i) control or usual care and (ii) diet alone.
Aims and Objective: Objective was to analyze evidence on the effectiveness of exercise in the management of PCOS

Methods: The search strategy included PubMed database for the systematic literature search namely (i) "polycystic ovary syndrome" AND its synonyms; (ii) "lifestyle" AND "exercise therapy" AND "behavior therapy", "diet therapy", and their synonyms; AND (iii) "weight loss" and its synonyms. The outcome of the literature review was weight loss with different interventions (diverse lifestyle modifications).The inclusion criteria including (i) randomized controlled trials (RCTs), (ii) participants with polycystic ovary syndrome, (iii) intervention: lifestyle modification (with a clear description of methods) without pharmacological components, (iv)Weight loss as outcome, and (v) follow-up of more than 24 weeks.

Results: We looked at a few of the articles that our searches turned up about the impact of exercise on PCOS in women. Exercise significantly affected changes from baseline in fasting insulin, total cholesterol and triglycerides when compared to control.

Conclusion: Exercise training in the management of PCOS is becoming more common. Results from our analysis support the use of exercise and suggest that vigorous intensity exercise may have the greatest impact on cardiorespiratory fitness, body composition, and insulin resistance. Our search results indicate that moderate to vigorous intensity physical activity is needed to provide favorable health outcomes for women with PCOS with studies of longer duration required to evaluate outcomes with sustained exercise.

Keywords: Cardiorespiratory fitness; Cardiovascular risk; Diet; Exercise; Insulin resistance; Physical activity; Polycystic ovary syndrome.

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Expert Consensus on the Structured Exercise Program after Hip Arthroplasty: An Indian Delphi Survey

***V.Nandhini*[1]**, *Antony Leo Aseer*[2]
[1]Postgraduate, Sri Ramachandra Institute of Higher Education and Research, Chennai
[2]Professor, Sri Ramachandra Institute of Higher Education and Research, Chennai

Background: The incidences of hip fractures are rising worldwide and Arthroplasty is the choice of surgery for patients with displaced femoral neck fractures. Post Hip arthroplasty rehabilitation is crucial for improving a patient's quality of life. The Delphi method integrates available evidence, attempts to ensure scientific credibility and methodologic transparency.

Aim: The aim of this study is to produce a standardized rehabilitation protocol for Hip arthroplasty after Hip fractures in the Indian population which gains a successful recovery in the patients.

Objectives: The objectives are to validate the content of hip arthroplasty exercise protocol through Delphi method of consensus, which includes expert opinions on each component of a hip arthroplasty rehabilitation protocol.

Methodology: The duration of the study is estimated to be 6 Months. We need a total of 8 panelists for this study based on the evidence for better outcomes. It is suggested that panelists meet at least four specific requirements from the Inclusion Criteria formed for the study. Anonymity is offered to the panelists throughout the process. After completion A Post Delphi Questionnaire is to be filled by the panel members. Round 1 starts with an open ended survey in which panelists provided ideas, opinions or information about a specific content area. In Round 2, the ideas from the first round are used by the study researchers to develop a questionnaire and send it to panel members via online. After they submit their reviews on a 5 point likert scale, pooling of the responses can be done and reviewed back to them before the next round for a group discussion which forms the important step of this process. Rounds are continued until consensus is achieved for all the components and is considered complete when there is a point of diminishing return or convergence of opinion has been reached.Based on evidence, a minimum of 3 rounds are required for better results.

Clinical Implications: This study incorporates health professional expertise with available evidence to achieve consensus on best practices for rehabilitation following Hip arthroplasty, address the gaps in the literature, so that we can prove the effectiveness of the protocol, provide evidence for future changes and inform the development of evidence-based clinical practice guidelines.

Keywords: Hip fracture, Hip arthroplasty, Delphi survey, Indian population, Exercise

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Role of Physiotherapy in Global Health "Disaster Management"

Vishnu Vardhan[1]
[1]Postgraduate, Apollo college of Physiotherapy, Chithoor

Introduction: The goal of physiotherapy is to improve health for all people to promote wellness and eliminate avoidable disease, disability and deaths. Disaster either it is man made or natural it leads to human, material, financial loss. The affected population needs help from the government, community and different organizations to rehabilitate back to pre-disaster status. Disaster causes mobility impairment, disability. Physiotherapist's role in the disaster has not been well established. Also it was found that physical therapists were not part of disaster management team.

Aims: The purpose of this study is to develop global healthcare based on physiotherapy education.

Methods: Descriptive study, including physiotherapy interventions were managed at government general hospitals during and natural disasters. Different roles of some physiotherapist's (along with support of students) are involved in disaster situations. Inclusion criteria: the participants who underwent disaster management training participated voluntarily. Exclusion criteria: those who were not trained for disaster management are not willing to participate. In consultation with other medical professionals, issues of rehabilitation were noted and need based on early rehabilitation care was provided by means of rehabilitation; a semi structured questionnaire was used.

Results: Fifteen participants were involved, among them ten were trained physiotherapists five were students, who play a role in different phases of disaster management. A view from recent years has found that disaster physical rehabilitation services were provided by physiotherapy, physical rehabilitation experts have been attended and managed in the affected area from first few hours until several months after disasters, in order to provide the required services to the affected populations.

Conclusion: Physiotherapists were identified as the valuable members of the team to improve the quality care during and after the disaster. Physiotherapists are also a vital key member in disaster management such as Earthquakes, Cyclones, Tsunami. Disaster management training is essential for physiotherapists working in disaster prone areas. It is necessary to start early physiotherapy education programs

Keywords: Disaster, Medical professionals, Physical rehabilitation, Disability, Mobility impairments

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Physiotherapy Intervention in Ataxic Gait - An Evidence Based Approach A Literature Review

S. Priyanga[1]
[1]Postgraduate, Sri Ramachandra Institute of Higher Education and Research

Background: Ataxia is a group of disorders in which people have difficulty in coordination, balance and walking, speaking, swallowing, and tasks that require a high degree of control such as writing and eating without muscle weakness. Physiotherapy intervention is the primary treatment for gait ataxia and imbalance in individuals with cerebellar damage. It improves gait, balance and trunk control and increases participation. Though there are many advanced technologies to improve ataxia, there is a lack of evidence-based recommendation for physiotherapeutic intervention. The outcomes and selection of appropriate technology need to be clear which demands this review.

Aims and Objective: To investigate the evidence-based treatment approach in physiotherapy for patients with ataxia.

Methodology: Some systematic reviews and randomized control trial studies were searched in the electronic database like PEDro, Google Scholar and PubMed. Data was extracted from the available literature. A narrative synthesis for the use of assistive technology in improving the gait, balance and coordination in ataxia was performed.

Result: Eight articles out of 13 were randomized controlled trials, 1 case series, 1 case study, 1 feasibility study, and 2 systematic reviews were included. 4 studies showed improvement in coordination and reduced the risk of fall, 2 studies showed improvement in gait pattern and slowness of movement, 2 studied showed improvement in balance and 5 studied showed improvement in gait cycle and all favors in experimental group

Conclusion: This study shows that physical therapy (robot-assisted gait training, exergames) plays an important role in patients with ataxia, they help the patient in improving the quality of life so the treatment to be given for the patient should be chosen wisely.

Key words: Ataxia, balance, gait, coordination and physiotherapy

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Balance Exercises for Middle-Aged People Can Delay the Impact of Neurodegeneration on Fall Risk

Sai Alekhya. *B [1], Radhika. C.M [2]*
[1]Postgraduate, SRMCH, Chennai
[2]Assistant Professor, SRMCH, Chennai

Background: Fall is the second leading cause of unintentional injury deaths worldwide in elderly population. This occurs due to low cognitive ability, poor vision, vertigo, imbalance, visual impairment, hearing impairment, and depression as a process of neurodegeneration on aging. Regular exercise plays a key role to reduce the risk of onset and counteracts the progression of neurodegeneration by regulating the release of growth factors, neurotrophins and chemicals produced by the brain. Balance exercises are administered to elderly people who are suspected of having a high risk of fall. But it is hypothesized that balance exercise to the middle age population could delay neurodegeneration process as they age- reducing the fall risk, has been scarcely studied. So, this study aims to perform a scoping review of the effect of balance exercises for the middle aged population to reduce the risk of fall on aging by impacting neurodegeneration.

Aim: This study aims to perform a scoping review of the effect of balance exercises for the middle aged population to reduce the risk of fall on aging by impacting neurodegeneration.

Methods: Literature search was done till February 2023 in the following databases PubMed, Pedro, google scholar, Embase. Data was extracted from the available literature. A narrative synthesis for the effect of balance exercise in the middle aged population to reduce the risk of fall on aging by impacting neurodegeneration was performed.

Results: Fifteen articles were extracted using the keywords and proved that physical exercises with balance training had an effect on delaying the onset and progression of neurodegeneration and related diseases which leads to increased risk of fall on aging.

Keywords: Ageing, Fall, Neurodegeneration, Balance exercise, Physical exercise

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Physio's In Smoking Out

***G. Sowmya*[1], *M. Suganya*[2], *M. Sri Shankar*[3]**
[1]Postgraduate, KG College Of Physiotherapy, Coimbatore
[2, 3] Assistant Professor, KG College Of Physiotherapy, Coimbatore

Background: The number of people who smoke tobacco is projected to be over 1.1 billion globally in 2025. Physiotherapists are in a position to implement intervention the cessation guidelines to quit smoking. Physiotherapists promote and implement the intervention well by previous clinical studies by using 5 A's model. Inclusion of aerobic exercise and group exercise promote better physical and mental status to quit smoking.

Aims and Objective: To study the role of physiotherapy with medication and regular counseling by using 5 A's model.

Methods: The counseling method used here is 5 A's Model intervention, which includes Precontemplation, Contemplation, Preparation, Action, Maintenance and Relapse. The pharmacotherapy for smoking cessation used is nicotine replacement therapy (NRT) – Nicotine inhalers, Nicotine lozenges, Nicotine gums. Varenicline and Bupropion are also included in this. The Physiotherapy treatment included is aerobic exercises where the benefits of aerobic exercise may be effective in promoting smoking cessation at short term not at medium and long term follow ups and Group exercises provides a supportive environment and enhance social interaction, generating a sense of community among individual with a common goal to quit smoking.

Result: By this study the pharmacotherapy, counseling and physiotherapy (aerobic and group exercise) are working together to get beneficial results to quit smoking.

Conclusion: Physiotherapy now plays a major role in treating patients addicted to smoking along with medication prescribing aerobics and group exercise.

Keywords: Quit smoking, physiotherapy role, 5 A's model, aerobic and group exercise.