



Publications Template

#	Research Title	Field	Abstract	Year of Publication	Publishing Link "URL"
1	Effect of Transcranial Direct Current Stimulation on Pinch Strength in Stroke Patients	Physicl therapy for Neurology and Neurosurgery	Background and Purpose: Stroke is the main cause of long-term disability among adults, results in a well-documented impairment of activities of daily living (ADL). Noninvasive brain stimulation modulates motor cortical function and can enhance cortical plasticity. The goal of this study was to determine the effect of transcranial direct current stimulation on pinch strength in stroke patients. Patients and Methods: Thirty chronic stroke patients from both sexes with age ranged between 45-60 years participated in this study. Patients were divided randomly into two equal groups (Group I and Group II), the study group (Group I) received anodal transcranial direct current stimulation applied on ipsilesional hemisphere in addition to the selected physical therapy program. The control group (Group II) received the selected physical therapy program only. Results: The study group showed a statistically significant increase in pinch strength post treatment compared to the control group. Conclusion: Anodal Transcranial direct current stimulation can be suggested as an effective method in improvement of pinch strength in patients with stroke.	2014	https://www.medicaljournalofcairouniversity.net/index.php/2014-10-22-23-17-22/vol-82-june-2015/1812-effect-of-transcranial-direct-current-stimulation-on-pinch-strength-in-stroke-patients
2	Effect of Central versus Peripheral Stimulation on Hand Function in Stroke Patients	Physical therapy for Neurology and Neurosurgery	Background and Purpose: More than 60% of stroke survivors suffer from persistent neurological deficits that impair activities of daily living. Electrical stimulation is shown to be effective in enhancing the upper extremity functional recovery in stroke patients. The goal of this study was to compare between the effect of central and peripheral stimulation on hand function in these patients. Patients and Methods: This study was conducted on forty five stroke	2014	https://mail.medicaljournalofcairouniversity.net/index.php/2014-10-22-23-17-22/vol-82-june-2015/1810-effect-of-central-versus-peripheral-stimulation-on-



			patients from both sexes, their ages ranged from 45 to 60 years. The patients were divided into three equal groups. The study group (I) received anodal transcranial direct current stimulation in addition to the selected physical therapy program. The study group (II) received neuromuscular electrical stimulation in addition to the selected physical therapy program and the control group (III) received the selected physical therapy program only. Hand function was measured using Jebsen Taylor Hand Function Test (JTT). Results: There was a statistically significant decrease of the mean values of JTT test score in group I and group II post treatment while the changes in group III were not significant. There was a significant decrease in the mean value of JTT test in group I compared with group II and group III. Conclusion: Both Central and peripheral stimulation are effective modalities in improvement of hand function post stroke while the central stimulation is more effective than the peripheral one.		hand-function-in-stroke-patients
3	Influence of visual feedback training on distribution of foot pressure in diabetic neuropathy patients	Physical therapy for Neurology and Neurosurgery	Background and Purpose: Neuropathies are the most common long-term complications of diabetes that affecting up to 50% of patients and considered a major risk factor for the development of plantar ulceration. The goal of this study was to investigate the effect of visual feedback training on redistribution of planter pressure during standing posture in diabetic peripheral neuropathy patients as a trial for finding a method for reducing the risk of foot ulcer. Patients and Methods: This study was conducted on thirty diabetic patients from both sexes with mild peripheral neuropathy, their ages ranged from 45 to 60 years. The patients were randomly assigned into two equal groups. The study groups A (GA) received visual feedback training by using Biodex Balance System in addition to a selected physical therapy program. The control group B (GB) received the selected physical therapy program only. Results: The results revealed that, in the study group (A) there was a significant increase of plantar pressure at right and left heel, while there was a significant decrease of plantar pressure at right and left big toe and no significant differences of plantar pressure at right little toe post treatment. While in the control group (B) there was no significant difference of plantar pressure at right and left heel, big toe and little toe post treatment. Conclusion: Visual feedback training in addition to the selected	2017	article.sapub.org/10.5923.j.d iabetes.20170604.01.html#:~:text=Conclusion%3A%20Visual%20feedback%20training%20in,pressure%20in%20diabetic%20neuropathy%20patients.



			physical therapy program was more effective than using the selected physical therapy program only for redistribution of foot planter pressure in diabetic neuropathy patients. Keywords: Neuropathies, Diabetic peripheral neuropathy, Planter pressure, Visual feedback training		
4	Effect of arm sling on postural stability in stroke patients	Physical therapy for Neurology and Neurosurgery	Background: Stroke is the second leading cause of death worldwide, and is the major cause of morbidity, particularly in the middle aged and elderly population. Despite some uncertainty about their efficacy and timing, arm slings are still the most preferred treatment modality for shoulder subluxation in stroke patients. Aim of Study: This study was designed to determine the effect of arm sling on postural stability in stroke patients. Patients and Method: This study was conducted on fortyfive patients of both sexes (30males and 15 females) with hemi paretic stroke (in the domain of carotid system). Their ages ranged from 45-60 years, the duration of stroke ranged from 6 to 18 months. They were assigned into one group (study group). All patients were assessed on biodex balance device. Data obtained from the study group under two conditions, without arm sling and with arm sling. Data of overall stability index, anteroposterior stability index and mediolateral stability index were statistically analyzed and compared between the two conditions. Results: The results of the present study revealed that there was a statistically significant improvement in values of overall stability index in arm sling condition compared to without arm sling condition ($p=0.0001$)*. The mean difference between without and with arm sling conditions was 1.16 and the percent of change was 28.85%. Conclusion: In view of the results of this study, it's possible to conclude that there was a beneficial effect of using arm sling on postural stability in stroke patients and it may play a role in stroke rehabilitation. Key Words: Stroke – Arm sling – Postural stability – Biodex balance device.	2019	https://mjcu.journals.ekb.eg/article_52830_eb5dc9286c6bc9c07b6c1353bfaa1404.pdf
5	Effect of acupuncture TENS on upper limb function in stroke patients	Physical therapy for Neurology and Neurosurgery	Background: Stroke is the leading cause of long-term disability; the restoration of movements and associated functions is a common concern of stroke patients. However, the restoration of the upper limb function is often poor, being seen in less than half of patients. Electrical stimulation is shown to be effective in enhancing the upper extremity functional recovery in stroke patients. Aim of Study: To	2019	https://mjcu.journals.ekb.eg/article_86329.html



			determine the effect of acupuncture TENS on upper limb function in stroke patients. Procedures: This study was conducted on thirty male stroke patients. Patients were randomly assigned into two equal groups: The study group (GI) and the control group (GII). Group I (study group): This group received acupuncture (TENS) in addition to the selected physical therapy program. Group II (control group): This group received the selected physical therapy program only. Fugel-Meyer Scale was used to assess the upper limb function and Modified Ashworth scale (MAS) was used to assess the spasticity grades before and after four weeks of the treatment program. Results: The results showed that: There was a significant difference of Fugel-Meyer Scale scores and mean values of spasticity grades in study group after the designed treatment program. Conclusion: The acupuncture Transcutaneous Electrical Nerve Stimulation (TENS) has a significant effect in reduction of spasticity and improvement of upper extremity function following stroke		
6	Dexamethasone iontophoresis: its effect on pain and function in patients with sciatica	Physical therapy for Neurology and Neurosurgery	To investigate the effect of dexamethasone iontophoresis on pain and function in patients with sciatica. This study was conducted on thirty patients from both sexes with unilateral sciatica due to lumbar disc herniation at L4-L5 and /or L5-S1 level. Their ages ranged from 30 to 45 years. They were randomly assigned into two equal groups: the study group (GA) and the control group (GB). Group A (study group): this group received dexamethasone iontophoresis in addition to a selected physical therapy exercise program. Group B (control group): this group received a placebo dexamethasone iontophoresis in addition to the same selected physical therapy exercise program. Each patient was evaluated before and after four weeks of treatment by visual analogue scale (VAS), Straight leg raising test (SLR) and Modified Oswestry disability index (ODI) to assess the sciatic pain and function. There was a statistically significant decrease of the mean values of VAS and ODI in the study group compared to the control group post treatment ($p=0.001$ and $p = 0.003$ respectively). There was a	2022	https://www.seronijihou.com/article/dexamethasone-iontophoresis-its-effect-on-pain-and-function-in-patients-with-sciatica



			significant improvement in SLR test results in study group compared to control group post treatment ($p = 0.02$). Dexamethasone iontophoresis has a significant effect on pain and function in patients with sciatica.		
7	Effect of selected exercise program on quality of life in stroke patients	Physical therapy for Neurology and Neurosurgery	Background: Stroke is one of the leading causes of death and long-term disability worldwide. Aim of Study: This study aimed to conduct the effect of selected exercise programme on quality of life in stroke patients. Material and Methods: Ten male patients with stroke enrolled in this study. A selected physical therapy program was provided for the selected group (GS) including: Passive Range of motion exercises for tightening muscles, Facilitation for weak muscles through: PNF technique, quick stretching. The Outcome Measures: The Arabic version of a short form dimension test (SF-36) used to assess the QOL Items of the SF-36 were divided into eight different domains. The control group was evaluated before and after intervention with a QOL questionnaire (SF36). Results: There was a revealed significant increase in physical functioning, energy/fatigue, emotional well-being, social functioning, pain and general health post treatment compared with that pretreatment. Also, there was no significant difference in role limitations due to physical health and role limitations due to emotional problem between pre and post treatment in the selected group. Conclusion: Selected physical program, significantly improves quality of life in patients with stroke.	2021	https://mjcu.journals.ekb.eg/article_203299.html
8	Effect of aerobic versus anaerobic exercise on quality of life in stroke patients	Physical therapy for Neurology and Neurosurgery	Background: Stroke is one of the world's leading causes of death and long-term lack of ability. Objectives: This study aimed to test the effect of aerobic versus anaerobic exercise on stroke patients' quality of life. Methods: Thirty male patients with stroke enrolled in this study. The patients were divided into three groups at random: two research groups (GA) and (GB) and one control group (GC). A traditional physical-therapy program was provided for the control group (GC) including: Passive Range of motion exercises for tightens muscles, Facilitation for weak muscles through: PNF technique, quick stretching. Besides traditional physical therapy, an aerobic exercise was performed by the patients in a study group (GA). Other than traditional physical treatment, patients received anaerobic training in the study group	2021	https://www.hrpub.org/journals/article_info.php?aid=11576



			(GB). The session time for each group was 50-60 min; it is conducted three times a week for eight weeks. The Outcome Measures: The Arabic version of a short form dimension test (SF-36) used to assess the QOL items of the SF-36 were divided into eight different domains. All groups were evaluated before and after intervention with a QOL questionnaire (SF36). Results: There was a statistical meaningful increase in physical functioning, (vitality) energy/fatigue, emotional well-being, social functioning, pain and general-health in study groups (GA), (GB) compared with that of control group (GC) after therapy. However, there was no significant difference between groups in role limitations due to physical health and role limitations due to emotional problems. There was no meaningful difference in the quality of life items within groups (GA), (GB) after therapy. Conclusion: Eight weeks of training revealed non-significant difference between aerobic and anaerobic groups. However, either aerobic or anaerobic training has a beneficial effect on quality of life in stroke patients. KEYWORDS Stroke, Aerobic Training, Anaerobic Training, Quality of Life		
9	Effect of hand exercises program on wrist proprioception , grip strength and hand function in patients with type II diabetic polyneuropathy: A randomized controlled trial	Physical therapy for Neurology and Neurosurgery	Background: Patients with diabetic polyneuropathy (DPN) due to type 2 diabetes mellitus (DM) are commonly suffering from deficits in proprioception and hand dexterity. Intact sensory information of the wrist (tactile and proprioceptive) are prerequisites for hand function. Objective: This study was conducted to investigate the effect of hand exercises program on wrist proprioception, grip strength and hand function in patients with type 2 DPN. Methods: Forty male patients with type 2 DPN aging from 50 to 65 years were randomly divided into study group and control group, study group (n=20) received hand exercises program consisting of proprioceptive training and strength training in addition to conventional physical therapy training 3 days a week for four weeks. While the control group (n = 20) received conventional physical therapy only 3 days a week for four	2021	https://www.researchgate.net/publication/360688990_EFFECT_OF_HAND_EXERCISES_PROGRAM_ON_WRIST_PROPRIOCEPTION_GRIP_STRENGTH_AND_HAND_FUNCTION_IN_PATIENTS_WITH_TYPE_2_DIABETIC_POLYNEUROPATHY_A_RANDOMIZED_CONTROLLED_TRIAL



			weeks. Wrist joint position sense was assessed using Biodex isokinetic dynamometer through determining angular displacement error of active angle repositioning of wrist extension, grip strength was measured using JAMAR hand dynamometer while hand function was evaluated by Jebsen Taylor Hand Function Test (JTHFT). Measurement of all variables was done pre and post- treatment. Result: within group analysis revealed that there was statistically significant improvement in all measured outcomes in both groups post treatment compared with pretreatment ($P < 0.05$). Between group analysis showed significant improvement in all measured variables in favor of intervention group ($P < 0.05$). Conclusion: Hand exercises program (proprioceptive and strength training exercises) is more effective in improving wrist proprioception, grip strength and hand function of patients with type 2 DPN than that of patients received conventional physical therapy only. So, wrist proprioceptive and hand strength training are effective strategies for improving deficits in wrist proprioception and hand function in patients with DPN. Keywords: Proprioceptive training, Strength training, Diabetic polyneuropathy, Type 2 diabetes mellitus , Hand grip strength , Biodex isokinetic dynamometer, Hand function.		
10	Biomechanical analysis of reaching pattern in patients with parkinson's disease	Physical therapy for Neurology and Neurosurgery	Background: Understanding the mechanisms of underlying common motor deficits in Parkinson's disease patients is a major prerequisite for successful rehabilitation therapy. Objectives: the aim of this research was to see how different muscle activity amplitudes influenced active range of motion (ROM) and how much motor impairment affect the reaching pattern in Parkinson's disease patients. Methods: thirty male patients with Parkinson's disease participated in the study and 19 age-matched control male subjects. Their average age was 68.53 ± 5.27 years old. The analysis was carried out while seated in a chair. The patients were directed to use their dominant arm to a target that was set within arm's reach in the forward horizontal	2021	http://annalsofrscb.ro/index.php/journal/article/view/798 3



			plane. A three- dimensional motion analysis system was used to measure the range of motion of shoulder flexion, elbow extension and wrist extension. The deltoid, the lateral head of the triceps, and the radial wrist extensors all had their amplitudes of electromyography (EMG) registered. Results: In the dominant arm of patients with Parkinson's disease, there had been a substantial decline in EMG amplitudes of chosen muscles as well as ROM of shoulder flexion, elbow, and wrist extension, all of which have an impact on motor performance of the reaching pattern. Conclusion: In Parkinson's disease patients, a decrease in EMG activity amplitudes of chosen muscles was thought to be a major cause of limited ROM and increased levels of motor impairment in the reaching pattern.		
11	Correlation between cognition, quality of life and coping strategies in post COVID-19 survivors.	Physical therapy for Neurology and Neurosurgery	Background: Coronavirus disease 2019 (COVID-19) has imposed a significant impact on populations and healthcare systems. Symptoms of post-COVID syndrome (PCS) persist for at least 12 months following COVID-19 infection leading to significant negative effects on these patients' cognition, ability to work, physical activity, social interaction, and overall quality of life. Objective: This study aimed to investigate the relation between cognitive deficits, quality of life (QOL) and coping strategies in post COVID-19 survivors. Subjects and Methods: A hundred COVID-19 survivors from both genders participated in this study. Their cognition was evaluated using Montreal Cognitive Assessment (MoCA), the WHO Quality of Life Instrument-Short Form (WHOQOL-BREF) was employed to evaluate patients' QOL and the Brief Coping Orientation to Problems Experienced (Brief-COPE) was used to assess their coping strategies. Results: A significant positive correlation was found between the scores of MoCA and all HRQOL domains (Physical health, Psychological, Social relationships, Environment, General health and General QOL). Also, a significant negative correlation was noted between scores of MoCA and Brief-COPE (Mal-Adaptive strategies) while no significant correlation was found between MoCA scores and Brief-COPE (Adaptive strategies). Conclusion: There is a relation	2022	https://www.researchgate.net/publication/362583098_Correlation_Between_Cognitive_Deficits_Quality_of_Life_and_Coping_Strategies_in_Post_COVID-19_Survivors



			between cognition deficits, QOL and non-adaptive coping strategies in post COVID-19 survivors, while, there is no relation between cognitive deficits and adaptive coping strategies in PCS patients.		
12	Efficacy of high intensity laser therapy on pain and quality of life in patients with migraine: A randomized controlled trial	Physical therapy for Neurology and Neurosurgery	KeyWords:Migraine, High intensity laser therapy, Pain intensity, Quality of life. Background: Migraine is a frequent debilitating neurological disorder. About 15% of the general population is affected; it significantly lowers quality of life and causes a marked personal suffering. High-intensity laser therapy (HILT) has been used more recently in the therapeutic protocols of physiotherapy for pain management.Aim: To explore the effect of HILT on pain, frequency and duration of migraine attacks in addition to quality of life in patients with migraine.Subjects and Methods: Forty patients with migraine from both genders participated in this study after signing the institutional consent form. Their age extended from 30 to 50 years old. Patients were randomized into two groups of equal number: Study group (GA) received HILT plus a designed physiotherapy program and the control group (GB) obtained the same physiotherapy program as in (GA) but with a sham HILT. Treatment was conducted three sessions per week for one month. Visual analogue scale (VAS), basic diagnostic headache diary and Migraine-Specific Quality of Life Questionnaire were used to assess pain intensity, frequency and duration of migraine attacks and quality of life respectively. All measurements were collected four weeks before intervention (baseline), immediately post intervention and four weeks later for both groups.Results: Our findings revealed a statistically significant decrease of pain intensity, frequency and duration of migraine attacks as well as a significant improvement of quality of life in the two groups with a notable improvement in favor to GA (P value < 0.05). Conclusion: High intensity laser therapy can be effectively implemented in the treatment of migraine.	2022	https://www.researchgate.net/publication/364226737_Efficacy_of_High_Intensity_Laser_Therapy_on_Pain_and_Quality_of_Life_in_Patients_with_Migraine_A_Randomized_Controlled_Trial#:~:text=Results%3A%20Our%20findings%20revealed%20a,(P%20value%20%3C%200.05).
13	Effect of high-power pain threshold ultrasound on symptomatic knee osteoarthritis: Single	Physical therapy for Musculoskeletal disorders and its surgery	Osteoarthritis (OA) is a highly prevalent, degenerative disease of the joints manifested by joint pain, tenderness, decreased function, and limited range of motion (ROM). The current study aimed at evaluating the therapeutic effect of the high-power pain-threshold ultrasound technique (HPPTUS) in comparison with conventional ultrasound (US) techniques in patients with knee osteoarthritis (KOA). A single-masked, pre-post randomized	2022	https://revistas.um.es/sportk/article/view/553311



	blind randomized controlled trial.		controlled trial was conducted. Fifty participants of both sexes (between 40 and 50 years of age), diagnosed with stage II knee osteoarthritis, participated in this study. They were randomized into two groups: Group A (experimental group, n=25), which received HPPTUS on the knee joint in addition to the traditional treatment (hot packs and isometric exercise for quadriceps), and Group B (control group, n=25), which received conventional ultrasound on knee joint in addition to the traditional treatment (hot packs and isometric exercise for quadriceps). Both groups underwent a four-week treatment plan in which sessions were conducted twice per week. The visual analogue scale (VAS) was used to estimate the intensity of pain, Digital Electronic Pressure Algometer was used to measure pressure pain threshold (PPT) on trigger point around knee, and Digital goniometer was utilized to assess ROM of the knee joint before and after treatment. The MANOVA test revealed statistically significant improvements in all variables (VAS, PPT, knee ROM) post-treatment compared to pre-treatment values in the HPPTUS group (experimental group) ($p < 0.05$), while the control group revealed statistically significant improvement only in VAS post-treatment compared with pre-treatment ($p < 0.05$). Comparison between groups revealed statistically significant improvements in VAS, PPT, knee ROM in participants receiving HPPTUS compared with the control group ($p < 0.05$). High-power ultrasound can be effectively implemented in the treatment of knee OA as it produces significant improvements in the intensity of pain, pressure-pain threshold, and knee joint ROM.		
14	Relationship between sleep disorders and cognitive functions in patients with Multiple sclerosis	Physical therapy for Neurology and Neurosurgery	Background: Currently, 47-62% of multiple sclerosis (MS) patients complain of intermixed sleep disturbances that have profound impacts on their quality of life. Despite robust evidence for sleep disturbance as a modifiable risk factor in development of cognitive dysfunction, as well evidence that modifying sleep-related behaviours improves insomnia, fatigue and depression in MS, relationship between sleep disturbance and cognitive dysfunction in MS remains understudied. Purpose: This study aimed to investigate the relationship between sleep disorders and cognitive functions in patients with multiple sclerosis. Subjects and Methods: Seventy patients with RRMS with sleep disorders from both sexes were recruited. Their age ranged from 20 to 50 years old and their Expanded Disability Status Scale (EDSS) score ≤ 5 . Twenty age and sex matched	2023	https://www.researchgate.net/publication/370492165_RELATIONSHIP_BETWEEN_SLEEP_DISORDERS_AND_COGNITIVE_FUNCTIONS_IN_PATIENTS_WITH_MULTIPLE_SCLEROSIS



			RRMS without sleep disorders were included as a control group. All participants were submitted to the Arabic version of Pittsburgh Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS) to evaluate sleep disorders. Computer Based Cognitive Assessment (RehaCom system) was also used to evaluate cognitive functions. Results: A highly significant difference was detected between the study and control groups as regard mean scores of PSQI and ESS ($P < 0.001$) being higher in the study group. The mean score of Figural memory was significantly lower in the study group compared to controls ($P = 0.031$), also, the mean score of reaction behavior tends to be significantly lower in the study group ($P = 0.06$). A significant negative correlation was found between scores of PSQI scale and Reaction behavior domain ($P = 0.049$). No significant correlation was found between scores of PSQI scale and attention and concentration domain ($p = 0.841$), Figural memory domain ($P = 0.150$), or Logical reasoning domain ($P = 0.721$). No significant correlation was detected between scores of ESS and attention and concentration domain, Figural memory domain, Reaction behavior domain, or Logical reasoning domain ($P > 0.05$). Conclusion: there is a relation between sleep disorders measured by PSQI, figural memory and reaction behavior in patients with remission relapsing MS (RRMS).		
15	Effect of Peripheral Neuromodulation on headache in post covid-19Survivors.	Physical therapy for Neurology and Neurosurgery	Objective: The purpose of present study was to evaluate the impact of peripheral neuromodulation through vagus nerve stimulation on headache in Post COVID-19 survivors. Methods: Thirty Post COVID-19 survivors from both genders (17 females and 13 males) aged from 20 to 40 years who suffered from Post COVID-19 headache were recruited and randomized into two groups of equal number. Subjects in group A (study group) received transcutaneous vagus nerve stimulation as well as the designed physiotherapy program whereas subjects in group B (control group) underwent placebo transcutaneous vagus nerve stimulation on vagus nerve in addition to the same designed physical therapy program. The treatment was carried-out for 5 sessions each week for four weeks. Visual analogue scale (VAS) was used to measure the intensity of headache pain whereas the headache disability index (HDI) was used to measure the disability resulted from headache. Results: The findings showed significant decline in VAS and HDI post treatment in study group (A) and control group (B) in comparison with that pretreatment ($p < 0.001$). Between-group analysis	2022	https://www.pnrjournal.com/index.php/home/article/view/5011



			showed no significant difference between the two groups pretreatment ($p>0.05$), whereas there was significant decline in VAS and HDI in study group in comparison with that of the control group posttreatment ($p<0.05$). Conclusion: peripheral neuromodulation is more effective in managing headache in post COVID-19 survivors.		
16	Effect of TDCS on sleep disorders in patients with Multiple Sclerosis.	Physical therapy for Neurology and Neurosurgery	Background: Sleep disorders are common in multiple sclerosis (MS) patients. These disturbances detrimentally impact both their physical and mental well-being, leading to increased difficulties in executing everyday tasks. To date, there is a lack of comprehensive research regarding the influence of transcranial direct current stimulation (TDCS) on sleep in MS patients. Purpose: This randomized controlled trial was conducted to assess the TDCS effect on sleep subjectively and objectively in MS patients. Setting: Outpatient Clinics of Center for Psychiatry, Neurology, and Neurosurgery, Tanta University. Methods: Thirty-eight female MS patients with remission and relapse course aging from 25 to 40 years were randomly assigned into two equal groups (study and control group). The study group received active TDCS plus selected physiotherapy program (diaphragmatic breathing exercise and relaxation technique) and the control group received sham TDCS plus the same selected physiotherapy program. The assessment of daytime sleepiness was conducted through the Epworth Daytime Sleepiness Scale (ESS), while the Pittsburgh Sleep Quality Index (PSQI) was employed to evaluate quality of sleep. Sleep was assessed objectively using Polysomnography (PSD) device. The following parameters were assessed objectively (sleep latency, arousal index, sleep efficiency and total time sleep). Evaluation of all variables took place pretreatment and posttreatment. Results: There were no statistically significant differences between both groups in pretreatment mean values of all measured variables. There were a statistically significant improvement in all measured variables in both groups after treatment. There were significant differences in all measured variables between both	2024	https://niles.journals.ekb.eg/article_345916.html



			groups, favoring the study group. Conclusion: Transcranial direct current stimulation could be an excellent supplement to selected physiotherapy program in improving daytime sleepiness and quality of sleep in MS patients.		
17	Relationship between proprioception and risk of falling in patients with chemotherapy induced peripheral neuropathy	Physical therapy for Neurology and Neurosurgery	Background: Chemotherapy-induced peripheral neuropathy (CIPN) is an adverse effect of cancer treatment that results in sensory impairment and, in severe cases, can also result in further motor manifestations, including cramping, weakness, and/or wasting of the muscles. Proprioception is essential for maintaining joint stability during movement. Thus, proprioceptive impairment may be a predisposing factor for postural instabilities and a higher likelihood of falling. Aim of Study: To investigate the relationship between pro-prioception impairment and the risk of falling in CIPN patients. Subjects and Methods: Seventy-five patients with pathologic diagnoses of cancer and CIPN from both sexes with ages varying between 40 and 60 years old were included in this study. Patients were diagnosed based on careful clinical evaluation by the neurologist and nerve conduction study (NCS) and recruited from the Centre of Clinical Oncology and Nuclear Medicine, Kasr Al-Aini Hospital. Proprioception was measured by a joint position reproduction (JPR) test using a digital inclinometer at 10° dorsiflexion (DF), 11° and 25° plantarflexion (PF) in eye open position (EOP) and eye closed position (ECP), and the risk of falling was measured by the Timed Up and Go (TUG) test and Functional Reach Test (FRT). Results: There were non-significant correlations between risk of falling (TUG, FRT tests) and joint position error (JPE) at all angles in EOP and ECP except a weak positive significant correlation between TUG and JPE (at 10° DF of the right side in ECP and at 25° PF of the left side in ECP) and a weak negative significant correlation between FRT and JPE (at 10° DF of the right side in EOP and at 25° PF of the left side in EOP and ECP respectively). Conclusion: There is a weak relationship between pro-prioception impairment and the risk of falling in patients with chemotherapy induced peripheral neuropathy.	2024	https://mjcu.journals.ekb.eg/article_389912.html



18	Effect of Magnesium Sulfate Iontophoresis on Suboccipital Trigger points in patients with tension type headache.	Physical therapy for Neurology and Neurosurgery	background and purpose: The development of tension type headache (TTH) is related to myofascial trigger points (TrPs) and muscle tenderness. Active TrPs in the head and neck muscles are associated with referred pain that radiates pain to the head Objective: The current study was conducted to investigate the effect of magnesium sulphate iontophoresis on suboccipital trigger points in patients with tension-type headache. Methods: This study was conducted on forty patients (30 females and 10 males) with a clinical diagnosis of tension-type headache and active myofascial trigger points on the occipital muscles bilaterally were enrolled in the study. Their ages ranged from 30 to 45 years. They were randomly assigned into two equal groups: the study group (GA) and the control group (GB). Group A (study group): this group received MgSO₄ iontophoresis on the occipital muscles in addition to conventional physical therapy twice a week for four weeks. Group B (control group): this group received a placebo iontophoresis (without medication) in addition to conventional physical therapy twice a week for four weeks. Each patient of both groups was evaluated by visual analogue scale (VAS) to assess pain, Digital Electronic Pressure Algometer to assess pressure pain threshold (PPT) and headache disability index (HDI) to assess the impact of headache on daily living before and after four weeks of treatment. Results: In the present study there was a statistically significant decrease of the mean values of in VAS and HDI. Also, there was a statistically significant increase of the mean values of PPT in the study group compared to the control group post treatment.	2024	researchgate.net/publication/392078540_Effect_of_Magnesium_Sulfate_Iontophoresis_on_Suboccipital_Trigger_Points_in_Patients_with_Tension-Type_Headache
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			Conclusion: Magnesium sulfate iontophoresis has a significant effect in improvement of VAS, PPT and HDI in patients with tension-type headache due to sub occipital trigger points. Key words: Tension-type headache, magnesium sulfate, Iontophoresis, trigger point, sub-occipital muscle, Exercise program.		
19	Effect of pelvic and trunk control exercises On functional outcome of affected upper extremity in stroke patients	Physical therapy for Neurology and Neurosurgery	Background: There is evidence that pelvic and trunk control exercises are one of the contributing factors that enhance the upper extremity functional outcome in stroke patients. Aim: The study aimed to provide an insight into how pelvic and trunk control exercises together impacted the affected upper extremity functional outcomes for stroke patients. Methods: The study's sample comprised of forty male stroke patients. They were between 45 and 60 years old. The patients were split into two groups equal in number: the control group (GA) received a selected physiotherapy program for thirty minutes, while the study group (GB) received the similar treatment program plus pelvic and trunk control exercises for forty minutes. Both groups received 3 sessions weekly on alternate days for 6 weeks. The Biodex System Pro Isokinetic and Fugel Meyer scale (FMA) were used to measure the functional outcomes of the affected upper extremity. Results: In contrast to the control group, the post-treatment mean values of the study group of the elbow flexors isometric contraction, isokinetic contraction of elbow flexors and extensors, isometric contraction of shoulder abductors peak torque, and FMA scores all revealed a significant increase ($p < 0.05$). Conclusion: The impaired upper extremity functional outcomes of stroke patients are significantly impacted by pelvic and trunk control exercises	2024	https://www.riped-online.com/articles/effect-of-pelvic-and-trunk-control-exercises-on-fun



20	Effect of visual cue training on spatiotemporal parameters of gait in patients with stroke	Physical therapy for Neurology and Neurosurgery	Background: Patients with stroke experience gait disorders due to various causes, thus the primary goal of rehabilitation is to regain independent walking. Visual cues would be more effective in triggering gait recovery and adaptability following stroke. Purpose: The aim of this study was to investigate the effect of visual cue training on gait and walking velocity in chronic stroke. Methods: A randomized controlled trial was carried out on thirty stroke patients from both sexes aged 40-65 years. They were randomly allocated into the study and the control groups, with 15 patients in each group. Patients in the control group underwent a designed physiotherapy program, while participants in the study group underwent the same physiotherapy program plus visual cue training. The measured variables comprised 10MWT for evaluating gait velocity, kinovea software for measuring the spatiotemporal gait parameters. Evaluation of all variables took place before and following intervention Results: There was a statistically significant improvement of all measured variables in both groups post-treatment. There was a significant decrease in stepwidth score ($p = 0.03$) and a significant increase in walking speed, step length of the affected and non-affected sides ($p=0.001$) and cadence ($p=0.002$) in study group compared with that of control group post-treatment. Conclusion: the results of this study suggest that visual cue training adjunct to a physiotherapy program is effective for improving velocity and spatiotemporal gait parameters in stroke patients.	2025	
21	Effect of eye cervical proprioceptive training program on cervical	Physical therapy for Neurology and Neurosurgery	Objectives: Proprioceptive training is extensively employed as a therapeutic exercise method. However, its impact on pain reduction and improvement in range of motion (ROM) wasn't been widely	2025	https://theaspd.com/index.php/ijes/article/view/7420



	sensorimotor control dysfunction		investigated. This study was done to examine the effectiveness of combining Eye-Cervical proprioceptive training program with multimodal physiotherapy treatment to alleviate pain and enhance joint mobility in individuals with cervical sensorimotor control dysfunction. Material and Methods: Design: A randomized, controlled clinical trial. Setting: physical therapy Department, Egypt Air hospital. Participants: Fifty subjects were randomized into two groups of equivalent number. Interventions: All participants received a multimodal physiotherapy treatment. In addition, the experimental group performed a specialized exercise program incorporating eye-cervical proprioceptive training (ECPTP). Outcomes: Pain intensity was evaluated using the McGill Pain Questionnaire (MPQ), while cervical mobility was assessed using the Cervical Range of Motion (CROM 3) device. Results: The results indicated significant improvement in cervical (ROM) and neck pain scores in both groups, with the experimental group demonstrating more improvements in cervical (ROM) compared to the control group, this included significant gains in flexion ($p < 0.001$), extension ($p < 0.003$), left side bending ($p < 0.001$), right lateral bending ($p < 0.004$), left and right rotation ($p < 0.009$). Moreover, the experimental group showed greater reduction in (MPQ) scores than the control group ($p < 0.001$). Conclusions: The Eye-Cervical proprioceptive training program has been shown to effectively improve cervical (ROM) such as flexion, extension, lateral bending, as well as rotation, while also reducing pain levels.		
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