Physical Therapy Department for Growth and Development Disorder in children and Its Surgery

Master Degree

2021

Author	**:**	**Abd-Elrahman Ahmed Abd-Elhafeez.**
Title	**:**	**Effect of the leg rotation control splint on rotational gait pattern in children with hemiplegia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Gehan Hassan Elmeniawy**
	2.	**Hassan Magdy Elbarbary**
	3.	**Amira Mahmoud Abd-Elmonem**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	
Objective: To determine the effect of leg rotation control splint on rotational gait pattern in children with hemiplegia. Subjects and methods: Thirty hemiplegic children with out-toeing gait pattern ranged in age from 24 to 60 months participated in this study. They were randomly divided into two groups of equal numbers. The control group received a designed physiotherapy program for 60 minutes in addition to gait training for 30 minutes while the study group received the same physiotherapy program while wearing the leg rotation control splint during gait training. Craig's test and foot progression angle were used to measure femoral anteversion and toe out angles respectively. Each child was assessed before treatment (pre) and after 3 months post treatment (post). Results: Within group comparison showed non-statistically significant difference in the rotational profile parameters. While, there was significant improvement in all measured spatiotemporal parameters except step width in the two groups. Post treatment comparison showed non-statistically significant difference between the two groups. Conclusion: application of leg rotation control splint didn't change lower limb rotational profile.		
Key words	**1.**	**Cerebral palsy.**
	2.	**Rotational gait pattern.**
	3.	**Hemiplegia**
	4.	**Children with hemiplegia.**
	5.	**Leg rotation control splint**
Classification number	**:**	**000.000.**
Pagination	**:**	**102 p.**
Arabic Title Page	**:**	**تأثير جبيرة التحكم في التفاف الطرف السفلي في تحسين طريقة المشي الملتف عند الأطفال المصابين بالفالج الشقي.**
Library register number	**:**	**7409-7410.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Andrew Gameel Mourice Gindy.**
Title	**:**	**Effect Of Motor Imagery Training On Upper Extremity Functional Performance In Children With Hemiplegic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Gehan Mosaad Abd El-Maksoud**
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Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	
Background: Motor imagery is widely recognized as an effective method to enhance motor performance. Objective: To investigate the effect of motor imagery training on upper extremity functional performance in children with hemiplegic cerebral palsy. Method: Thirty children with hemiplegic cerebral palsy, aged from 8 to 12 years of both sexes were participated in this study. They were randomly divided into two equal groups; control group and study group. Both groups received designed physical therapy program while, study group received motor imagery training program in addition to the designed physical therapy program. The treatment program was conducted for one hour, three times per week for three successive months for each group. Quality of upper extremity skills was assessed by using Quality of Upper Extremity Skills Test (QUEST). Range of motion of Shoulder flexion and abduction, elbow extension, forearm supination and wrist extension were measured using an electronic goniometer. Assessment was conducted before and after 3 months of treatment for both groups. Results: Significant improvement was recorded in all measuring variables (QUEST and range of motion of shoulder flexion and abduction, elbow extension, forearm supination and wrist extension) in both groups when comparing pre and post treatment values. Also, significant difference was detected in quality of movement for upper extremity performance by QUEST between both groups in favour of study group after three months of treatment. However, there were no statistically significant differences in the mean values of range of motion of shoulder flexion and abduction, elbow extension, forearm supination and wrist extension post treatment between the study and control groups. Conclusion: Motor imagery training alongside a comprehensive physical therapy program may be useful to improve upper extremity functional performance in children with hemiplegic CP.		
Key words	**1.**	**Cerebral palsy.**
	2.	**Quality of Upper Extremity Skills Test.**
	3.	**Range of motion.**
	4.	**Hemiplegia**
	5.	**Motor imagery**
	6.	**Upper Extremity.n**
	7.	**Children With Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**127 p.**
Arabic Title Page	**:**	**تأثير التدريب الحركي التخيلي علي الأداء الوظيفي للطرف العلوي لدي الاطفال المصابين بالفالج الشقي.**
Library register number	**:**	**7315-7316.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Ayah Reda Abdallah Abouserie.**
Title	**:**	**Immediate Effect of Whole Body Vibration on Children With Spastic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Mohamed Ali ElShafay**
	2.	**Abd ElHamid salah Elhamshary**
	3.	**Doaa Ahmed Sanad**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	
Background: Spastic cerebral palsy children suffer from spasticity, limitation of range of motion, muscle weakness, decreased cardiopulmonary endurance and limited function abilities. Objective: to evaluate the immediate effect of whole body vibration on spasticity, popliteal angle range and cardiopulmonary endurance in spastic cerebral palsy children. Participants and methods: the study was carried out on thirty children with spastic cerebral palsy divided into two groups (fifteen hemiplegic and fifteen diplegic), ranged in age from four to six years old. They were selected from the Outpatient Clinic of Faculty of Physical Therapy Cairo University, they had level I and II according to the gross motor function classification system and had grade 1 and 1+ spasticity according to the modified ashwarth scale, H/M ratio was used to assess the spasticity of soleus muscle, the universal goniometer was used to assess the popliteal angle range and the pulse oximeter was used to assess the heart rate and oxygen saturation. Results: there is significant decrease in H\M ratio and popliteal angle range immediatly and post 30 min of intervention compared with preintervention (p=0.001) while there was no significant difference between preintervention and after 1 hour post intervention, there is no effect on oxygen saturation, but there was only an immediate increase in heart rate with no effect after 30 min, 1 hour post intervention.Conclusion: whole body vibration reduced spasticity and improved popliteal angle for half hour, so it is recommended to apply whole body vibration device before a physical therapy session to increase the rehabilitation effect.		
Key words	**1.**	**Whole Body Vibration.**
	2.	**Cerebral Palsy.**
	3.	**Spastic Children**
	4.	**Hemiplegia**
	5.	**Children With Cerebral Palsy.**
	6.	**Diplegia.**
Classification number	**:**	**000.000.**
Pagination	**:**	**118 p.**
Arabic Title Page	**:**	**التأثير الفوري للإهتزاز الكلي للجسم في الأطفال ذوى الشلل الدماغي التقلصى.**
Library register number	**:**	**7441-7442.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Doaa Attia Gamil Hassan.**
Title	**:**	**Correlation between Pelvic Inclinations and Spinal Alignment in Children with Cerebral Palsy: Cross Section.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Sherif Naseef Gerges Bishay**
	3.	**Mahmoud Samir Mohamed**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Background: Spinal malalignment and pelvic obliquity are main causes of disturbances of standing, balance and gait in children with cerebral palsy. Purpose: This study aimed to determine the correlation between pelvic inclinations and spinal alignment in children with cerebral palsy. Subjects and procedures: Sixty children with spastic cerebral palsy from both sexes were selected, their ages ranged from 5 to 10 years, with grade 1 or 1+ on the Modified Ashworth scale, who can stand independently without assistive devices level I, II according to the Gross Motor Function Classification System (GMFCS). All children were assessed for measuring pelvic inclination using pelvic inclinometer and spinal alignment using radiological X–rays. The Cobb angle was used to determine and correlate between the results. Results: Relationship between pelvic inclination and spinal alignment in children with hemiplegia: weak positive non-significant between (anterior pelvic tilt and lumber scoliosis r = 0.19, p = 0.33), (right anterior pelvic tilt and lordosis r = 0.11, p = 0.54), (lateral pelvic tilt and lumber scoliosis r = 0.06, p = 0.73) and between (lateral pelvic tilt and lordosis r = 0.02, p = 0.91) and moderate negative significant between (anterior pelvic tilt and kyphosis r = -0.37, p = 0.03) and between (lateral pelvic tilt and thoracic scoliosis r = -0.37, p = 0.04). In children with diplegia: moderate positive between (anterior pelvic tilt and thoracic scoliosis r = 0.42, p = 0.02), (anterior pelvic tilt and lumber scoliosis r = 0.07, p = 0.71), (anterior pelvic tilt and lordosis r = 0.44, p = 0.01), (lateral pelvic tilt and thoracic scoliosis r = 0.14, p = 0.43), (lateral pelvic tilt and lumber scoliosis r = 0.47, p = 0.008) and between (lateral pelvic tilt and kyphosis r = 0.1, p = 0.56).Conclusion: The results of the present study revealed that there is a correlation between pelvic inclinations (anteroposterior and lateral) and spinal alignment (scoliosis, kyphosis and lordosis) in children with cerebral palsy (spastic hemiplegic and diplegic children).

Key words	**1.**	**Pelvic Inclination**
	2.	**Pelvic Inclinometer**
	3.	**Spinal Alignment**
	4.	**Spastic Cerebral Palsy.**
	5.	**Children with Cerebral Palsy**
	6.	**Cross Section.**
Classification number	**:**	**000.000.**
Pagination	**:**	**110 p.**
Arabic Title Page	**:**	**العلاقة بين ميل الحوض وقوام العمود الفقرى عند الاطفال المصابين بالشلل الدماغى.**
Library register number	**:**	**7449-7450.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Hadeer Ahmed El-Sayed Mohammed El-Deeb.**
Title	**:**	**The Relation Between Visual Motor Integration And Cognitive Development In Full Term Versus Preterm Infants.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham Elsayed Salem**
	2.	**Kamilia Saad Abdelhamid**
	3.	**Mona Nabil Mohamed**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Background: Preterm children present more often than children born at term with neurological problems that include severe neurological handicaps, such as cerebral palsy or severe mental retardation, or more subtle cognitive impairments. Purpose of the study: To investigate the relation between visual motor integration and cognitive development in full term versus preterm infants. Subjects: One hundred and twenty infants (full term and preterm infants) from both sexes, their ages ranged from 6 to 24 months. They were selected from Saray El-kobba Medical Center and Sawa Academy Nursery in Cairo (Ain shams area). Methods: Infants were assigned into 2 groups of equal number, Group A: Included sixty full term infants and Group B: Included sixty preterm infants (low risk preterm). Within the 2 groups infants were subdivided into 3 subgroups according to their chronological age for full term and corrected age for preterm. The visual motor integration and cognitive development were assessed for all infants in both groups using The Peabody Developmental Motor Scales–Second Edition (PDMS-2) and the Portage Guide to early childhood education;(Arabic version) respectively. Results: The results revealed that there was a strong positive correlation between PDMS-2 and Portage scale in full term sub groups (6-12months), (12-18 months) and (18-24 months) scores [(r= 0.48, p=0.03), (r=0.84, p=0.0001) and (r=0.75, p=0.0001) respectively]. There was strong positive correlation between PDMS-2 and Portage scale in preterm subgroups (6-12 months), (12-18 months) and (18-24 months) scores [(r=0.84, p=0.0001) – (r=0.63, p=0,003) –(r=0.88, p=0.0001) respectively]. Conclusion: Based on this study, it could be concluded that there is a relation between visual motor integration and cognitive development in full term versus preterm infants.

Key words	**1.**	**Cognitive development**
	2.	**Visual motor integration**
	3.	**Full term infants**
	4.	**preterm infants.**
Classification number	**:**	**000.000.**
Pagination	**:**	**90 p.**
Arabic Title Page	**:**	**العلاقة ما بين التكامل البصري الحركي و التطور المعرفي بين الرضع مكتملي النمو والمبتسرين.**
Library register number	**:**	**7335-7336.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**John Fam Habib Atala.**
Title	**:**	**Effect Of Hippotherapy On Postural Balance In Children With Down Syndrome (A Systematic Review).**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham Elsayed Salem**
	2.	**Shimaa Mohammed Refaat**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	
Purpose: The aim of this systematic review was to examine the effect of hippotherapy on postural balance in children with Down syndrome (a systematic review). Subjects and Methods: Search was made on children with Down syndrome (DS) aged from 2 to 18 years. Search was made in Pubmed, Pedro, Cochrane and goggle scholar web site up to date. Systematic review of randomized controlled trials, the intervention used was hippotherapy as a group programs. Four studies were selected according to inclusive and exclusive criteria and descriptive analysis were conducted due to heterogeneity. And meta-analysis was conducted due to homogeneity. Results: The metanalysis overall results of the included studies revealed a statistically non-significant difference of the hippotherapy on balance in children with DS. Conclusion: Hippotherapy maybe had an effect on postural balance in children with DS.		
Key words	**1.**	**Down syndrome children**
	2.	**Hippotherapy**
	3.	**Postural balance.**
	4.	**Children With Down Syndrome.**
	5.	**Systematic Review**
Classification number	**:**	**000.000.**
Pagination	**:**	**76 p.**
Arabic Title Page	**:**	**تأثير ركوب الخيل العلاجي على الإتزان في الأطفال المصابين بمتلازمة داون: (فحص منهجي).**
Library register number	**:**	**7423-7424.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Mahmoud Mohammed Metwaly.**
Title	**:**	**Effect Of Scapular Alignment On Upper Limb Function In Children With Spastic Hemiparesis.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El-Sayed Salem**
	2.	**Mai Elsayed Abbass Mohamed**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Background: Hemiplegic cerebral palsy results from damage to the cortico-spinal tract and other developing pathways resulting in impaired upper limb function and affecting daily self-care and school activities. Purpose: To investigate the effect of scapular alignment on upper limb function in children with spastic hemiparesis and to determine the relation between scapular alignment of the affected, less affected limb and the upper limb function in children with spastic hemiparesis. Subjects: Eighty five children (63 boys and 22 girls) with spastic hemiplegic cerebral palsy, aged from 3 to 6 years. Methods: Postural zone software was used to assess scapular alignment and pediatric arm function test was used to assess upper arm function. Results: There was statistically significant correlation between scapular deviation of the affected side with arm elevated and total score of pediatric upper limb function (r = -0.973, p = 0.0001). Also significance correlation was found between scapular deviation of the affected side with both hands beside the body and total score of pediatric upper limb function (r = -0.982, p = 0.0001) in children with spastic hemiplegic cerebral palsy. Conclusion: The findings of this study indicated that there was significant strong negative correlation between scapular deviation and upper limb function in children with spastic hemiplegic cerebral palsy. Thus, the scapular deviation management should be considered in the rehabilitation program for children with spastic hemiplegic children.

Key words	**1.**	**Cerebral palsy**
	2.	**upper limb function**
	3.	**scapular Alignment**
	4.	**Children With Spastic Hemiparesis.**
	5.	**Hemiplegia**
Classification number	**:**	**000.000.**
Pagination	**:**	**95 p.**
Arabic Title Page	**:**	**أثر محاذاة عظمتي الكتف على وظيفة الطرف العلوي في الأطفال الذين يعانون من الشلل النصفي التشنجي**
Library register number	**:**	**7439-7440.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Mostafa Mohammed Rafat Galal Barghash.**
Title	**:**	**Physical Therapy Registry for Establishment of Cerebral Palsy In Behera.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Hebatallah Mohamed Kamal**
	2.	**Mohamed Beder Ibrahem**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Back ground: Cerebral palsy (CP) registers appear to be appropriate tools for answering questions regarding the prevalence and characteristics of the disease. Purpose: this study was conducted to establish data base for cerebral palsy (CP) in Itay El -Baroud, Rasheed and Shubrakheet at Al_Buhera governorate. Subjects and Methods: Three hundreds forty seven children with CP receiving physical therapy services of both genders participated in this study. Their ages ranged from four months up to 12 years. They were recruited from three public hospitals, one private hospital, one Ministry of Health, insurance hospital and eight private centers in previous three cities. They were subjected to modified Australian Registry Form. Results: This study revealed that the incidence of CP children who received physical therapy services was 1.02/ 1000 live birth in previous cities. Boys and girls represented 57.9% and 42.1% respectively from total cases. Governmental hospitals and private hospital represented 74.4% and 25.6% respectively. The percentage of CP types was spastic 80.1%, dyskintic 11.2%, ataxic 4.9% and hypotonic 3.7%.The results of Gross Motor Function Classification System (GMFCS), level V had the highest percentages and the results of Gross Motor Function Measure (GMFM) represented that 70% of all cases have score, which is the sum of percentages scores of all dimensions, less than one hundred that means that the prevalence of severity is high. Conclusion: Registry of cerebral palsy in Itay El -Baroud, Rasheed and Shubrakheet is high. Spastic type is the highest percentage while hypotonic type is the least percentage of total cases. Based on Gross Motor Function Classification System and Gross Motor Function Measure, most of patients were severe cases.

Key words	**1.**	**Cerebral Palsy,**
	2.	**Registry GMFCS**
	3.	**Itay El-Baroud.**
	4.	**Cerebral Palsy In Behera.**
	5.	**Rasheed**
	6.	**Shubrakheet**
	7.	**GMFM.**
Classification number	**:**	**000.000.**
Pagination	**:**	**118 p.**
Arabic Title Page	**:**	**إنشاء أنموذج قاعدة بيانات العلاج الطبيعي لمرضى الشلل المخي بالبحيرة.**
Library register number	**:**	**7427-7428.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Noura Abou El Fotouh Abed El Fatah.**
Title	**:**	**Impact of family socioeconomic status on motor development of children with spastic cerebral palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Hebatallah Mohamed Kamal**
	2.	**Zeinab Ahmed Hussein**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Background: The main outcome of physical therapy interventions is to improve motor functions of children with spastic cerebral palsy which result from the interactions between many factors not limited to physical, medical or surgical interventions but also including child characteristics and socializing agents. Purpose: To assess impact of family socioeconomic status on motor development of children with spastic cerebral palsy. Subjects and Methods: Eighty children with spastic cerebral palsy with ages ranged from 1 to 4 years participated in this study selected from governmental hospitals and private clinics in Mansoura city. They were divided based on severity into three groups: mild, moderate and severe according to Gross motor function classification system and each group subdivided according to socioeconomic class into low, middle and high based on Egyptian Socioeconomic Scale. They were evaluated before and after six months of physical therapy treatment using Gross motor function measure. Results: Analysis of results revealed that both middle and high socioeconomic subgroups in moderate cerebral palsy group showed significant increase in median values of gross motor function compared with low socioeconomic group, but in mild group only middle socioeconomic group showed significant increase in median values of gross motor function compared with low one, while children with severe cerebral palsy showed no significant difference in motor development in spite of the difference in socioeconomic class. Also, there was a strong positive correlation between socioeconomic status and gross motor function measure in moderate cerebral palsy cases while weak positive correlation was revealed between socioeconomic status and gross motor function measure in mild cases and very weak positive correlation in severe cases. Conclusion: Socioeconomic status enhances the gross motor functions after six months of physical therapy interventions in children with spastic cerebral palsy.

Key words	**1.**	**Cerebral palsy**
	2.	**Socioeconomic status.**
	3.	**Motor development**
	4.	**Children with cerebral palsy.**
	5.	**Spasticity.**
Classification number	**:**	**000.000.**
Pagination	**:**	**94 p.**
Arabic Title Page	**:**	**تأثير الوضع الاجتماعي والاقتصادي للاسرة على التطور الحركي لحالات الشلل الدماغي لمفصل الركبة.**
Library register number	**:**	**7433-7434.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Ramy Tarek Soliman.**
Title	**:**	**Effect of different exposure time to electro-magnetic waves on brain structure, behavioral & motor development in infant rabbits: (experimental study).**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Manal Salah El din Abd El Wahab**
	2.	**Abeer Abdel Rahman Mohamed**
	3.	**Wafaa Mohamed Mohamed Hassan**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	

Purpose of the study: This experiment was conducted to evaluate the effect of different time exposures to different electromagnetic waves sources on brain structure, stress behavior, motor function and homeostasis in infant New-Zealand White rabbits, during suckling period up to weaning at 5 weeks.Subjects:200 rabbits from both sexes participated in this study with average age 1 week at an industrial private rabbitry with 350 mother's capacity at Mansoura city, Dakahlia, Egypt. Methods: All animals were comparable experimental homogeneous. They were divided into ten groups of equal number (20 in each) (Study groups 1, 2 and 3 that were exposed to mobile phone radiations for 2, 4 and 6 hours daily respectively, Study groups 4, 5 and 6 were exposed to Wi-Fi radiations for 2, 4 and 6 hours daily respectively, Study groups 7, 8 and 9 were exposed to both mobile phone & WiFi radiations for 2, 4 and 6 hours daily respectively and control group with no exposure). The experimental work was carried out to assess motor function using the Open Field Test Scale and Hindlimb Motor Function Scoring System including motor function, locomotion and circular motion, brain structure was assessed by histological examinations, weight up to weaning and stress response by measuring amount of feces, skin temperature, pulse and respiratory rates. The experimental exposure lasted for four weeks during suckling period (pre weaning period) from two weeks age up to weaning at five weeks age. Results: Before the study, there was no significant difference in the mean values of all variables among the ten groups. After study there were significantly harmful effects in each studied parameters. WiFi groups recorded worse values in both parameters studied (motor development and neural stress revealed by apoptosis in histological examination), compared by mobile phone while the worst results were recorded in the groups that were exposed to both WiFi and mobile phone radiations. The harmful effects of electromagnetic radiation were increased by increasing exposure time in all studied groups (mobile phone and WiFi groups).Conclusion: On the basis of this study, it could be concluded that electro-magnetic radiation results in marked decreased of motor development and brain structure, and marked disturbances of behavioral development in infant rabbits that result from exposure to cell phone and WiFi at different duration interval

Key words	**1.**	**Electromagnetic radiations**
	2.	**Behavioral development**
	3.	**Infant rabbits.**
	4.	**Cell phone rays**
	5.	**WiFi radiations**
	6.	**Brain structure**
	7.	**motor development**
	8.	**experimental study**
Classification number	**:**	**000.000.**
Pagination	**:**	**84 p.**
Arabic Title Page	**:**	**تأثير التعرض لفترات مختلفة للأشعة الكهرومغناطيسية على تكوين المخ والتطور السلوكي والحركي للأرانب الرضع: دراسة تجريبية.**
Library register number	**:**	**7323-7324.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Reham Ali Elhady Ali.**
Title	**:**	**Thera Suit Versus Spider cage in Improving Functional Performance in Children with Spastic Diaplegia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Manal Salah El Dein Abd ElWahab**
	2.	**Sahar Mohamed Nour Eldeen**
	3.	**Walaa Abd El-Hakiem Abd El-Nabie**
Degree	**:**	**Master.**
Year	**:**	**2021.**
Abstract	**:**	
Background: Impaired muscle strength and functional mobility affecting the functional performance of daily living activity are common problems facing children with cerebral palsy. Purpose: The purpose of this comparative study was to compare between the effect of Thera Suit and Spider cage on improving muscle strength and functional mobility in children with spastic diaplegia. Subjects and procedures: Fifty-three children with spastic diaplegia of both sexes ranged in age from five to eight years participated in this study, they were selected from the Outpatient Clinic of Hadaek Helwan hospital. They were randomly assigned into two study groups; A and B. Group A included 27 children who were treated by therapeutic exercise program with Thera Suit while, group B involved 26 children who received the same exercise program in Spider cage. The treatment was conducted three times per week for one and half hour per session over twelve consecutive weeks. Muscle strength of quadriceps and hamstring and functional mobility were assessed before and after treatment by hand-held dynamometer and mobility questionnaire (MobQuest) respectively.Results:There was statistically a significant increase in the quadriceps, hamstring force and MobQuest score in both groups post treatment while, there were statistically insignificant differences of all measured variables between both groups (p> 0.05) although children in group A showed slightly more improvement clinically. Conclusion: Both Thera Suit and Spider cage are recommended equally in improving muscle strength and functional mobility in children with spastic diaplegia.		
Key words	**1.**	**Cerebral palsy**
	2.	**Diaplegia**
	3.	**Thera Suit**
	4.	**Cerebral palsy**
	5.	**Spider cage**
Classification number	**:**	**000.000.**
Pagination	**:**	**86 p.**
Arabic Title Page	**:**	**تأثير البدلة العلاجية مقارنة طريقة التعلق بالكهف العنكبوتى لتحسين الأداء الوظيفي في علاج الأطفال ذوى الشلل الدماغي التقلصي.**
Library register number	**:**	**7405-7406.**

ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY

Author	**:**	**Salma Sayed Gaber Mohamed.**
Title	**:**	**The Effect of Transcranial Magnetic Stimulation Combined with Constraint-Movement Therapy to Rehabilitate Motor Impairment in Hemiparetic Children: (A Systematic Review).**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
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Abstract	**:**	

Purpose: This study systematically reviewed studies of randomized controlled trials (RCTs) involving the use of Transcranial magnetic stimulation (TMS) combined with Constraint induced movement therapy (CIMT) over the primary motor cortex (M1) to probe brain plasticity on upper extremity (UE) function in children with cerebral palsy (CP). Methods: PubMed, ScienceDirect, Physiotherapy Evidence Database (PEDro), and Cochrane library were searched to identify relevant RCTs from 2000 to December 2020 which had to investigate pre/post-intervention changes of TMS with CIMT on UE function. For study quality we use PEDro scale and risk of bias were assessed. Meta-analysis was performed for outcomes on UE (function or activity) using Assisting hand assessment (AHA), Canadian occupational performance measure (COPM) as primary outcome measures, peak force, stereognosis, finger tracking, glutamate and glutamine (Glx), Creatine compounds (Cre), motor evoked potential (MEP), cortical silent duration (CSP), and pediatrics quality of life (PedsQL) as secondary outcomes. Results: Out of 92 papers screened, 11 studies involved (pooled participants = 140; mean ±SD 20 ±2.94 / study) met the selection criteria. This study reported a significant treatment effect of the PedsQL in the real group with a significant decrease in the PedsQL in the sham group in comparison with the pre-treatment baseline values. However, there was no significant change demonstrated by the Assisting Hand Assessment (AHA) between groups at post-test, and 6-months post-treatment evaluations. However, it should be noted that the AHA score values tend to be significant higher (P= 0.12). Also, similar patterns of improvement were noted in the COPM-P, COPM-S with no significant differences. For stereognosis, no significant change was observed between both groups. However, the change in stereognosis tends to be significantly higher (P= 0.24). For the other outcomes the included studies reported some benefits from using TMS and CIMT however the MA did not confirm these findings. Conclusion: Hemiparetic children participating in intensive, psychosocial rehabilitation programs can achieve sustained functional gains. The addition of CIMT and TMS increases the chances of improvement. Additional investigation into the neurophysiologic effects of TMS in larger samples of children with unilateral CP are needed in future clinical trials.

Key words	**1.**	**Systematic review,**
	2.	**Trans-cranial magnetic stimulation**
	3.	**Cerebral palsy**
	4.	**Constraint induced movement therapy**
	5.	**Upper extremity.**
	6.	**Children with Hemiparetic**
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