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

Master Degree

2019

Author	**:**	**Ahmed Mahrous El-Sayed Mohamed.**
Title	**:**	**Effect Of Using Adaptive Swiss Ball On Hand Function In Children With Hemiparesis.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El-Sayed Salem.**
	2.	**Sahar Mohamed Nour El-Din.**
	3.	**Mai El-Sayed Abbass.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Objective: The purpose of this study was to evaluate the effect of adaptive swiss ball seating as an alternative for standard chair seating on hand function in children with hemiparesis. Subjects: A total of 30 spastic hemiparetic cerebral palsied children (19 boys and 11 girls), aged 3–6 years participated in this study. They were randomly assigned into control and study groups of equal numbers each consisted of fifteen children (n=15). Methods: Peabody Developmental Motor Scales 2 (PDMS-2)was used to evaluate each child individually before and after three successive months of treatment (3 sessions per week), to assess 2 subtests (the grasping skills and visual motor integration skills) for all children of both groups. Control group who received a specially selected physical therapy program for hand function on a standard chair seating. Study group who received the same selected program for hand function on adaptive swiss ball seating. Results: There was a significant improvement in the measured variables for both groups after treatment. Moreover, comparing the post-treatment results of the two groups of fine motor quotient revealed significant difference (p=0.003). The percentage of improvement was 15.05% in favor of study group. Conclusion: Using adaptive swiss ball seating elicited a positive effect on hand function in children with hemiparesis.

Key words	**1.**	**Adaptive swiss ball.**
	2.	**Hemiparesis.**
	3.	**Peabody Developmental Motor Scales 2 (PDMS-2).**
	4.	**Hand function.**
	5.	**Children With Hemiparesis.**
	6.	**Cerebral palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**134 p.**
Arabic Title Page	**:**	**تأثيراستخدام الكرة السويسرية المعدله علي وظائف اليد عند الأطفال المصابين بالخدل النصفي.**
Library register number	**:**	**6359-6360.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Ahmed Sayed Mahmoud Tolba.**
Title	**:**	**Physical Therapy Registry for Establishment of Cerebral Palsy Children in Al-Fayoum Egypt.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Naglaa Ahmed Zaky.**
	2.	**Mostafa Soliman Mostafa.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Cerebral palsy (CP) is the most frequent cause of physical disability in childre There is no documented data about registry of children with cerebral palsy in Al-Fayou governorate. Registries of cerebral palsy appear to be appropriate tool for answering questio regarding the prevalence and characteristics of this common childhood disability. Aim: to establis registry of cerebral palsy in Al-Fayoum, Egypt. Subjects and methods: Three hundred twenty eig cerebral palsy children of both genders who received physical therapy represented the sample of t study. They were collected from hospitals and private physical therapy centers in Al-Fayou governorate. Gross Motor Function Classification System (GMFCS), Gross Motor Functio Measure (GMFM), Manual Ability Classification System (MACS), Viking Speech Scale (VSS) we used for assessment. Results: The results revealed that spastic CP was the most common type wi spastic quadriplegia representing 45.4%. According to MACS and VSS; level I and IV were t highest percentages respectively. While according to GMFCS, level V was the highest percentag Conclusion: The study revealed that the prevalence of CP was high in rural areas than in urba areas and in boys than girls. Spastic quadriplegia was the highest percentage. Children with CP ha varying levels and degrees according to the findings of GMFCS, VSS, MACS and GMFM.

Key words	**1.**	**Al-Fayoum Egypt.**
	2.	**Cerebral palsy**
	3.	**Registry of Cerebral Palsy in Al-Fayoum.**
	4.	**Children with Cerebral Palsy in Al-Fayoum.**
Classification number	**:**	**000.000.**
Pagination	**:**	**131 p.**
Arabic Title Page	**:**	**إنشاء نموذج قاعدة بيانات العلاج الطبيعي لمرضى الشلل الدماغي في الفيوم.**
Library register number	**:**	**6329-6330.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Amany Saeed Abdullah.**
Title	**:**	**Effect of Aerobic Exercise Versus Resisted Exercise On Glycemic level in Juvenile Diabetes Mellitus.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira El-Tohamy.**
	2.	**Amira El-Sayed El-bagalaty.**
	3.	**Nehal El-saeed.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Purpose: of this study is to comparing the efficacy of aerobic exercise versus resistive exercise on glycemic level and muscle power in juvenile diabetes mellitus. Methodology: Thirty children with type 1 diabetes from both sexes participated in this study for twelve weeks, three session per weeks. Their age ranged between 11 to 15 years, they were assigned randomly into two groups of equal number. Each group included 15 patients. Children in group (A): received regular aerobic exercise group (B): received a resisted exercise. Assessment of blood glucose was measured before and after treatment for both groups and assessment of antigravity muscle power was measured before and after treatment measuring by hand held dynamometer Results: significant decrease of blood glucose level in both groups in favor of aerobic exercise and improved muscle power in both groups in favor of resisted exercise. Conclusion: Aerobic and resisted exercises had valuable effects and significant improvements on decreasing blood glucose level in favor of aerobic exercise and improving muscles and improving muscles strength in favor of resisted exercise.

Key words	**1.**	**Juvenile diabetes.**
	2.	**Resisted exercise.**
	3.	**Glycemic level.**
	4.	**Aerobic Exercise.**
Classification number	**:**	**000.000.**
Pagination	**:**	**137 p.**
Arabic Title Page	**:**	**تأثير التمرينات الهوائيه مقابل تمرينات المقاومه على مستوى السكر لدى أطفال مرضى السكري.**
Library register number	**:**	**6747-6748.**

Author	**:**	**Amira Eid Mohamed Youssif.**
Title	**:**	**Cortical Sensations And Fine Motor Skills In Children With Spastic Hemiplegic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Kamal El-Sayed Shoukry.**
	2.	**Gehan Mosaad Abd El-Maksoud.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Hemiplegic cerebral palsy results from damage to the cortico-spinal tract and other developing pathways resulting into impaired hand dexterity and affecting daily self-care and school activities. Purpose: To determine the relation between cortical sensations and fine motor skills in children with spastic hemiplegic cerebral palsy. Subjects: Forty children (17 girls and 23 boys) with spastic hemiplegic cerebral palsy, aged from 6 to 13 years. Methods: Cortical sensations (stereognosis and tactile localization) and fine motor skills (grasp and visual motor integration) were assessed by Notingham Sensory Assessment Scale and Peabody Developmental Motor Scale respectively. Results: There was statistically significant correlation between stereognosis and fine motor skills ($r=0.630$, $p<0.05$) and between tactile localization and fine motor skills ($r=0.359$, $p<0.05$) in children with spastic hemiplegic cerebral palsy. Conclusion: The findings of this study indicated that there was a positive correlation between cortical sensations and fine motor skills in children with spastic hemiplegic cerebral palsy. Thus, cortical sensations should be assessed in children with fine motor skill problems.

Key words	**1.**	**Cerebral palsy.**
	2.	**Fine motor skills.**
	3.	**Hemiplegia.**
	4.	**Cortical sensations.**
	5.	**Children With Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**90 p.**
Arabic Title Page	**:**	**أحاسيس القشرة المخية والمهارات الحركية الدقيقة لدى الأطفال المصابين بالفالج الشقى.**
Library register number	**:**	**6365-6366.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Amira Ezzat Abd Elmageid Ragab**
Title	**:**	**Effect of electromagnetic therapy on hand function for burn children.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El-Sayed Salem.**
	2.	**Asmaa Osama Sayed.**
	3.	**Ayman Noaman El-Henawy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Purpose: The study was conducted to determine the effect of pulsed electromagnetic therapy on pain, wound surface area and hand function for children with second degree of burn. Methods: Experimental design study was conducted with forty children suffer from acute burn injury ranged in age from 36 to 60months.They recruited from Burn Unit of General Beni Seuif Hospital. They were referred from the physician consultative of plastic surgery. They were classified randomly into two groups control and study group of equal number. Group A (control group) received selected physical therapy program. Group B (Study group) received selected physical therapy program in addition to pulsed electromagnetic field therapy. Wong backer faces pain rating scale was used for pain assessment, wound surface area tracing was used for trace wound area and Peabody developmental motor scale for assessment hand function for both groups, assessment was conducted 72h of injury and after three weeks. Treatment sessions were conducted from November 2015 to April 2018. Results: There were non-significant differences in pain, wound surface area, and Peabody developmental motor scale-2 pre assessment data in both study and control group, while there were significant decrease in pain, wound surface area and significant increase of scoring of Peabody developmental motor scale-2 post application in both groups compared to its pre application. There were significant decrease in pain, wound surface area and significant increase of scoring of Peabody developmental motor scale-2 in favor of study group in comparison with control. Conclusion: These results suggest that application of pulsed electromagnetic field for three weeks was effective in pain management, wound surface area and hand functions for children with second degree of burn.

Key words	**1.**	**Burn children.**
	2.	**Peabody Developmental Motor Scale.**
	3.	**Pulsed Electromagnetic therapy.**
	4.	**Wong backer faces pain rating scale.**
	5.	**Hand function.**
	6.	**children hand burn.**
Classification number	**:**	**000.000.**
Pagination	**:**	**103 p.**
Arabic Title Page	**:**	**تأثيرالعلاج الكهرومغناطيسى على وظائف اليد لدي الاطفال المصابين بالحروق.**
Library register number	**:**	**6351-6352.**

Author	**:**	**Asmaa Abdelhameed Alsayed Ali.**
Title	**:**	**Assessment of Foot Pressure Distribution in Juvenile Diabetes Mellitus.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El Tohamy.**
	2.	**Ahmed Fathy Genedy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Objective: The purpose of this study was to investigate changes in foot pressure distribution in diabetic children compared to normal children. Methods: Fifty five children contributed in this study: thirty normal children and twenty five diabetic children their ages ranged between ten to fifteen years. The planter pressure distribution of the diabetic and normal children was measured by sigma-R pressure assessment system during static and walking in each subject during normal walking speed. Maximum and average pressures values in right and left sides were compared in both groups in static and dynamic situations. Results: data analyzed by "Unpaired t test" to compare maximum and average pressures at static and dynamic situations between both groups. There were statistically significant differences in maximum and average pressure in both right and left sides between the two groups in both static and dynamic assessment ($p<0.05$). "Paired t test" was used to analyze the side differences (right and left) in both groups, in diabetic children there were non- significance differences in maximum and average pressures neither in static nor in dynamic situations($p>0.05$). While in normal group in static position there were significance differences with an increase in maximum and average pressures in right side compared to left side ($p<0.05$). Conclusion: foot pressure distribution is affected in children with type 1 diabetes mellitus

Key words	**1.**	**Diabetes mellitus.**
	2.	**Sigma-R pressure assessment system.**
	3.	**Foot pressure distribution.**
	4.	**Juvenile Diabetes Mellitus.**
Classification number	**:**	**000.000.**
Pagination	**:**	**105 p.**
Arabic Title Page	**:**	**تقييم توزيع ضغط القدم لدى الاطفال المصابيين بداء السكرى.**
Library register number	**:**	**6751-6752.**

Author	**:**	**Aya Ahmed Abdel Rahman.**
Title	**:**	**Correlation Between Muscle thickness And Functional abilities in hemiplegic cerebral palsy Children.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten Hassan Abdel Azim.**
	2.	**Mostafa Soliman.**
	3.	**Mohamed Abdel Ghany Showiel.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Hemiplegic cerebral palsy children had disabilities of the upper extremities such as reaching, grasping, and object manipulation resulting in dependency in daily activities and a lack of successful social integration. Purpose of this study was to investigate the correlation between muscle thickness, spasticity and functional ability in spastic hemiplegic cerebral palsy children. Subjects and Procedures: Thirty five (20 spastic hemiplegic and 15 normal) children of both sexes with age ranged from 2-5 years participated in this study. The spastic children were able to sit alone, stand holding on momentarily and their grading of spasticity was from 1-1+ according to Modified Ashworth Scale (MAS). Muscle thickness of biceps brachii muscle was measured by ultrasonography, spasticity was measured by MAS and functional abilities were measured by growth motor function measurement-88. Results: The results of this study revealed that there is correlation between functional abilities and muscle thickness of biceps brachii in the spastic group. In comparison between normal and spastic groups there is a significant difference in biceps brachii muscle thickness in normal group. Conclusion: there is a non-significant relation between functional abilities and muscle thickness of biceps brachii muscle in both groups.		
Key words	**1.**	**Functional abilities.**
	2.	**Muscle thickness.**
	3.	**Spasticity, hemiplegia.**
	4.	**Cerebral palsy.**
	5.	**Children in hemiplegic cerebral palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**131 p.**
Arabic Title Page	**:**	**الربط بين السّمك العضلي والقدره الوظيفيه في الاطفال المصابين بالفالج الشقي التشنجي.**
Library register number	**:**	**6413-6414.**

Author	**:**	**Doaa Mohamed saleh**
Title	**:**	**Aerobic Training Versus Strength Exercises On Quality Of Life And Functional Capacity On Children With Leukemia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten H Abd Alazim.**
	2.	**Elham salem.**
	3.	**Nesreen Ali.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: The treatment for children and adolescents with acute lymphoblastic leukemia(ALL) can lead to multiple adverse effects, including a poor physical capacity and decreased quality of life .Objective: To compare between modified strength training program and aerobic exercise on quality of life and functional capacity for children with ALL. Subject, Material and Methods: the study started from March 2017 to May 2019, 66 patients with ALL were conducted and recruited from Children's Cancer Hospital Egypt 57357 with both sexes. They were divided randomly into study groups A, B and control group included (25, 21, 20) patients respectively and they classified to two categories study group (A-B) and control group. All patients were assessed before and after 12 weeks by using the pediatric quality of life inventory questionnaire for quality of life and 6-minuteswalk test for functional capacity. All patients in three groups received medical treatment. Study group (A): received aerobic training on treadmill and home program and study group (B): received strength program using (seat row, leg extension and lateral pull down) and home program. Both study groups (A-B) patients performed 2sessions/week for 12 weeks. Results: There was statistical significant difference on the pediatric quality of life inventory questionnaire between study group B and control group with p-value <0.001 especially in generic core scale and multidimensional fatigue scale, while no statistical significant difference between (study group A and control group) and between study groups(A-B). There was significant difference on functional capacity between (study group A and control group) and (study group B and control group), while there was no significant difference between study groups A and B. Conclusion: Both aerobic exercise and modified strength exercise have significant effect on improving functional capacity when compared to control group in pediatric ALL patients but the current study cannot determine which is more effective. While in quality of life, modified strength exercise has significant effect on improving it when compared to control group

Key words	**1.**	**Leukemia.**
	2.	**Quality of life.**
	3.	**Functional capacity.**
	4.	**Aerobic training.**
	5.	**Strength training.**
	6.	**Children With Leukemia.**
Classification number	**:**	**000.000.**
Pagination	**:**	**133 p.**
Arabic Title Page	**:**	**الليزر على نقاط الوخز بالأبر الصينية مقابل التيار الكهربي الدقيق على عسر الطمث الأولي.**
Library register number	**:**	**6775 -6776.**

Author	**:**	**Esraa Elmorsi Abdelaziz Elderini.**
Title	**:**	**Correlation between obesity, health related quality of life and cognitive function in school aged children.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El-Tohamy.**
	2.	**Hoda Abd El-Aziem Mohamed El-Talawy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Objective: the aim of this study is to investigate the correlation between obesity, health related quality of life (HRQOL) and cognitive function in school aged children. Subjects and Methods: 182 children of both genders , their age ranged from 11 to 14 years old were selected from public governmental schools at El-Mansoura City. They were assigned into two groups : study group (n=102) (48 boys and 54 girls) and control group (n=80) (42 boys and 38 girls). Only obese children of nutritional cause were selected. They were not follow a specific diet or enrolled into specific regular athletic sports. They were able to follow simple verbal commands or instructions included in the procedures .Their body mass index(BMI) was 95^{th} percentile or more while that of the control group was equal to 5^{th} percentile or less than 85^{th} percentile according to Centers for Disease Control and Prevention growth charts (CDC). Their weight and height were assessed by the Standard weight and height measuring scale and BMI was calculated by dividing weight (Kg) by height squared (m^2) (kg/m^2). The health related quality of life (HRQOL) was assessed by the child and parent proxy reports of Pediatric quality of life inventory Generic Core Scale version 4 (PedsQL ™) and the cognitive functioning was assessed using the child and parent proxy reports of the Pediatric quality of life inventory cognitive functioning scale (PedsQL CFS), the Mini Mental State Examination test (MMSE) and the Raven Coloured Progressive Matrics (RCPM). Results: the results showed that Mean ± standard deviation of weight and BMI of study and control groups were significantly different. The scores of all domains of PedsQL Generic Core Scale between both groups were significantly different. The total scores of PedsQL CFS, the MMSE and RCPM of both groups were significantly different. There was a strong negative correlation between all the scores of Pediatric quality of life inventory Generic core scale and BMI. There was a strong to moderate negative correlation between the scores of PedsQL CFS, MMSE and RCPM and BMI. Conclusions: the HRQOL and cognitive abilities should be considered in the evaluation process of obese children and adolescents as there was a correlation between them and the obesity had a negative impact on them.

Key words	**1.**	**Children in Obesity.**
	2.	**Cognitive function.**
	3.	**Health related quality of life.**
	4.	**Obesity.**
	5.	**school aged children in Obesity.**
Classification number	**:**	**000.000.**
Pagination	**:**	**137 p.**
Arabic Title Page	**:**	**السمنة وعلاقتها بجوانب الحياة المرتبطة بالصحة و الادراك عند اطفال المدارس.**
Library register number	**:**	**6331-6332.**

Author	**:**	**Esraa Elsayed Abbas Awad.**
Title	**:**	**Effect of Core Stability Training on Postural Control In Children with Cerebral Palsy (Systematic Review).**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten Hassan Abd El-Azim.**
	2.	**Samia Abdel Rahman Abdel Rahman.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Core stability training is used to improve limitations with postural control in children with cerebral palsy. It is similar to a corset that works to stabilize the center of the body against external perturbations. The purpose of the current systematic review was to evaluate the effectiveness of core stability training on postural control. Methods: A systematic review was conducted through Preferred Reporting Items for Systematic Reviews and Meta-Analyses methodology and American Academy of Cerebral Palsy and Developmental Medicine. Four databases (Pub Med, Cochrane Library, Pedro and Google Scholar) were searched using the following keywords ("core stability ") AND (cerebral palsy OR hemiplegia OR diplegia) AND (Postural control OR balance OR equilibrium).Articles were assessed according to their level of evidence and conduct rating. Results: Seven articles were included in this review. The whole number of participants was 162 participants with age ranged from 1 to 18 years. Level of evidence ranged from I to V, and the conduct rating ranged from strong to weak. All studies underwent descriptive analysis due to the heterogeneity of the primary and secondary outcomes. Core stability training resulted in improvement in primary outcomes (postural control, static balance, dynamic balance), and secondary outcomes (shoulder stability, diaphragmatic motion, trunk endurance and gait). Conclusion: Core stability training could be included in rehabilitation programs for children with spastic CP as all reviewed studies showed significant improvements of all variables. Inspite of the improvements we still in need for more trials due to heterogeneity of the studies.

Key words	**1.**	**Cerebral palsy.**
	2.	**Postural control.**
	3.	**Systematic Review.**
	4.	**Core stability.**
	5.	**Children with Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**106 p.**
Arabic Title Page	**:**	**تأثير تمارين الثبات المحوري على التحكم بالوضعية في الأطفال المصابين بالشلل الدماغي: دراسة منهجية.**
Library register number	**:**	**6335-6336.**

Author	**:**	**Hagar Mohamed Ali Mekdad.**
Title	**:**	**Effect of Lung Squeezing Technique on Blood Gases Among Neonates with Respiratory Distress Syndrome.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten Hassan Abdelazeim.**
	2.	**El sayed Abd El Rahman Amer.**
	3.	**Osama Aboelftouh Elfiky.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Respiratory problems like Respiratory Distress Syndrome (RDS) in neonates is one of the leading causes of neonatal morbidity and mortality in developing countries. Objective: To test the efficacy of Lung Squeezing Technique combined with that of Conventional Chest Physiotherapy (CPT) for improving oxygenation in neonates with respiratory distress syndrome, in terms of blood gases and oxygen saturation. Materials and Methods: This randomized controlled trial included 30 neonates with RDS under mechanical ventilation. Their ages ranged from 3-15 days.The participants were randomly allocated into 2 equal groups. The control group received CPT, while the study group received CPT in addition to LST for 20 minutes duration per session, two sessions per day, till discharge. Arterial blood gases (PaO2, PaCO2, pH, HCO3, BE), vital signs (HR, RR, SAP, DAP, SaO2,Temperature) were measured and chest X ray was done. All measurements were recorded at baseline measurement, 2 days and 7 days post inclusion in the study. Results: Significant improvement was recorded in vital signs (HR, RR, SAP, DAP, SaO2, Temperature), arterial blood gases (PaO2) and the duration of hospital stay for the study group after 2 and 7 days (P< 0.05). Conclusion: Lung squeezing technique is an excellent supplement to conventional chest physiotherapy in managing RDS in neonates.		
Key words	**1.**	**Lung squeeze technique.**
	2.	**Respiratory distress syndrome.**
	3.	**Blood Gases – Neonates.**
	4.	**Neonates.**
Classification number	**:**	**000.000.**
Pagination	**:**	**102 p.**
Arabic Title Page	**:**	**تأثير تقنية عصر الرئة علي غازات الدم الشرياني في الأطفال المبتسرين المصابون بمتلازمة الضائقة التنفسية.**
Library register number	**:**	**6547-6548.**

Author	**:**	**Hany Abd El-Aziz Saad Abd El-Aziz.**
Title	**:**	**Foot Posture and Selective Motor Control in Relation to Gait Parameters 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.**
	2.	**Hisham Abd El-Ghani Ragab.**
	3.	**Amira Mahmoud Abd El-Monem.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Kinetic as well as kinematic gait impairments are common in children with hemiplegic cerebral palsy. Musculoskeletal and neurological impairments significantly interfere with the normal pattern of gait among those children. Aim: The purpose of present study was to examine the foot posture and lower limb selective motor control in relation to gait parameters in children with hemiplegic cerebral palsy. Methods: Fifty-two volunteer children with hemiplegic cerebral palsy, aged from 7 to 11 years, were enrolled in this study. The static foot posture, lower limb selective motor control and spatio-temporal gait parameters were assessed using foot posture index-6, selective control assessment of the lower extremity and Biodex gait trainer 2^{TM}, respectively. Results: There was a negative weak correlation between the foot posture index total score and walking speed, cadence, time on the affected side and ambulation index ($r<-0.25$, $p>0.05$). Also, a positive weak relation was found between step length of the affected side and foot posture ($r<0.25$, $p>0.05$). Moreover, a significant relation was recorded between the foot posture index total score and total distance and coefficient of variation ($r=-0.29$, $p<0.05$ and $r=0.32$, $p<0.05$, respectively). Regarding the relation between the selective control assessment of the lower extremity total score with spatio-temporal gait parameters, non-significant correlation was recorded. Conclusion: Static foot posture has very limited impact on spatio-temporal gait parameters, while, Lower limb selective motor has no impact on those parameters in children with spastic hemiplegic CP.

Keywords:

Key words	**1.**	**Cerebral palsy.**
	2.	**Selective motor control.**
	3.	**Gait.**
	4.	**Foot posture.**
	5.	**Children with Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**127 p.**
Arabic Title Page	**:**	**علاقة وضعية القدم وإنتقائيه التحكم الحركي مع معاييرالمشي في الأطفال المصابين بالفالج الشقّي.**
Library register number	**:**	**6361-6362.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Heba Ibrahim Ahmed**
Title	**:**	**Effect of Ankle Weight During Gait Training on Dorsiflexors Strength in Hemiparetic Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Emam Hassan ELnegmy.**
	2.	**Khaled Ahmed Olama.**
	3.	**Amina Salem Hendawy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Affected side toe walking is a common problem in hemiparetic cerebral palsy children, that may occur due to spasticity of planter flexors muscles and inhibition of anterior tibial muscles, walking with equines foot lead to abnormal gait pattern, frequent falling down, pain at the metatarsal heads and compensatory reaction that affects hip and trunk and may cause contracture of calf muscle which may need surgery. Using ankle weight during gait training may be an effective treatment tool in hemiparetic children. Objective: The current study was conducted to investigate the effect of using ankle weight during gait training on dorsiflexors strength in hemiparetic children. Subjects and Methods: Thirty hemiparetic children participated in this study, their ages range from 3 to 6 years , all subjects were recruited from the outpatient clinic at the faculty of physical therapy, Cairo University. They were assigned randomly in to two group of equal number; Group A (control group) received a specialized designed physical therapy program and Group B (study group) received the same specialized physical therapy program as in group A in addition to ankle weight placed above ankle of the affected side during gait training. Hand held dynamometer was used to measure ankle dorsiflexors muscle strength and Kinovea software was used to measure dorsiflexion angle during initial foot contact. Results: There was a significant increase in ankle dorsiflexors muscle strength and a significant decrease of dorsiflexion angle during initial contact in the study group compared to the control group which could be due to the impact of the selected physical therapy program. Conclusion: Using ankle weight during gait training can be an effective treatment tool in improving dorsiflexors muscle strength and gait pattern in hemiparetic children.

Key words	**1.**	**Cerebral Palsy.**
	2.	**Gait Training.**
	3.	**Dorsiflexor strength**
	4.	**Ankle weight, Hemiparesis**
	5.	**Children in Hemiparetic.**
Classification number	**:**	**000.000.**
Pagination	**:**	**64 p.**
Arabic Title Page	**:**	**تأثير استخدام اوزان الساق بالجانب المصاب خلال تدريبات المشي علي قوه العضلات الرافعة للقدم في حالات الوهن النصفي في الاطفال.**
Library register number	**:**	**6447-6448.**

Author	**:**	**Ibrahim Abdelrafe Ibrahim Salem.**
Title	**:**	**Effect of Modified Foot Placement Ladder on Selected Gait Kinematics in Children With Spastic Diplegic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Kamal Elsayyed Shoukry.**
	2.	**Ehab Ragaa Abdelraoof.**
	3.	**Zaynab Ahmed Hussein.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
The purpose of the study was to evaluate the effect of gait training by using the modified foot placement ladder on gait parameters in children with spastic diplegia. Thirty children were 4-6 years old from both sexes (5 females; 25 males) with spastic diplegic cerebral palsy. They were randomly assigned into study and control groups of equal number. All children received physical therapy treatment program for one hour, 3 times/week, three successive months. The study group received 30 minutes of gait training using the modified foot placement ladder while the control group received the same duration in traditional gait training. Gait parameters were evaluated by Tekscan's walkway pressure assessment System before and after treatment. The results of this study revealed statistically significant differences in spatial and temporal gait parameters (velocity, cadence, step length, stride length, step width and foot angle) of study and control groups in favor of the study group. From the obtained results of this study, it could be concluded that, gait training with the modified foot placement ladder may improve the spatiotemporal gait parameters in children with spastic diplegic cerebral palsy.		
Key words	**1.**	**Cerebral palsy.**
	2.	**Foot placement ladder gait.**
	3.	**Spastic diplegia.**
	4.	**Gait Kinematics in Children.**
	5.	**Children With Spastic Diplegic.**
Classification number	**:**	**000.000.**
Pagination	**:**	**127 p.**
Arabic Title Page	**:**	**تأثير سلم تموضع القدم المعدل على متغيرات كينيماتيكية للمشي مختارة في الأطفال المصابين بالشلل التقلصي المزدوج.**
Library register number	**:**	**6387-6388.**

Author	**:**	**Lobna Ahmed El-Ashmawy.**
Title	**:**	**Anthropometric measurements in relation to balance and gait parameters in children with Down syndrome.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Gehan Mosaad Abd El-Maksoud.**
	2.	**Sahr Mohamed Nour El-Din.**
	3.	**Amira Mahmoud Abd-Elmonem.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Children with Down syndrome (DS) are associated with several problems such as dysmorphic features, gait dysfunctions compared to typically developing children. Aim: The current study intended to investigate the relation between anthropometric measurement (body mass index (BMI), Lower extremity stature index (LESI) and balance gait as well as parameters in children with Ds from both sexes. Patients And Methods: Thirty children with Down syndrome were selected randomly from the Out-Patient Clinic of Faculty of Physical Therapy, Cairo University; their age was ranged from 8 to 12 years. Anthropometric measurement included body mass index (BMI) and Lower extremity stature index (LESI) were assessed, balance overall stability index (OASI) anteroposterior (APSI) and mediolateral stability index (MSLI) and spatiotemporal gait parameters (step length, cadence, speed) were assessed using biodex balance system and biodex gait trainer for all children participated in this study respectively. Results: There was weak to moderate positive correlation between BMI and OASI, APSI, MLSI (r=0.36, P=0.04), (r=0.24, P=0.2) (r=0.63, P=0.0001) Moreover, there was weak to moderate positive correlation between LESI and OASI, APSI, MLSI (r=0.04, P=0.79) (r=0.43, P=0.01) (r=-0.03, P=0.09) respectively. Regarding the correlation between BMI and spatiotemporal gait parameters, there was weak moderate negative correlation between BMI and step length, speed and cadence (r=0.34,P=0.031) (r=-0.08, P=0.67) (r=-0.014, P= 0.44) respectively. There was weak non-significant correlation between LESI and step length, speed and cadence cycle/min (r=0.11, P=0.54), (r=-0.22, P= 0.23) (r=0.26,P=0.16) respectively. Conclusion: It can be concluded that there are weak to moderate correlation between anthropometric measurement and balance & negative correlation between anthropometric measurement and gait parameters in children with DS.		
Key words	**1.**	**Body Mass Index.**
	2.	**Down Syndrome.**
	3.	**Lower Extremities Stature Index.**
	4.	**Anthropometric measurements in children.**
	5.	**Gait parameters in children.**
	6.	**Children with Down syndrome.**
Classification number	**:**	**000.000.**
Pagination	**:**	**111 p.**
Arabic Title Page	**:**	**علاقة القياسات الانثروبومترية بالتوازن ومعايير المشي في الأطفال المصابين بمتلازمة داون.**
Library register number	**:**	**6673-6674.**

Author	**:**	**Marwa Mohamed Nageeb Abdin.**
Title	**:**	**Effect of Induced Muscular Fatigue of Unaffected Limb on Balance in Hemiplegic Children.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten Hassan Abdelaziem.**
	2.	**Shorouk Elshennawy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Children with hemiplegic cerebral palsy (CP) bearing weight mostly through the unaffected leg and may be a strategy to compensate for muscle paresis in the hemiplegic leg causing fatigue of unaffected limb and impaired balance. Purpose : To determine the effect of induced fatigue of unaffected limb on balance in children with hemiplegic CP. Subjects and methods : The study was carried out on 29 children with hemiplegic cerebral palsy selected from the outpatient clinic of the Faculty of Physical Therapy, Cairo University , the children was on level I , II according to Gross Motor Function Classification System and their age ranged from 6-14 years old ,spasticty level was graded I / I + on Modified Ashworth Scale .Fatigue was induced in unaffected side through 35 maximal concentric knee extension and flexion contractions on an isokinetic dynamometer with angular velocity was set at 60°/sec balance was measured, pre and post fatigue by biodex balance system and Timed Up and Go Test .Results: There were significant difference before and after fatigue on frontal and sagital planes of balance .Conclusion: Fatigue of unaffected limb deteriorates postural balance in children with hemiplegic cerebral palsy .

Key words	**1.**	**Fatigue.**
	2.	**Balance.**
	3.	**hemiplegic cerebral palsy.**
	4.	**Induced Muscular Fatigue.**
	5.	**Children in Hemiplegic.**
Classification number	**:**	**000.000.**
Pagination	**:**	**80 p.**
Arabic Title Page	**:**	**تأثير الإجهاد المستحس للطرف الغير مصاب علي الإتزان في أطفال الفالج الشقي.**
Library register number	**:**	**6221-6222.**

Author	**:**	**Mohanad Abd Elhay Ahmed.**
Title	**:**	**Effect of sustained weight on drop shoulder in children with hemiplegic cerebral palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Emam Hassan Elnegmy.**
	2.	**Hamada Elsayed Ayoub.**
	3.	**Amina Hindawy.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Purpose: This study was done to investigate the effect of sustained weight on drop shoulder in hemiplegic cerebral palsy children. Patients and Procedures: Thirty children with spastic hemiplegia enrolled in this study, their age ranged from 3 to 8 years and being assessed by posture zone software. They were randomly assigned into two groups of equal numbers 15 children each. The control group (A) received a designed physical therapy program and the study group (B) received the same therapy program in addition to sustained weight (2% out of the total body weight) placed on top of the dropped affected shoulder. Results: Comparison of post treatment results between the control and study groups revealed a significant difference between post treatment mean values of shoulders level angle in favour of the study group. Conclusion: From the obtained results it could be concluded that sustained weight of about 2% of the total body weight has a beneficial effect on drop shoulder in children with spastic hemiplegia.		
Key words	**1.**	**Hemiplegia.**
	2.	**Sustained weight.**
	3.	**Drop shoulder in children.**
	4.	**Children with hemiplegic cerebral palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**78 p.**
Arabic Title Page	**:**	**تاثير استخدام الاوزان على سقوط الكتف فى الاطفال المصابين بالشلل النصفى التقلصى.**
Library register number	**:**	**6779-6780.**

Author	**:**	**Nelly Fathy Ali Mohamed**
Title	**:**	**Physical therapy Interventions for Low Bone Mineral Density in Children with Cerebral Palsy: Systematic Review.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Manal Salah El DienAbd Elwahab.**
	2.	**Maya GalalAbd-Alwahab.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Low bone mineral density in children with cerebral palsy (CP) can increase risk of fracture, chronic bone pain and it can result in a significant impact on quality of life; many interventions have been intended to improve low bone mineral density (BMD). Aim of the study: To systematically review the effect of physical therapy interventions on low BMD in children with CP. Methods: Articles were identified through literature search using PubMed (MEDLINE), physiotherapy evidence database (PEDro) and Cochrane database from 1999 up to March 2019 and through reference list of the included studies and library search at Faculty of Physical Therapy, Cairo University from 1999 till March 2019. Studies were included if they were randomized trials focused on children with CP with low BMD; treated with physical therapy intervention. Data from included studies was extracted and its methodological quality was assessed using PEDro scale. The modified Sackett's scale was used to assess level of evidence of each intervention. Results: Ten articles were identified with fair to good methodological quality. Studies were heterogeneous in regards to the used interventions; findings were qualitatively analyzed. There were strong evidence supporting the use of weight bearing and vibration; moderate evidence for magnetic and electro-therapy and suit therapy; while limited evidence about the use of virtual cycling to improve bone density in children with CP.Conclusion: The present evidence supports the effectiveness of weight bearing and vibration for improving BMD in children with CP.

Key words	**1.**	**Bone Density.**
	2.	**Cerebral palsy.**
	3.	**Children.**
	4.	**Children with Cerebral Palsy.**
	5.	**Systematic Review.**
	6.	**Physical therapy interventions.**
Classification number	**:**	**000.000.**
Pagination	**:**	**69 p.**
Arabic Title Page	**:**	**تدخلات العلاج الطبيعي في إنخفاض كثافة العظام لدى الأطفال المصابين بالشلل الدماغي: مراجعة منهجية.**
Library register number	**:**	**6539-6540.**

Author	**:**	**Ola Abdraboh Fathy Mohamed.**
Title	**:**	**Effect of sensorimotor stimulation on manual dexterity and hand grip strength in children with diplegia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Hoda Abdelazeim EL-Talawy.**
	2.	**Nanees Essam Mohamed.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Children with diplegic cerebral palsy commonly exhibit sensory deficiencies in their hands in addition to motor problems. Impaired sensations negatively impact on acquisition of skilled movement which decreasing daily self-care activities and school activities. Aim of the study was to assess the effect of sensorimotor stimulation on manual dexterity and handgrip strength in diplegic cerebral palsy children. Subjects and methods: Thirty diplegic cerebral palsy children were randomly allocated into two equal groups received successive three months intervention. The control group received designed occupational therapy program only, while the study group received designed occupational therapy program in addition to sensory and perceptual stimulation program. Manual dexterity and grip strength were assessed by Bruinink-Oseretsky test and hand dynamometer, respectively. Results: There was a statistically significant improvement post-treatment in manual dexterity and handgrip strength in both groups and a statistically significant improvement in study group more than in control group. No association was observed between the manual dexterity and hand grip strength of dominant hand in children with diplegic cerebral palsy.

Key words	**1.**	**Diplegic cerebral palsy.**
	2.	**Manual dexterity.**
	3.	**Sensorimotor.**
	4.	**Grip strength.**
	5.	**Children with diplegia.**
Classification number	**:**	**000.000.**
Pagination	**:**	**110 p.**
Arabic Title Page	**:**	**تأثير التنبيه الحسي الحركي على البراعة اليدوية وقوة قبضة اليد لدى الأطفال المصابين بالشلل الدماغي التقلصي المزدوج.**
Library register number	**:**	**6605-6606.**

Author	**:**	**Raghda Gamal Ateya Abd-Elbary**
Title	**:**	**Effect of Spring Walkway Versus Antigravity Shoes On Gait Parameters In Children With Spastic Diplegia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Kamal El Sayed Shoukry.**
	2.	**Shora Yousef Mostafa.**
	3.	**Nahla Mohamed Ibrahium.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Cerebral Palsy (CP) is a collection of motor disorders resulting from damage to brain that occurs before, during, or after birth. Diplegia is the most common form of spastic CP. A white matter infarct in the periventricular areas caused by hypoxia can lead to spastic diplegic CP. The spring walk way is a new approach that may enable the child to walk on it. Antigravity shoes are shoes for children fitted with trampoline-like springs. They were billed as "mini-trampolines for feet". The purpose: Was to determine the difference between the effect of spring walk way and antigravity shoes on kinematics gait parameters in children with spastic diplegia. Subjects: Forty-five spastic diplegic children of both gender participated in this study; they were divided randomly into three equal groups (group A, group B and group C). Materials: The children in the group A received the traditional physical therapy program for diplegic children in addition to gait training program, three times per week for three months. Children in group B received the same physical therapy program in addition to gait training on the spring walk way. Children in group C received the same traditional program in addition to gait training by antigravity shoes. Methods: Three groups were evaluated before and after the treatment programs by Tracker Video Analysis and Modeling Tool. Results: The results revealed that there was a statistically significant improvement in hip and knee joints angles pre and post treatment at different measuring periods during gait cycle sub-phases in three groups in favor of both study groups (B and C). Conclusion: the spring walk way or antigravity shoes improved kinematics of the gait in children with spastic diplegic cerebral palsy.		
Key words	**1.**	**Cerebral Palsy.**
	2.	**Antigravity shoes.**
	3.	**Spastic diplegia.**
	4.	**Spring Walkway.**
	5.	**Gait.**
	6.	**Children with Spastic Diplegia.**
Classification number	**:**	**000.000.**
Pagination	**:**	**152 p.**
Arabic Title Page	**:**	**دراسة الفرق بين العلاج بالممشى الزنبركي والحذاء ضد الجاذبيه على معايير المشي عند الاطفال المصابين بالشلل التقلصي المزدوج.**
Library register number	**:**	**6513-6514.**

Author	**:**	**Reem Mahmoud Almarakby.**
Title	**:**	**Effect of Physiotherapy Interventions in Children with Cystic Fibrosis: Systematic Review.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Eman Ibrahim Elhadidy.**
	2.	**Maya Galal Abd-Alwahab.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Cystic fibrosis (CF) is a genetic disorder that affects the secretory glands resulting in excess mucous production in the lungs, pancreas, liver and reproductive organs; the current treatment includes physiotherapy and medication. Aim: to systematically review the published randomized control trials (RCTs) about the effect of physiotherapy interventions on pulmonary functions and/or quality of life in children with CF. Methods: An electronic search was made in Cochrane library, Physiotherapy Evidence Database (PEDro) and PubMed database at November 2017 and last updated at March 2019. The research was restricted to RCTs published at the period from 2000 to 2019 on the effect of physiotherapy interventions on pulmonary functions and quality of life (QOL) in children with CF aged from 1 month up to 18 years old. Two independent reviewers extracted data from the included studies and assessed its methodological quality using PEDro scale. Results: Sixteen studies met the inclusion criteria. They provide limited to moderate level to support the effectiveness of different physiotherapy interventions according to modified Sackett's scale. Meta-analysis was done for two included studies only and showed non-significant effect of combined physiotherapy on children's pulmonary functions and QOL; the other 14 studies were heterogeneous and underwent descriptive analysis. Conclusion: This systematic review revealed limited to moderate evidence. It supports the effectiveness of different physiotherapy interventions in children with CF.

Key words	**1.**	**Cystic Fibrosis.**
	2.	**Physiotherapy interventions.**
	3.	**Systematic review.**
	4.	**Children with Cystic Fibrosis.**
Classification number	**:**	**000.000.**
Pagination	**:**	**93 p.**
Arabic Title Page	**:**	**تأثير تداخلات العلاج الطبيعي على الأطفال المصابين بالتليف الكيسي.**
Library register number	**:**	**6533-6534.**

Author	**:**	**Reham Ali Mohamed El-Sayed.**
Title	**:**	**Virtual Reality for Motor Rehabilitation of Children with Down Syndrome: Systematic Review.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Samia A. Abdel Rahman.**
	2.	**Maya Galal Abd EL-Wahab.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Down syndrome is one of the most common genetic causes of developmental delays. Virtual reality therapy is an innovative tool of rehabilitation based on computer technology that has been applied in the rehabilitation of many developmental areas. Aim of the Study: To systematically review the available studies on the effect of virtual reality on motor rehabilitation of children with Down syndrome. Methods: An electronic search was made in Cochrane (CENTRAL), PEDro, PubMed (MEDLINE), Google scholar and TRIP databases from July 2017 to March 2019. The inclusion criteria were: published studies of any design which investigate the effect of virtual reality on motor rehabilitation of children with Down syndrome. The outcome measures were: balance, sensorimotor functions, coordination, strength and agility. Two independent reviewers assessed the methodological quality and extracted data from the included studies. Results: Only four studies met the inclusion criteria; two randomized controlled trials (RCTs), one quasi-experimental study and one case report. One study fulfills the criteria of high methodological quality; two studies were of moderate quality; and one was of weak quality. Descriptive analysis was performed as the data extracted from the included studies were not homogenous. Conclusion: Despite the few number of studies found and the heterogeneity present between its methods, the quality of the included studies give moderate evidence regarding the effectiveness of virtual reality on motor rehabilitation of children with Down syndrome. Further well-designed RCTs in the same area are still needed to provide high level of evidence.

Key words	**1.**	**Down syndrome.**
	2.	**Children-systematic review.**
	3.	**Motor rehabilitation.**
	4.	**Systematic Review of Children.**
Classification number	**:**	**000.000.**
Pagination	**:**	**61 p.**
Arabic Title Page	**:**	**الواقع الإفتراضى في التأهيل الحركي للأطفال المصابين بمتلازمة داون: مراجعة منهجية.**
Library register number	**:**	**6435-6436.**

Author	**:**	**Samaa Hussein Rajab Soliman.**
Title	**:**	**Effect Of Universal Exercise Unit On Balance In Children With Spastic Diaplegia.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Khaled Olama.**
	2.	**Sahar Mohamed Nour EL- Din.**
	3.	**Ahmed El Nahhas.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Dysfunctional postural control is one of the key problems in children with cerebral palsy (CP) which interfere with the activities of daily life. Balance has been viewed as a skill that the nervous system learns to achieve using many systems including passive biomechanical elements, all available sensory systems and muscles and jointly many different parts of the brain.Universal exercise unit (UEU) therapy is one of the treatment approaches that can be used with other traditional physical therapy exercises for CP children. Purpose of the study: to evaluate the effect of using universal exercise unit (UEU) on standing balance in spastic diaplegia. Subject: thirty spasticdiaplegic children with GMFCS level II of both genders (13 boys, 17girls),their agesranging from 4 to 8 years old chosen from outpatient clinic, faculty of Physical, Cairo University participated in this study. They were classified randomly into two groups of equal numbers (group A: control and group B: study).Procedures: the control group received a designed physical therapy program, while the study group received UEU program in addition to the designed physical therapy program. Total work was assessed by using Biodex balance system before and after the application of the treatment program in both groups (control group and study group).Results:the results showed statically significant improvement in both groups in favor to study group. The post treatment values (P<0.05) group in all measured variables.Conclusion: universal exercise unit is considered to be an effective method to improve standing balance in spastic diaplegic children.		
Key words	**1.**	**cerebral palsy**
	2.	**Diaplegia**
	3.	**standing balance.**
	4.	**Universal Exercise Unit.**
	5.	**Children With Spastic Diaplegia.**
Classification number	**:**	**000.000.**
Pagination	**:**	**66 p.**
Arabic Title Page	**:**	**تأثير وحده العلاج الموحدة علما لاتزان في الأطفال المصابين بالشلل التقلصي المزدوج.**
Library register number	**:**	**6559-6560.**

Author	**:**	**Samar Salem Korney Ramdan.**
Title	**:**	**Prevalence of obesity and overweight among primary school children in Al-Fayoum governorate.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Naglaa Ahmed Zaky.**
	2.	**Amira Al-sayed El-Bagalaty.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: The prevalence of childhood obesity has increased over the last few years. It is caused by imbalance between calories intake and calories utilized. Obesity in childhood has a significant impact on both physical and psychological health; overweight and obesity are associated with hyperlipidemia, hypertension, abnormal glucose tolerance, infertility and psychological disorders such as depression. Aim: To establish data base for the prevalence of obesity and overweight in primary school children in Al-Fayoum governorate, to determine risk factors for obesity and to compare between Egyptian and WHO growth curves. Subjects and methods: A cross-sectional study was carried out on 1462 Egyptian children to find prevalence of overweight and obesity among primary school children at age of 6–12 years. Six schools from six districts in Al Al-Fayoum governorate including both sexes were randomly selected in this study. Data were collected in form of anthropometric measurements (weight, height, waist circumference and body mass index). Results: The prevalence of overweight and obesity is relatively high 559 children (38.2%) distributed as 263 children (18%) were overweight and 296 children (20.2%) were obese. The rate of obesity was the highest at the age of 10–12 years and the major risk factors were; lack of physical activities, usage of fast food and family history. Conclusion: This study found a relatively high prevalence of overweight and obesity among primary school children living in Al-Fayoum governorate in Egypt.

Key words	**1.**	**Childhood obesity.**
	2.	**Al-Fayoum governorate.**
	3.	**Prevalence of obesity.**
	4.	**primary school children in Al-Fayoum.**
	5.	**children in Al-Fayoum primary school.**
Classification number	**:**	**000.000.**
Pagination	**:**	**114 p.**
Arabic Title Page	**:**	**إحصائية عن إنتشار السمنة وزيادة الوزن بين أطفال مدارس المرحلة الإبتدائية فى محافظة الفيوم.**
Library register number	**:**	**6349-6350.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Sara Shawki Mohammed Amine.**
Title	**:**	**Effect of Unilateral Backpack Carrying over Dominant and Non Dominant sides on Posture in Female Adolescents.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Samah Attia El Shemy.**
	2.	**Mona Nabil Ayad.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Purpose of the study: This study aimed to investigate the effect of carrying unilateral backpack on dominant and non-dominant sides on posture in female adolescents and to determine the effect of age on postural alignment. Methods: Seventy five adolescent female students participated in this study. Their age ranged from 12-18 years. All students were assessed using formetric instrument system under three conditions; during carrying backpack on dominant, non-dominant side, and without carrying any load. The outcome measures include trunk variables (trunk imbalance, inclination and inclination angle), pelvic variables (pelvic tilt, torsion, rotation and inclination), spine angles (maximum kyphotic and lordotic angles) and deviation variables (lateral deviation RMS, maximum lateral deviation and surface rotation). Results: The results showed statistically significant differences in all measured variables with exception of kyphotic, lordotic angle and pelvic inclination variables during the three testing conditions with greater differences in loading condition on dominant than non-dominant side. There were statistically significant differences in all measured variables during the three testing conditions in different age groups with the exception of lordotic angle, kyphotic angle in age group A (12-14years) and C (16-18 years), pelvic inclination in age group A (12-14years) and C (16-18 years) and pelvic rotation in age group A (12-14 years) with greater differences in loading condition on dominant than non-dominant side. Also there were significant differences between different age groups in all measured variables except kyphotic angle, lordotic angle and pelvic torsion variables. Greater deviations were observed in 12-14 years adolescents in all measured variables except surface rotation, pelvic inclination and maximum lateral deviation which were greater in 16-18 years adolescents. Conclusion: Carrying unilateral backpacks on dominant or non-dominant side has a negative effect on female adolescent's posture with more asymmetry during dominant side loading. Adolescents with age from 12-14 years showed greater deviation than other age groups.

Key words	**1.**	**Unilateral load**
	2.	**Backpack**
	3.	**adolescent females**
	4.	**Posture in Female Adolescents.**
	5.	**Formetric.**
	6.	**Dominant sides.**
	7.	**Female Adolescents.**
	8.	**Non Dominant sides**
Classification number	**:**	**000.000.**
Pagination	**:**	**163 p.**
Arabic Title Page	**:**	**تقييم تأثير حمل حقيبة المدرسة على الجانب السائد والغير سائد على قوام الجسم في الفتيات المراهقات.**
Library register number	**:**	**6495-6496.**

Author	**:**	**Somaya Abdelmageed Ali.**
Title	**:**	**Effect of Transcranial Direct Stimulation on Cognition in Children with Attention Deficit Hyperactive Disorder: Systematic Review.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten H. Abdelaziem.**
	2.	**Nanees E. Mohamed.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: The use of Transcranial Direct Current stimulation (tDCS) for cognition improvement in children with attention deficit hyperactivity disorder is new, and thus the scientific evidence for its effectiveness needs to be evaluated through a systematic review. Objective: To provide updated evidence-based guidance for tDCS effects on cognition in children with attention deficit hyperactivity disorder. Data synthesis: Seven studies included 147 participants in total. Best evidence synthesis was applied to summarize the outcomes, which were memory performance and interference control as a primary outcome Conclusion: the available data demonstrated the efficacy of tDCS as a new modality on cognition in children with attension deficit hyperactivity disorder has an immediate and short term effect on improving cognition . Further studies are still needed, especially those involving both neurophysiological and functional evaluations and also more researches to cover further domain on attension deficit hyperactivity disorder.		
Key words	**1.**	**Transcranial direct current stimulation**
	2.	**Cognition.**
	3.	**Children with Hyperactive Disorder.**
	4.	**Adolescents.**
	5.	**Systematic Review.**
Classification number	**:**	**000.000.**
Pagination	**:**	**81 p.**
Arabic Title Page	**:**	**تأثير التنبيه المباشر للمخ على المعرفة للاطفال المصابين بالفرط الحركي : مراجعة منهجية.**
Library register number	**:**	**6373-6374.**

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

PREPARED BY ADEL ABD EL SALAM
NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Yasmine Mohamed AbdElrazek Eletreby.**
Title	**:**	**OpenVersus Closed Kinetic Chain Exerciseon Knee Extensor Strength In Diplegic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**khaled Ahmed Olma.**
	2.	**Sherif Nassief Girgis.**
	3.	**Heba Hazaa Abdel Wahab.**
Degree	**:**	**Master.**
Year	**:**	**2018.**
Abstract	**:**	

Background: Ambulant children with diplegic cerebral palsy, even those who are mildly affected, have significant lower limb weakness when compared with controls and there is incremental drop in strength in all muscle groups with increasing walking difficulty. Objective: To compare between the effects of open versus closed kinetic chain exercise on knee extensor strength and improving gross motor function in diplegic cerebral palsy. Participants and methods: Thirty children with spastic diplegic cerebral palsy from both genders, age ranged from five to eight years participated in this study. They were assigned randomly into two groups of equal numbers; group A and group B. Children in group A received closed kinetic chain exercise (loaded sit to stand exercise) in addition to selected therapeutic exercise program, three days/week for six successive weeks. Children in group B received open kinetic chain exercise (progressive lower limb resisted strength training) in addition to the same selected therapeutic exercise program given to group A, three days/week for six successive weeks. Hand held dynamometer was used to evaluate knee extensor muscle strength in the two groups before and after six weeks of application the treatment program. Results: comparing pre and post-treatment mean value of knee extensor strength showed non-significant difference between group A and group B. Regarding gross motor function, there were significant increase in the Gross motor function measure dimension D and Gross motor function measure dimension E after treatment application in group A and no improvement occur in group B. Conclusion: From the obtained results of this study, it may be concluded that open kinetic chain exercise might be more useful clinically than closed kinetic chain exercise for increasing the knee extensor strength in children with diplegic cerebral palsy but closed kinetic chain exercise are more effective in improving gross motor function in these children.

Key words	**1.**	**Closed kinetic chain exercise.**
	2.	**Open kinetic chain exercise.**
	3.	**Knee extensor.**
	4.	**Strength.**
	5.	**Diplegia.**
	6.	**Children In Diplegic Cerebral Palsy.**
	7.	**Grossmotor function.**
	8.	**Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**115 p.**
Arabic Title Page	**:**	**التمارين المتسلسلة المفتوحة مقابل المغلقة على قوة العضلات الباسطة للركبة في حالات الشلل الدماغي المزدوج.**
Library register number	**:**	**6223-6224.**

Author	**:**	**Yasmine Mohamed Mahmoud Mohamed.**
Title	**:**	**Effect of sub-maximal test on cardiac autonomic system and muscle fatigue in children with spasticity.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El-Tohamy.**
	2.	**Walaa Abd El-Hakiem Abd El-Nabie.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	

Background: Impaired cardiac autonomic system is one of the common problems among children with cerebral palsy (CP) which may be associated with low physical tolerance. Purpose: This study was conducted to investigate the response of cardiac autonomic system to sub -maximal test and the effect of sub-maximal test on muscle fatigue in children with spasticity. Subjects: Thirty children with spastic CP (23 boys and 7 girls) participated in the present cross-sectional study. They were divided into two groups of equal number (15 in each). Children with spastic hemiplegia in group A while children with spastic diaplegia in group B. They were selected at level I and II according to Gross Motor Function Classification System (GMFCS), and the degree of spasticity ranged from 1 to 1^{+} according to Modified Ashworth Scale .Response of cardiac autonomic system via monitoring of heart rate (HR) and heart rate variability (HRV) was assessed by the Polar Advanced Heart Rate Monitor (RC800CX) at different time intervals pre, during and post sub-maximal test, while muscle fatigue of quadriceps and hamstring muscles was assessed by using isokinetic dynamometer pre and post sub-maximal test. Results: The results showed significant differences in HR and HRV between time intervals (p=0.001, 0.0001) respectively in both groups. Also the result reading muscle fatigue showed that, there were no significant differences in the fatigue index of quadriceps and hamstring muscles in both groups (p=0.11, p=0.19) and (p=0.22, p=0.15) respectively. Conclusion: Sub-maximal test is tolerated and doesn't cause muscle fatigue. Additionally, cardiac autonomic system response to sub-maximal test.

Key words	**1.**	**Cardiac autonomic system.**
	2.	**Spasticity.**
	3.	**Sub maximal test.**
	4.	**Muscle fatigue.**
	5.	**Children with spasticity.**
Classification number	**:**	**000.000.**
Pagination	**:**	**84 p.**
Arabic Title Page	**:**	**تأثير إختبار تحت الأقصى على الجهاز القلبى اللإرادى والإجهاد العضلى فى الأطفال اللذين يعانون التشنج العضلي.**
Library register number	**:**	**6475-6476.**

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

PREPARED BY ADEL ABD EL SALAM NERVEENABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Yasser Mamdouh Abd Elmonem.**
Title	**:**	**Effect of Serial Casting on Equinus Foot in Children With Hemiplegic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El-Sayed Salem.**
	2.	**Mohamed Ismail Elassal.**
	3.	**Mahmoud Ali Mahran.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Objective: Equinus is the most common problem in ambulatory children with spastic hemiplegic cerebral palsy, which results in an unstable and inefficient gait pattern. Without proper management at an early stage, it can lead to permanent foot deformities. Purpose: The aim of the study was to evaluate the effect of serial casting on ankle range of motion, tone of the calf muscle and ankle kinematics during gait in children with spastic hemiplegic cerebral palsy. Patients and methods: Twenty-five out of thirty spastic hemiplegic cerebral palsy children from both sexes participated in this study. They were selected at level I according to Gross Motor Function Classification System (GMFCS) and the degree of spasticity ranged from II to III according to Modified Ashworth Scale (MAS) with true equinus. They were randomly assigned into two groups. The first group, twelve children, was the group (A) who received a selected physical therapy program once a day/ 3 times a week for three successive weeks, with their mean ± SD age, weight and height were 4.85 ± 0.73 years, 16.79 ± 2.85 kg and 102.33 ± 6.38 cm respectively; and the second group, thirteen children, was the group (B) additionally received three consecutive short below knee casts for five days each and removed in the last two days in each week to conduct the same selected physical therapy program which conducted for the group (A), with their mean ± SD age, weight and height were 4.8 ± 0.8 years, 16.07 ± 2.78 kg and 101.38 ± 7.62 cm respectively. Ankle range of motion was assessed by electronic goniometer, calf muscle spasticity was assessed by MAS and ankle kinematics during gait was assessed by observational gait scale (OGS). Results: the results revealed that there was a significant difference between the two groups in favor of the group (B) in ankle range of motion, tone of calf muscle and ankle kinematics during gait (p = 0.0001 for all). Conclusion: From the obtained results of this study, it could be concluded that serial casting of equins foot could improve ankle range of motion, tone of calf muscle and ankle kinematics during gait in children with spastic hemiplegic cerebral palsy.		
Key words	**1.**	**Cerebral palsy.**
	2.	**Serial casting.**
	3.	**Equins foot.**
	4.	**Spasticity.**
	5.	**Hemiplegia.**
	6.	**Children With Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**91 p.**
Arabic Title Page	**:**	**تأثير الجبس التتابعي على القدم القفداء في الأطفال المصابين بالشلل الدماغي النصفي.**
Library register number	**:**	**6353-6354.**

Author	**:**	**Yosra Mostafa Mohamed Ali.**
Title	**:**	**Effect Of Whole Body Vibration On Muscle Performance In Children With Hemiparetic Cerebral Palsy.**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Eman Ibrahim El Hadidy.**
	2.	**Rania Galal El Deen Abdou Hegazy.**
	3.	**Shora Youssef Mostafa.**
Degree	**:**	**Master.**
Year	**:**	**2019.**
Abstract	**:**	
Background: Muscle performance elements as strength, power and endurance are affected in all cases of hemiplegic cerebral palsy. Purpose: to determine the effect of whole body vibration (WBV) on quadriceps and hamstring muscles performance in children with hemiparetic cerebral palsy (CP). Methods: Forty hemiparetic CP children were selected from the outpatient clinic of the Faculty of Physical Therapy, Cairo University and The National Institute of Neuromotor System. The children were grade 1 to1+ according to modified ashwarth scale and their ages ranged from 4 to 8 years, they were assigned into two groups of equal numbers control and study groups. The control group received selected physical therapy program and study group received the same selected program as control group in addition to WBV training. Both groups received treatment 3 times/week for two successive months. Lafayette device was used to asses quadriceps and hamstring muscles strength, vertical jump test was used to asses average power in lower limbs and six minute walk test (6MWT) was used to asses endurance. Results: There were no significant differences in Quadriceps strength, hamstring strength, average power of lower limbs and 6MWT between both groups pre-treatment ($p > 0.05$). Comparison between the control and study groups post treatment revealed that there were significant increase in Quadriceps strength, hamstring strength, average power and 6MWT in the study group compared with that of the control group ($p < 0.05$). Conclusion: the WBV has beneficial effect on improving quadriceps and hamstring muscles performance, so it's recommended in physical therapy treatment program.		
Key words	**1.**	**Cerebral palsy.**
	2.	**Whole body vibration.**
	3.	**Muscle performance.**
	4.	**Hemiparesis.**
	5.	**Children With Hemiparetic Cerebral Palsy.**
Classification number	**:**	**000.000.**
Pagination	**:**	**108 p.**
Arabic Title Page	**:**	**تأثير الاهتزاز الكلى للجسم على اداء العضلات فى الاطفال المصابين بالخدل الشقى.**
Library register number	**:**	**6507-6508.**